Mission Boulevard Corridor Specific Plan

Draft Program EIR

SCH# 2011042076

Pinedale Court Neighborhood Center

City of Hayward
Development Services Department
777 B Street, Hayward, CA 94541

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INTRODUCTION

PURPOSE

The California Environmental Quality Act and the California Environmental Quality Act Guidelines (together "CEQA") require an Environmental Impact Report (EIR) to be prepared for any project which may have a significant impact on the environment. An EIR is an informational document, the purposes of which, according to CEQA are "…to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project."

The information contained in this EIR is intended to be objective and impartial, and to enable the reader to arrive at an independent judgment regarding the significance of the impacts resulting from the proposed project summarized below and as detailed in Chapter 3 (Project Description).

This EIR evaluates the potential environmental impacts that may be associated with the Mission Boulevard Corridor Specific Plan (the "Project") in the City of Hayward, California. The Project applicant is the City of Hayward and the Lead Agency is also the City of Hayward. The Project would revise land use and development policy and implementing regulations within the Project area. The Project does not include contemporaneous development. Rather, the Project is intended to guide future development projects, both private and public, within the Project area.

Under CEQA, a significant impact on the environment is defined as, "…a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."

PROPOSED PROJECT

The Mission Boulevard Corridor Specific Plan ("Project") encompasses approximately 600 parcels, 240 acres, and spans a total length of approximately two (2) miles along two (2) segments of Mission Boulevard in the City of Hayward, Alameda County.

The Project's northern segment extends from the northern City boundary (just north of Rose Street) south to A Street. The southern segment of the Project area extends from Jackson Street south to Harder Road. Between these two segments, the Specific Plan excludes lands associated with the downtown of Hayward and which are subject to a separate Specific Plan, the "Downtown Hayward Design Plan" and related "Design Requirements and Requirements for Downtown Hayward."

A copy of the proposed Mission Boulevard Corridor Specific Plan can be viewed on the City of Hayward's website at the following address:

> http://www.hayward-ca.gov/CITY-GOVERNMENT/SPECIAL-PROJECTS-&-STUDIES/mbcsp.shtm

As proposed, the provisions of the Project would establish a succinct set of new policies and replace the majority of existing Zoning Regulations applicable to an approximately 240-acre Project area. This includes requisite amendments to the Zoning Map resulting in the application of Transect Zones and Civic Space Zones. Additionally, the Project would change the General Plan Land Use Map designations for most private parcels within the Project area to Sustainable Mixed Use. Existing and/or planned public schools, parks or mass-transit facilities would receive a Parks and Recreation or Public/Quasi-Public designation.

The proposed Project is described in greater detail in Chapter 3 (Project Description).

CEQA DOCUMENT TYPE

PROGRAM EIR

This document constitutes a Program EIR since the Project falls within the meaning of CEQA Guideline §15168 which states:

> (a) General. A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:
>
> (1) Geographically,
>
> (2) As logical parks in the chain of contemplated actions,
>
> (3) In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
>
> (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The scope of environmental analysis in this Program EIR is limited to those topics and issues that can be currently identified without being highly speculative. In accordance with CEQA Guidelines §15168 (c), "Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

> (1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
>
> (2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document

would be required.

(3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

(4) Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

(5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required."

In accordance with those provisions, it is anticipated that additional environmental review will occur as individual development approvals are requested in the future. It is further envisioned that this Program EIR will be used as the basis for any further environmental analyses and documentation concerning those future land use entitlement requests.

PROGRAM EIR ORGANIZATION

Following this brief introduction to the Draft Program EIR, the document's ensuing chapters include the following:

Chapter 2: Executive Summary and Impact Overview

Chapter 3: Project Description

Chapter 4: Aesthetics

Chapter 5: Agriculture and Forest Resources

Chapter 6: Air Quality

Chapter 7: Biological Resources

Chapter 8: Cultural Resources

Chapter 9: Geology & Soils

Chapter 10: Greenhouse Gases (Impacts/Mitigation Measures Labeled "GHG")

Chapter 11: Hazard & Hazardous Materials

Chapter 12: Hydrology & Water Quality

Chapter 13: Land Use & Planning

Chapter 14: Mineral Resources

Chapter 15: Noise

Chapter 16: Population & Housing

Chapter 17: Public Services

Chapter 18: Recreation

Chapter 19: Transportation and Circulation (Impacts/Mitigation Measures Labeled "Traf")

Chapter 20: Utilities & Service Systems

Chapter 21: Mandatory CEQA Topics

Chapter 22: Alternatives

Chapter 23: References

Appendices

In Chapters 4 through 20, each assessment of potential environmental effects is preceded by a description of the environmental setting, as it relates to the respective environmental topic under discussion. This is then followed by an evaluation of environmental impacts that may be associated with the Project and the mitigation measures that would reduce or eliminate these impacts, as may be necessary.

REVIEW PROCESS

This EIR is intended to enable City decision makers, public agencies and interested citizens to evaluate the environmental consequences associated with the proposed Project. An EIR does not control the lead agency's ultimate decision on the Project. However, the City of Hayward, as lead agency will consider the information contained in the EIR prior to making a decision on the Project.

As required under CEQA, the agency must also respond to each significant effect identified in the EIR by making findings and if necessary, by making a statement of overriding considerations. In accordance with California law, the EIR on the Project must be certified before any action on the Project can be taken. EIR certification does not constitute Project approval

Together, this Draft EIR (DEIR) and a subsequent Final EIR (FEIR) will constitute the EIR for the Project. During the review period for this Draft EIR, interested individuals, organizations and agencies may offer their comments on its evaluation of Project impacts and alternatives. The comments received during this public review period will be compiled and presented together

with responses to these comments in the Final EIR.

The Hayward Planning Commission and City Council will review the EIR documents and determine whether or not the EIR provides a full and adequate appraisal of the Project's potential environmental effects, including feasible alternatives to lessen or avoid those environmental effects.

In reviewing the Draft EIR, readers should focus on the sufficiency of the document in identifying and analyzing the possible environmental impacts associated with the Project. Readers are also encouraged to review and comment on ways in which significant impacts associated with this Project might be avoided or mitigated. Comments are most helpful when they suggest project modifications and/or additional alternatives that would provide more effective ways to avoid or mitigate significant environmental effects. Reviewers should explain the basis for their comments and, whenever possible, should submit data or references in support of their comments.

This Draft EIR will be circulated for a forty-five (45) day public review period. During that public review period, comments should be submitted in writing to:

David Rizk, Director
Development Services Department
City of Hayward
777 B Street
Hayward, CA 94541

Please contact Mr. Rizk at 510-583-4004 or david.rizk@hayward-ca.gov if you have any questions.

After reviewing the Draft EIR and the Final EIR and following action to certify the EIR as adequate and complete, the Hayward Planning Commission will be in a position to provide a recommendation to the City Council. The City Council will consider the Planning Commission's recommendation before deciding whether to approve the Project as currently proposed, as revised, or whether to reject it. This determination will be based upon information presented on the entirety of the Project, its impacts and probable consequences, and the possible alternatives and mitigation measures available.

REQUIRED APPROVALS

This Draft EIR addresses all steps necessary to implement the Mission Boulevard Corridor Specific Plan through the following local actions:

- General Plan Land Use Map and Text Amendment to revise all existing designations in the Project area to the Sustainable Mixed Use, Parks and Recreation or Public and Quasi-Public designations (see **Figure 3-16** of this Draft EIR);

- Zoning Regulations Text Amendment to include the Mission Boulevard Corridor Specific Plan's Form-Based Code as a new Article 25 to Chapter 10 of the Hayward Municipal Code; and

- Zoning Map Amendment to revise all existing designations in the Project area to those shown on the Regulating Plan (see Figure 3-1 of the Mission Boulevard Corridor Specific Plan; **Figure 3-4** in this Draft EIR).

There are no other agency (e.g., state, federal) approvals necessary to approve the Project.

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EXECUTIVE SUMMARY

INTRODUCTION

This summary discussed the City of Hayward's draft Program Environmental Impact Report for the Mission Boulevard Corridor Specific Plan. As required by California Environmental Quality Act (CEQA) Guidelines §15123, this EIR summary provides a:

- Brief overview of the Mission Boulevard Corridor Specific Plan ("Project");
- Discussion of the scoping process and areas of known controversy;
- Summary of impacts of the project and mitigation measures; and
- Description of alternatives considered and their impacts.

An EIR is a public, informational document used in the planning and decision-making process. The purpose of this EIR is to provide information to aid in the decision-making process, not to recommend either approval or denial of a project. Although the EIR does not control the ultimate decision on the project, the City, as lead agency, must consider the information in the EIR and respond to each significant impact identified in the EIR.

CEQA requires the City to prepare an EIR that reflects the independent judgment of the City regarding the impacts, mitigation measures proposed to avoid or reduce the impacts, and levels of significance of the impacts both before and after mitigation.

PROPOSED SPECIFIC PLAN

PROJECT OBJECTIVES

The primary objectives of the Mission Boulevard Corridor Specific Plan are as follows:

- Revitalize an economic spine that provides services to the eastern portion of the City while addressing the current deterioration of the existing uses, including distressed auto-related uses;
- Establish a vision for transit-oriented development that incorporates economic and environmental sustainability; offers housing options and civic functions;
- Strengthen the City's economy;

- Create a vibrant pedestrian-oriented environment;
- Foster a safe public realm;
- Improve circulation and streetscapes; and
- Support environmentally sustainable forms of development, while enhancing Hayward's existing character and quality of life.

The Mission Boulevard Specific Plan ("Specific Plan") intends to provide opportunities for new development in the Mission Boulevard Corridor that respects the existing character of the area and its surroundings, and includes vibrant commercial uses, pedestrian-friendly neighborhoods that are safe, desirable, and at sufficient densities to support public transportation, and a built form that will encourage such uses, and complements the natural and historic amenities existing in the Specific Plan area.

California Environmental Quality Act (CEQA) Guidelines §15378 defines, in part, that a "Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. Taken as a whole, the Specific Plan contains portions that would result or can be reasonably foreseen to result in physical changes to the environment but also contains portions which would not. Therefore, the description below describes those Specific Plan elements constitute the "Project" within the meaning of CEQA.

FORM-BASED CODE

The Specific Plan includes a Form-Based Code that will replace the majority of existing Zoning Regulation provisions applicable to the Project area. Other regulatory actions are proposed in conjunction with this, as described in detail below.

Regulating Plan

The Project would insert a new Article 25 in Chapter 10 (Planning, Zoning and Subdivision Regulations) of the Hayward Municipal Code. In doing so, the Project would supplant many existing development standards applicable to the Project area and as primarily expressed through existing, mapped Zoning Districts. However, other existing development standards exclusive of those particular to Zoning Districts would remain applicable to the Project area, except for those provisions specifically defined by the Mission Boulevard Corridor Specific Plan Form-Based Code §10-25.

Thoroughfare Plan

The Project would also include a complement to the **Figure 3-4** (Regulating Plan) consisting of **Figure 3-9** (Thoroughfare Plan). The Thoroughfare Plan intends to implement the Hayward General Plan's direction to pursue opportunities for infill development and redevelopment to accommodate alternate street patterns, including shorter block lengths, interconnected streets, alleys, and cul-de-sac avoidance. New thoroughfares indicated on the Thoroughfare Plan would be constructed over time in conjunction with private development projects on abutting property

(see **Figure 3-10**). Any such projects which construct these planned new thoroughfares would be eligible to receive a density bonus corresponding to the length of street dedication (see §10-25.275).

Other Standards

While the Specific Plan's Form-Based Code includes proposed standards for new Zoning Districts, it also includes new standards that would apply throughout the Project area. These include new standards (§10-25.245 through 10-25.290) under the following topics: Parking, Architectural, Fence and Wall, Landscape, Visitability, Sustainability, Subdivision, Sign and Telecommunication Facility.

MOBILITY PLAN

The Specific Plan contains parking and transportation demand management policies (see Mobility Plan, Chapter 5). Travel modes addressed in the Mobility Plan include: automobiles, bicycles, pedestrians and transit (e.g., BART, AC Transit). These modes are addressed within a Parking and Transportation Demand Management Strategy that sets forth a comprehensive management strategy for both public and private parking as well as the generation of vehicle trips and which would be carried out through separate subsequent discretionary actions by the City of Hayward after approval of the Specific Plan.

INFRASTRUCTURE PLAN

The Specific Plan includes an Infrastructure & Utility Plan (see Section 5.2) for new and upgraded stormwater, water and wastewater conveyance lines. As thoroughfares indicated on the Thoroughfare Plan are constructed over time in conjunction with private development projects on abutting property, new stormwater, water and wastewater lines must also be installed to serve the subject development and, for example, create a looped network by connecting to existing lines.

SPECIFIC PLAN PHASING

The Specific Plan would not be implemented in distinct phases. Rather, the Specific Plan is intended to facilitate both private development projects as proposals for them may come forward, and public works projects as funding for such improvement becomes available for allocation to them.

GENERAL PLAN AMENDMENTS

The Project would change the General Plan Land Use Map designations for most parcels within the Project Boundary (see **Figure 3-16**) to Sustainable Mixed Use. Existing and/or planned public schools, parks or mass-transit facilities would receive, as shown on **Figure 3-16**, the Parks and Recreation or Public/Quasi-Public designations.

SUMMARY TABLE

CEQA requires the City to prepare an EIR that reflects the independent judgment of the City regarding the impacts, mitigation measures proposed to avoid or reduce the impacts, and levels of significance of the impacts both before and after mitigation. Information in **Table 2-1 (**Summary of Impacts and Mitigation Measures), has been organized to correspond with environmental issues discussed in Chapters 4 through 20 of this EIR. The table is arranged in four columns: (1) potential environmental impacts; (2) recommended mitigation measures; and (3) resulting level of significance after mitigation. Levels of significance are categorized as follows: **SU** = Significant and Unavoidable; **S** = Significant; and **LTS** = Less Than Significant.

A series of mitigation measures is noted where more than one mitigation measure is required to achieve a less-than-significant impact, and alternative mitigation measures are identified when available. For a complete description of potential impacts and recommended mitigation measures associated with the Project, please refer to the specific discussions in Chapters 4 through 20 of this EIR.

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
SIGNIFICANT AND UNAVOIDABLE IMPACTS		
None, unless the City Council decides not to adopt Mitigation Measure Trans-2. In that case, Impact Trans-2 would be considered significant.	N/A	N/A
LESS THAN SIGNIFICANT IMPACTS AFTER MITIGATION		
(Air Quality) Impact Air-2: Siting of Sensitive Receptors Near Highway Emissions and Related Risks. Development anticipated under the Project would bring additional sensitive uses (which could include residences, schools, day care centers, playgrounds, and medical facilities) to sites exposed to increased health risks from vehicle emissions from Mission Boulevard (State Highway 238). However, the application of a BAAQMD recommended "Highway Overlay Zone" would ensure the Project would result in a Less than Significant Impact with Mitigation.	**(Air Quality) Mitigation Measure Air-2a:** Highway Overlay Zone. The Project shall include an overlay zone extending five-hundred (500) feet from Mission Boulevard and W. Jackson Street. Future development projects within that overlay zone shall adhere to the indoor and exterior air quality measures below. <u>Indoor Air Quality</u>: In accordance with the recommendations of the California Air Resources Board (CARB) and the Bay Area Air Quality Management District (BAAQMD), measures shall be incorporated into the project design in order to reduce the potential health risk due to exposure to diesel particulate matter to	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	achieve an acceptable interior air quality level for sensitive receptors. The measures shall include one of the following methods: (a) Development project applicants shall implement all of the following features that have been found to reduce the air quality risk to sensitive receptors and shall be included in the project construction plans. These features shall be submitted to the Development Services Department for review and approval prior to the issuance of a demolition, grading, or building permit and shall be maintained on an ongoing basis during operation of the project. For sensitive uses (residences, schools, day care centers, playgrounds, and medical facilities) sited within an overlay zone, the applicant shall install, operate and maintain in good working order a central heating and ventilation (HV) system or other air intake system in the building, or in each individual unit, that meets or exceeds an efficiency standard of MERV 13. The HV system shall include the following features: Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building. Either HEPA filters or ASHRAE 85% supply filters shall be used. Project applicants shall maintain, repair and/or replace HV system on an ongoing and as needed basis or shall prepare an operation and maintenance manual for the HV system and the filter. The manual shall include the operating instructions and the maintenance and replacement schedule. This manual shall be included in the CC&Rs for residential projects and/or distributed to the building maintenance staff. In addition, the applicant shall prepare a separate homeowners manual. The manual shall contain the operating instructions and the maintenance and replacement schedule for	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	the HV system and the filters. (b) Alternative to (a) above, a project applicant proposing siting of sensitive uses (residences, schools, day care centers, playgrounds, and medical facilities) within an overlay zone shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air polluters prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Development Services Department for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then measures outlined under item (a) are not required. <u>Exterior Air Quality</u>: (c) To the maximum extent practicable, individual and common exterior open space proposed as a part of developments in the Project area, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants. (d) Alternative to (c) above, an HRA could be prepared and implemented to take into account the risk specifics of the site, as more fully described in item (b) above. **(Air Quality) Mitigation Measure Air-2b**:Toxic Air Contaminants – Stationary Sources. The location and potential air contaminants associated with stationary sources present at the time of this EIR's preparation may change over time. Similarly, new stationary sources may be established. Therefore, this mitigation	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
	measure provides a dynamic buffer zone to ensure toxic air contaminants from all existing and future stationary sources do not result in unacceptable health risks. The provisions below shall apply to all future development under the Project occurring within five-hundred (500) feet of any stationary source, existing at the time of EIR preparation or subsequently established, and which exceeds the applicable BAAQMD individual source or cumulative threshold: (a) All new development proposals shall be evaluated to determine whether they are within five-hundred (500) feet of a stationary source exceeding the thresholds cited above. (b) Development proposals located within the five-hundred (500) foot radius of a stationary source exceeding threshold shall adhere to the indoor and exterior air quality measures of Mitigation Measure Air-2, including the option to complete a HRA.	
(Biological Resources) Impact Bio-3: (Impacts to Pallid Bats). During future construction projects that implement the Mission Boulevard Corridor Specific Plan that include tree removal and/or building demolition, it is possible that pallid bat roosts could be adversely impacted. However, the use of preconstruction surveys to determine the presence or absence of Pallid Bats, in conjunction with avoidance and creation of alternate habitat in the event of discovery, would ensure the Project would result in a Less Than Significant Impact with Mitigation.	**(Biological Resources) Mitigation Measure Bio-3a:** (Pre-demolition Surveys and Buffer Zones). A pre-demolition survey for roosting bats will be conducted prior to any removal of buildings or trees ≥12 inches in diameter at 4.5 ft. above grade. The survey will be conducted by a qualified bat biologist (i.e., a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle and collect bats). No activities that would result in disturbance to active roosts shall proceed prior to the completed surveys. If no active roosts are found, then no further action would be warranted. If a pallid bat roost is present, Mitigation Measures Bio-3b shall be implemented.	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	(Biological Resources) Mitigation Measure Bio-3b: (Avoidance). If an active pallid bat maternity roost is found, the project shall be redesigned to avoid the loss of the building or tree occupied by the roost, if feasible. If avoidance is not feasible, Mitigation Measures 3c and 3d shall be implemented. If the roost is a non-maternity roost, then avoidance is not necessary, but Mitigation Measure 3c shall be implemented to avoid the injury or mortality of individual pallid bats. **(Biological Resources) Mitigation Measure Bio-3c:** (Exclude Pallid Bats Prior to Demolition of Roosts). If an active pallid bat roost will be impacted, demolition of that tree or structure will commence before maternity colonies form (i.e., prior to March 1) or after young are volant (flying) (i.e., after July 31). A disturbance-free buffer zone, the extent of which shall be determined by a qualified bat biologist based on site-specific conditions, will be observed during the maternity roost season (March 1–July 31) Bats may be evicted during the period August 1-October 31, or November 1-February 28 only during prolonged periods of warm conditions. Bats shall not be evicted on rainy nights or nights when temperatures are predicted to be less than 50 degrees F. The individuals shall be safely evicted under the direction of a qualified bat biologist by opening the roosting area to allow air flow through the cavity. Demolition should then follow no sooner than the following day (i.e., there should be no less than one night between initial disturbance for air flow and the demolition). This action will allow bats to leave during dark hours, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. Trees with roosts that need to be removed will first	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours. **(Biological Resources) Mitigation Measure Bio-3d:** (Provide Alternative Pallid Bat Roost). If a tree or structure containing a pallid bat maternity roost is to be removed by the proposed Project, a qualified biologist shall design and determine an appropriate location for an alternative roost structure. The qualified biologist will determine the appropriate location for the alternative roost structure based on the location of the original roost and the habitat conditions in the vicinity. The roost structure will be built to specifications as determined by the qualified biologist, or it may be purchased from an appropriate vendor. The structure will be placed as close to the impacted roost site as feasible. The project applicant will monitor the roost for up to three years (or until occupancy is determined, whichever occurs first) to determine use by bats. If by Year 3 pallid bats are not using the structure, a qualified bat biologist, in consultation with the CDFG, will identify alternative roost designs or locations for placement of the roost.	
(Biological Resources) Impact Bio-5: (Impacts to Special-status Plants). The agricultural/ruderal grassland, wetland, and riparian habitats within the Project area may provide habitat for plants considered special-status by the USFWS, CDFG, or CNPS. Future development pursuant to the Specific Plan could adversely impact special-status plants and their associated habitats. However, with implementation of preconstruction surveys to determine absence or presence and, if discovered the avoidance, preservation or provision of	**(Biological Resources) Mitigation Measure Bio-5a:** (Conduct Special-status Plant Surveys in Locations Where Project Activities Are Proposed to Occur in Natural Areas). Prior to approving construction in any of the areas mapped as agricultural/ruderal grassland, wetland, or riparian habitat in the Project Area, the project proponent shall be required to hire a qualified biologist to conduct focused surveys during the published blooming period for the Santa Cruz tarplant, Johnny nip, fragrant fritillary, and Diablo helianthella. The locations and specific habitat requirements of each of these species	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
compensatory mitigation, would ensure the Project would result in a Less Than Significant Impact with Mitigation.	are outlined in the Biological Resources Report prepared for the Mission Boulevard Corridor Specific Plan EIR. **(Biological Resources) Mitigation Measure Bio-5b:** (Determine CEQA Significance for Potential Impacts). After protocol-level floristic surveys are completed, a species-specific determination of potential significance will be conducted for each plant species by a qualified plant ecologist, using the results of the Project Area survey and existing databases. Due to the regional rarity of the one species (Santa Cruz tarplant) that is listed under the federal and California Endangered Species Act, if this species is found to be present, any adverse effects on this species will be considered potentially significant. If activities will result in the loss of any Santa Cruz tarplants found within the proposed work area, the impact will be deemed significant and unmitigable. Implementation of the avoidance component of Mitigation Measure 5c shall be implemented for such impacts. As described earlier, the only remaining documented occurrences of this species are from Santa Cruz and Monterey counties, although the plant was known at one time on coastal terraces of the Bay Area. The discovery of this federally threatened and state endangered plant in the Project Area would represent a substantial finding requiring protection. If any other CNPS-listed plant species are found within or directly adjacent to the proposed work area, the impact will be deemed less than significant and no further mitigation will be required if activities will result in either: (1) the loss of less than 5 percent of the known individuals documented as occurring within 50 mi of the impact location; or (2) if the total number of individuals is unknown, the loss of less than 5 percent of the known populations. Such an	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
	impact would be considered less than significant because regional populations will remain abundant following Project implementation and the Project will not substantially reduce the number or range of these species. If such activities will result in loss of more than 5 percent of the known populations or individuals of these species documented as occurring within 50 mi of the impact location, this impact is determined to be significant. It is likely that if found, impacts to small populations of List 4 species such as Johnny nip would be considered less than significant. These plant species are widely distributed, with many known, extant populations occurring in many counties. In other cases, the species are considered to be more rare but the amount of suitable habitat present on-site is limited, meaning that any potentially present populations are likely to be small in size and, therefore, impacts to these would likely also be less than significant. However, impacts to populations of more restricted, rare, or declining species are likely to be considered significant unless mitigated. Finally, for those species that have a potential to occur on-site as a large population due to the abundance of potentially suitable habitat, impacts to a large population of so-called "watch-list" (i.e., CNPS List 3 and 4) species may be considered significant unless mitigated. For any special-status plant for which it is determined that Project activities may result in a significant impact, the following mitigation measure will be implemented. **(Biological Resources) Mitigation Measure Bio-5c:** (Avoid and Preserve Special-status Plants). To the extent feasible, construction activities will avoid impacts to known special-status plant populations on	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	site. All Santa Cruz tarplants and populations of CNPS-listed plants (for which a determination of significance has been determined under Mitigation Measure 5b) that are to be avoided shall be protected by a permanent buffer zone established prior to site grading. The buffer for any special-status plants on site shall be established at 50 ft. from the perimeter of the population or the individual plants unless otherwise agreed upon by a qualified botanist retained by the City. With implementation of this component of this mitigation measure, the impact would be reduced to a less-than-significant level. **(Biological Resources) Mitigation Measure Bio-5d:** (Compensatory Mitigation). If avoidance of the CNPS-listed plants (for which a determination of significance has been determined) is not feasible, mitigation shall be provided via the preservation, enhancement, and management of occupied habitat for the affected species. Habitat that supports the species that are impacted shall be preserved and managed in perpetuity. The mitigation habitat shall be of equal or greater habitat quality compared to the impacted areas, as determined by a qualified botanist, in terms of soil features, extent of disturbance, vegetation structure, and dominant species composition, and will contain at least as many individuals of the impacted species as are impacted by Project activities. The permanent protection and management of mitigation lands shall be ensured through an appropriate mechanism, such as a conservation easement or fee title purchase. A Habitat Mitigation and Monitoring Plan (HMMP) will be developed and implemented for the mitigation lands. That plan will include, at a minimum, the following information: • A summary of habitat impacts and the	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	proposed mitigation • A description of the location and boundaries of the mitigation site and description of existing site conditions • A description of measures to be undertaken to enhance (e.g., through focused management) the mitigation site for the focal special-status species • A description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which will be determined by a qualified botanist) • Proposed management activities to maintain high-quality habitat conditions for the focal species • A description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc. • Contingency measures for mitigation elements that do not meet performance criteria Alternatively, mitigation could be provided by contributing funds to an entity, such as the East Bay Regional Parks District, that would be used specifically to enhance and manage habitat supporting the species for which mitigation is needed. Such enhancement and management would be performed in accordance with the HMMP contents listed above.	
(Biological Resources) Impact Bio-6: (Indirect Impacts to Water Quality and Sensitive Habitats). Construction activities pursuant to the Specific Plan could result in indirect effects on water quality and sensitive aquatic and wetland habitats in and near the Project	**(Biological Resources) Bio-6a:** (Incorporate Best Management Practices for Water Quality During Construction). The Project will incorporate Best Management Practices (BMPs) for water quality. These BMPs will include numerous practices that will be outlined in the Stormwater Pollution	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
area. (Less Than Significant Impact with Mitigation)	Prevention Plan (SWPPP), but will include measures such as: 1. No equipment will be operated in live flow in any of the channels or ditches on or adjacent to the Project Area. 2. No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into aquatic or wetland habitat. 3. Standard erosion control and slope stabilization measures will be required for work performed in any area where erosion could lead to sedimentation of a waterbody. For example, silt fencing will be installed just outside the limits of grading and construction in any areas where such activities will occur upslope from, and within 50 ft. of, any wetland, or aquatic habitat. This silt fencing will be inspected and maintained regularly throughout the duration of construction. 4. Machinery will be refueled at least 50 ft. from any aquatic habitat, and a spill prevention and response plan will be developed. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. **(Biological Resources) Mitigation Measure Bio-6b:** (Minimize Soil Disturbance Adjacent to Wetland Habitat). To the extent feasible, soil stockpiling, equipment staging, construction access roads, and other intensively soil-disturbing activities will not occur immediately adjacent to any wetlands that are to be avoided by the project. The limits of the construction area will be clearly demarcated with Environmentally Sensitive Area fencing to avoid inadvertent disturbance	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	outside the fence during construction activities. **(Biological Resources) Mitigation Measure Bio-6c**: (Ensure Adequate Stormwater Run-off Capacity). Increases in stormwater run-off due to increased hardscape will be mitigated through the construction and maintenance of features designed to handle the expected increases in flows and provide adequate energy dissipation. All such features, including outfalls, will be regularly maintained to ensure continued function and prevent failure following construction.	
(Biological Resources) Impact Bio-7: (Impacts to Sensitive Plant Communities and Habitats). Approximately 1 acre of riparian and 0.2 acres of aquatic and wetland habitats have been identified in the Project area and may be affected by construction activities pursuant to the Specific Plan. (Less Than Significant with Mitigation)	**(Biological Resources) Mitigation Measure Bio-7a**: (Delineate Riparian, Aquatic, and Wetland Boundaries). Prior to any ground disturbing activities that could potentially have direct impacts on riparian, aquatic, or wetland habitats, a focused delineation will be performed to determine the precise limits of these habitats within the project Area. **(Biological Resources) Mitigation Measure Bio-7b**: (Impact Avoidance/Minimization). Future project elements shall be designed to avoid and minimize impacts to these sensitive habitats to the extent practicable while still accomplishing project objectives. **(Biological Resources) Mitigation Measure Bio-7c:** (Restoration of Temporarily Impacted Wetland/Aquatic Habitats). Riparian, aquatic, or wetland habitats that are temporarily impacted during construction of specific development projects shall be restored to pre-existing contours and levels of soil compaction following build-out. The means by which such temporarily impacted areas will be restored shall be detailed in the mitigation plan described in Mitigation Measure 7d	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	below. **(Biological Resources) Bio-7d:** (Compensation for Permanently Impacted Riparian, Wetland and Aquatic Habitats). Unavoidable permanent fill of riparian, wetland, and aquatic habitats shall be mitigated at a minimum ratio of 1:1 (mitigation area: impact area) by creation or restoration of similar habitat. Mitigation may be achieved through a combination of on-site restoration or creation of riparian, wetland, or aquatic habitats (including removal of on-site fill or structures that results in a gain of wetland or aquatic habitats); off-site restoration/creation; funding of off-site restoration/creation projects implemented by others; and/or mitigation credits purchased at mitigation banks within the San Francisco Bay Region. For funding of off-site improvements or purchase of mitigation bank credits, the Project Proponent shall provide written evidence to the City that either: (1) compensation has been established through the purchase of a sufficient number of mitigation credits in a mitigation bank to satisfy the mitigation acreage requirements of the Project activity; or (2) funds sufficient for the restoration of the mitigation acreage requirements of the Project activity have been paid to an entity implementing a project that would create or restore habitats of the type being impacted by the project. For areas to be restored as mitigation for temporary or permanent impacts, the project applicant shall prepare and implement a mitigation plan. The project applicant shall retain a qualified restoration ecologist or wetland biologist to develop the mitigation plan, which shall contain the following components (or as otherwise modified by regulatory agency permitting conditions): • Summary of habitat impacts and	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	proposed mitigation ratios, along with a description of any other mitigation strategies used to achieve the overall mitigation ratios, such as funding of off-site improvements and/or purchase of mitigation bank credits • Goal of the restoration to achieve no net loss of habitat functions and values • Location of mitigation site(s) and description of existing site conditions • Mitigation design: • Existing and proposed site hydrology • Grading plan if appropriate, including bank stabilization or other site stabilization features • Soil amendments and other site preparation elements as appropriate • Planting plan • Irrigation and maintenance plan • Remedial measures / adaptive management, etc. • Monitoring plan (including final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc.) • Contingency plan for mitigation elements that do not meet performance or final success criteria.	
(Cultural Resources) Impact Culture-2: Disturbance of Unidentified Archaeological Resources. During earth-moving activities relating to future construction projects which implement the Mission Boulevard Corridor Specific Plan, construction at private property or within the public right-of-way may encounter yet unidentified prehistoric and historic archaeological resources. However, adherence to the Hayward	**Culture-2a**: Adoption of Archaeological Resource Sensitivity Map. The City of Hayward shall adopt the archaeological sensitivity map found within the September 2012 "Archaeological Resources Assessment Report for the Mission Boulevard Corridor Specific Plan EIR, Alameda County, California" prepared by William Self Associates. **Culture-2b**: Utilization of Archaeological Resource Sensitivity Map. Projects within the Project area shall comply with the	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
Historic Preservation Ordinance (Municipal Code Chapter 10, Article 11) including, in particular, the adoption and use of an archaeological sensitivity map for the Project area, would ensure Less Than Significant Impact with Mitigation would result.	Historic Preservation Ordinance for the City of Hayward as set forth in Chapter 10 Article 11 of the Hayward Municipal Code and use the archaeological sensitivity maps provided as Appendix A: Figures 8, 9, and 10 to the September 2012 "Archaeological Resources Assessment Report for the Mission Boulevard Corridor Specific Plan EIR, Alameda County, California" prepared by William Self Associates.	
(Cultural Resources) Impact Culture-3: Disturbance of Unique Paleontological Resource or Geologic Feature. During earth-moving activities relating to future construction projects which implement the Mission Boulevard Corridor Specific Plan, construction at private property or within the public right-of-way may encounter undiscovered paleontological resources or unique geologic feature; in particular, those which involve deep excavations. The Project would, however, result in a Less Than Significant Impact with Mitigation when unanticipated discoveries are addressed through appropriate documentation and evaluation under CEQA §15064.5.	**Culture-3:** Construction shall halt in the Event of Unanticipated Discovery of Paleontological Resources. In the event of unanticipated discoveries paleontological resources, the project sponsor shall promptly notify the City and retain a qualified paleontologist who shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines §15064.5. In the event of an unanticipated discovery of a brea (a seep of natural petroleum that preserved and fossilized remains of trapped animals) or of fossils during construction, excavations within fifty (50) feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards (SVP 2010). The paleontologist shall notify the City, including all other appropriate agencies, to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
(Cultural Resources) Impact Culture-4: Disturbance of Unidentified Human Remains. During earth-moving activities relating to future construction projects which implement the Mission Boulevard Corridor Specific Plan, construction at private property or within the public right-of-way may encounter undiscovered human remains. However, adherence to California Health and Safety Code §7050.5(b), would ensure Less Than Significant Impact with Mitigation would result.	**Culture-4:** Adherence to California Health and Safety Code §7050.5(b). If human remains, or possible human remains, are encountered during future project-related construction activities, Section 7050.5(b) of the California Health and Safety code must be implemented. Section 7050.5(b) states: "In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. The County Coroner, upon recognizing the remains as being of Native American origin, is responsible to contact the Native American Heritage Commission (NAHC) within 24 hours. The Commission has various powers and duties, including the appointment of a Most Likely Descendant (MLD) to the project. The MLD, or in lieu of the MLD, the NAHC, has the responsibility to provide guidance as to the ultimate disposition of any Native American remains."	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
(Hazards & Hazardous Materials) Impact Haz-2: (Upset or Accident Hazards). With increased population and construction activity anticipated in the Project area under the Project, the number of residents and workers who could potentially be exposed to hazardous materials which may already be present at some sites would increase. However, requiring pre-development site assessments would ensure the Project results in a Less Than Significant Impact with Mitigation.	**(Hazards & Hazardous Materials) Mitigation Measure Haz-2:** (Require Phase 1 Environmental Site Assessments for Development Projects). Prior to development/re-development of properties located within the Project area, a Phase I Environmental Site Assessment shall be performed to assess any potential risks of hazardous material release to the property or the environment due to any previous land uses. This Phase I environmental site assessment will determine the likelihood of the presence of hazards and/or hazardous materials and determine whether construction activities on the building site will lead to a release of hazardous material.	LTS
(Hydrology & Water Quality) Impact Hyd-1: (Short-term, Construction-Related Water Quality Impacts). Future construction activities in the Project area could lead to exceedance of water quality objectives or criteria. However, adherence to local and state water quality control requirements would ensure no significant impact results. (Less Than Significant Impact with Mitigation)	**(Hydrology) Mitigation Measure Hyd-1:** Compliance with City Water Quality Requirements and State NPDES Construction General Permit. All construction activities, including installation and realignment of utilities, would be subject to existing regulatory requirements, including the SWRCB statewide NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit) (Order No. 2009 0009-DWQ, NPDES No. CAR000002). The NPDES Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list BMPs that the discharger will use to protect stormwater runoff, including the placement and timing of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; and a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs.	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
(Hydrology & Water Quality) Impact Hyd-2: (Long-term, Post-Construction Water Quality Impacts). Operational impacts associated with increased development under the Project could adversely affect water quality and lead to a violation of an applicable standard. However, adherence to local and state water quality control requirements would ensure no significant impact results. (Less Than Significant Impact with Mitigation)	**(Hydrology) Mitigation Measure Hyd-2:** Compliance with NPDES Permit Requirements, City Ordinances and ACCWP Guidelines. All development must comply with the California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MS4 Permit), City of Hayward Storm Water Management and Urban Runoff Control Ordinance, and Alameda County Clean Water Program(ACCWP) Guidelines.	LTS
(Hydrology & Water Quality) Impact Hyd-4: (Stormwater System Capacity). Future development within the Project area may create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems but would not provide substantial additional sources of polluted runoff. However, through the submittal of site-specific drainage plans and, where necessary, modifications to the existing stormwater facilities or construction of new facilities would ensure no significant impact would result under this criterion. (Less Than Significant Impact with Mitigation)	**(Hydrology) Mitigation Measure Hyd-4:** (Site-specific Drainage Plans). Site-specific drainage plans shall be prepared for all future construction within the Project area prior to approval of a grading permit, or a building permit in the event a grading permit is not required. Each report shall include a summary of existing (pre-project) drainage flows from the project site, anticipated increases in the amount and rate of stormwater flows from the site and an analysis of the ability of downstream facilities to accommodate peak flow increases. The analysis shall also include a summary of new or improved drainage facilities needed to accommodate stormwater increases. Each drainage plan shall be reviewed and approved by the City Public Works Director prior to approval of a grading or building permit.	LTS
(Hydrology & Water Quality) Impact Hyd-5: (100-Year Flood Hazard). Construction of buildings or other improvements adjacent to the channelized portion of Ward Creek (south of Orchard Avenue; north of Torrance Avenue) would be placed in proximity to but not within a mapped 100-year flood hazard area. However, site-specific studies would ensure	**(Hydrology) Mitigation Measure Hyd-5:** (100-Year Flood Hazard). Development proposals adjacent to the channelized portion of Ward Creek (south of Orchard Avenue; north of Torrano Avenue) shall include a hydrology and hydraulic study, prepared by a California-Registered Civil Engineer, and which addresses whether the subject site would be subject to a flood hazard and whether flood waters would not	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
flood hazards are identified and addressed to prevent damage to persons and property. (Less Than Significant Impact with Mitigation)	be increased on any surrounding sites. If that study confirms the proposed development would be subject to a flood hazard, all proposed development shall be removed from the flood hazard area through measures including, but not limited to, increasing the topographic elevation of the site or similar steps to minimize flood hazards. The study shall be reviewed and approved by the Public Works Director, shall comply with Municipal Code Chapter 9, Article 4, and shall include, at minimum, a Conditional Letter of Map Revision (CLOMR) to remove the site from the FEMA Flood Insurance Rate Map 100-year flood hazard area.	
(Noise) Impact Noise-1: (Noise Exposure or Levels in Excess of Local Standards) Development under the Project could expose future land uses to noise levels exceeding those considered acceptable for such uses. Residential land uses can be expected to be exposed to noise level in excess of 60 dBA throughout the Project area. However, even greater noise levels can be expected at locations immediately adjacent to Mission Boulevard, Jackson Street and railroad tracks. (Less Than Significant Impact with Mitigation)	**(Noise) Mitigation Measure Noise-1a:** For subsequent residential projects proposed in the Project area, an acoustic analysis shall be prepared by a qualified acoustical specialist. to demonstrate that interior noise levels can be maintained below 45 dBA Ldn. (Qualifications shall include the following: Bachelor of Science or higher degree from a qualified program in engineering, physics, or architecture offered by an accredited university or college, and five years of experience in noise control engineering). This can typically be accomplished with the incorporation of an adequate forced air mechanical ventilation system in the residential units to allow residents the option of controlling noise by keeping the windows closed. **(Noise) Mitigation Measure Noise-1b:** For subsequent commercial, industrial and institutional projects proposed in areas where exterior day-night average noise levels are, or are projected to be 60 to 70 dBA Ldn, the need for noise attenuation measures shall be determined by a qualified acoustical specialist on a project by project basis at the time development is proposed. Standard office construction methods	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	typically provide about 25 to 30 decibels of noise reduction in interior spaces. **Noise (Mitigation Measure) Noise-1c:** Noise levels exceed, or are projected to exceed 70 dBA Ldn, within 200 feet of the railroad tracks, within 150 feet of the centerline of Mission Boulevard, and within 175 feet of the centerline of Jackson Street. At these locations with increased noise levels, an acoustic analysis shall be prepared by a qualified acoustical specialist to demonstrate how interior noise levels can be maintained below 45 dBA Ldn and the adopted single event residential limits set forth in the Noise Element. Potential strategies are expected to be more robust than measures required by Mitigation Measure Noise 1-a and may include, but are not limited to, the inclusion of windows and doors with high Sound Transmission Class (STC) ratings, and the incorporation of forced-air mechanical ventilation systems necessary to meet 45 dBA Ldn and the Lmax noise limits. Noise barriers may be necessary to shield outdoor activity areas at multi-family residential uses facilitated by the Plan.	
(Noise) Impact Noise-2a: (Ground Vibration from Rail Operations) Future development under the Project could expose persons to excessive vibration from rail operations. (Less Than Significant Impact with Mitigation)	**(Noise) Mitigation Measure Noise-2a:** New development that is within one-hundred (100) feet of the centerline of existing railroad and BART tracks or other sources of ground-borne vibration shall have a vibration analysis prepared by a qualified vibration specialist that specifies the vibration control measures including, but not limited to, setbacks and structural design features to reduce vibration levels at or below the guidelines of the Federal Transit Administration criteria, consistent with the receiving land use categories of Category 1, Category 2 or Category 3 as shown in Table 15-7 (Groundborne Vibration Impact Criteria). (Qualifications shall include: Bachelor of Science or higher degree from a	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
	qualified program in engineering or physics, offered by an accredited university or college, and five years or experience in vibration control engineering).	
(Noise) Impact Noise-2b: (Ground Vibration from Construction Vibration) Future development under the Project could expose persons to excessive vibration from construction activities. (Less Than Significant Impact with Mitigation)	**(Noise) Mitigation Measure Noise-2b:** New development shall minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction. For activities involving the use of a pile driver, a Vibration Control Plan shall be prepared and approved by the Development Services Director or Designee. The Vibration Control Plan shall be prepared by a qualified professional, identify the proximity and sensitivity of nearby structures, and include measures sufficient to reduce vibration below levels before the aforementioned limits.	LTS
(Noise) Impact Noise-4: (Substantial Permanent Noise Increase – Mixed-Use Development) New mixed-use development projects may include noise generating activities that result in excessive noise at nearby noise sensitive land uses. (Less Than Significant Impact With Mitigation)	**(Noise) Mitigation Measure Noise-4:** Mixed-use developments shall be evaluated on a case-by-case basis to identify and avoid the generation of potentially significant noise levels on on existing and potential future sensitive land uses. Where avoidance is not feasible, noise impacts shall be mitigated by measures including, but not limited to, operation limitations on noise generation activities (e.g., time of day, volume), relocation of noise generating source(s), and/or use of noise attenuation measures such as acoustical enclosures and sound barriers.	LTS
(Noise) Impact Noise-5: (Substantial Temporary or Periodic Noise Increase) Future Project-related construction	**(Noise) Mitigation Measure Noise-5:** In order to maintain compliance with Hayward Noise Ordinance §4-1.03.4, development	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
activities may involve construction activities that exceed noise levels established by the Noise Ordinance. (Less Than Significant Impact with Mitigation)	that includes demolition and/or construction activity exceeding 86 dBA outside of the property plane shall be carried out in accordance with a Construction Noise Logistics Plan approved by the Development Services Director or Designee pursuant to a Conditional Noise Permit authorized in accordance with Hayward Noise Ordinance §4-1.04. A Construction Noise Logistics Plan shall specify the hours of construction, noise and vibration minimization measures, posting or notification of the method of construction and schedules, and designation of a noise disturbance coordinator who would respond to neighborhood complaints. Additionally, a Construction Noise Logistics Plan shall include measures required to be in place prior to the start of construction, and implemented during construction to reduce noise impacts on neighboring residents and other uses. A typical construction noise logistics plan would include, but not be limited to, the following measures to reduce construction noise levels as low as practical: • Utilize 'quiet' models of air compressors and other stationary noise sources where technology exists; • Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment; • Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses; • Locate staging areas and construction material areas as far away as possible from adjacent land uses; • Prohibit all unnecessary idling of internal combustion engines; • If impact pile driving is proposed,	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
	multiple-pile drivers shall be considered to expedite construction. Although noise levels generated by multiple pile drivers would be higher than the noise generated by a single pile driver, the total duration of pile driving activities would be reduced. • If impact pile driving is proposed, temporary noise control blanket barriers shall shroud pile drivers or be erected in a manner to shield the adjacent land uses. Such noise control blanket barriers can be rented and quickly erected. • If impact pile driving is proposed, foundation pile holes shall be pre-drilled to minimize the number of impacts required to seat the pile Pre-drilling foundation pile holes is a standard construction noise control technique. Pre-drilling reduces the number of blows required to seat the pile. Notify all adjacent land uses of the construction schedule in writing; • Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.	
(Public Services) Impact Pub-1: (Fire Services) The Project would not result in the development of facilities for the Hayward Fire Department. Therefore, the Project would not result in a substantial adverse physical impact	**(Public Services) New Specific Plan Policy:** (Fire Services) Prior to the construction of the first dwelling unit within the Project area, the City of Hayward shall prepare and adopt a mechanism to finance public safety staffing and improvements	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
associated with the provision of new or physically altered governmental facilities. (No Impact).	within the Project area. Such a mechanism may include a Community Facilities District or equivalent mechanism that will provide for adequate funding to meet staffing, facility and equipment standards.	
(Transportation) Impact Trans-1: (Existing 2012 (Baseline) – Mission Boulevard and A Street Intersection) Under the Existing 2012 (Baseline) Plus Project condition, traffic generated by the Project would increase the delay at Mission Boulevard and A Street intersection, which already operates at unacceptable (i.e., LOS F) level of service, by more than four (4) seconds, (from 61.0 to 76.7 seconds of delay) during the PM peak-hour As noted, previously in the 238 Corridor Improvement Project DEIR (page 3.11-28), this intersection was identified to operate at LOS F under existing conditions during the AM and PM peak hours.	**(Transportation) Mitigation Measure Trans-1:** (Restripe on the eastbound approach on A Street at Mission Boulevard and A Street) Convert the eastbound outer left-turn lane into a left-right turn shared lane.	LTS
(Transportation) Impact Trans-2: (Cumulative 2035 Plus Project - Mission Boulevard and Sunset Boulevard) Under the Cumulative 2035 Plus Project condition, traffic generated by the Project would have a cumulatively considerable impact on the delay at the intersection Mission Boulevard and Sunset Boulevard intersection through an increase of 12.1 seconds of average delay during the PM peak-hour.	**(Transportation) Mitigation Measure Trans-2:** (Cumulative 2035 Plus Project - Mission Boulevard and Sunset Boulevard) Convert the existing left-through-right shared lane into a through-right shared lane on both eastbound and westbound approaches; add a separate left-turn lane on both eastbound and westbound approaches.	LTS
(Transportation) Impact Trans-3: (Cumulative 2035 Plus Project - Mission Boulevard and A Street) Under the Cumulative 2035 Plus Project condition, the Project would increase the delay of the Mission Boulevard and A Street intersection to	**(Transportation) Mitigation Measure Trans-3:** (Cumulative 2035 Plus Project - Restripe on the eastbound approach on A Street at Mission Boulevard and A Street) Convert the eastbound outer left-turn lane into a left-right turn shared lane.	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
increase by an average of 9.3 seconds during the AM peak-hour and 20.6 seconds during the PM peak-hour.		
LESS THAN SIGNIFICANT IMPACTS WITH *NO* MITIGATION REQUIRED		
(Aesthetics) Impact Aes-1: (Views and Vistas) The Project could generally be expected to lead to an incremental increase in building heights, mass and bulk. Within the northern Project area segment, the Project restricts building heights to maintain views from Prospect Hill towards the San Francisco Bay. Within the southern Project area segment, the Project could lead to development proposals that may obstruct views of the Hayward Hills. However, fulfillment of the Site Plan Review process would ensure future development proposals evaluated under the Project would not result a substantial adverse impact on scenic vistas. (Less Than Significant Impact)	N/A	LTS
(Aesthetics) Impact Aes-2: (Damage to Scenic Resources) The Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. (Less Than Significant Impact)	N/A	LTS
(Air Quality) Impact Air-1: Conflict with Clean Air Plan. Development anticipated as a result of the Project would increase vehicle use beyond that assumed in the CAP, but would support the goals of the CAP, including applicable control measures. This would be a Less Than Significant Impact.	N/A	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
(Aesthetics) Impact Aes-4: (Light and Glare) Development projects submitted to the City of Hayward within the Project area would result in an incremental increase in the amount of light and glare. However, the Project would maintain an existing requirement for lighting to comply with the Hayward Security Standards Ordinance which prevents the casting of light and glare on adjacent properties.	N/A	LTS
(Biological Resources) Impact Bio-1: Habitat Modifications. Future build-out pursuant to the Mission Boulevard Corridor Specific Plan may result in the loss or conversion of up to 238 acres of developed/landscaped, 10 acres of agricultural/ruderal grassland, and, 15 acres of ornamental woodland habitat.	N/A	LTS
(Biological Resources) Impact Bio-2: Substantial Adverse Effect on Golden Eagle Populations. During future construction projects pursuant to the Mission Boulevard Corridor Specific Plan that are located within the agricultural/ruderal grassland habitat area, it is possible that equipment may be operated near golden eagles. Additionally, areas developed here would remove potential foraging habitat for the golden eagle.	N/A	LTS
(Biological Resources) Impact Bio-4: (Impacts to Habitat for and Individuals of Certain Potentially Breeding Special-status Animal Species). Some special-status animal species could potentially breed in or adjacent to the Project area but are not expected to be significantly impacted by the Project. These species include the white-tailed	N/A	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
kite, loggerhead shrike, western pond turtle, and San Francisco dusky-footed woodrat. (Less Than Significant Impact)		
(Biological Resources) Impact Bio-8: (Migratory Fish or Wildlife) The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less Than Significant Impact)	N/A	LTS
(Biological Resources) Impact Bio-9: (Conflict with Hayward Tree Preservation Ordinance). The Project area includes many trees that would qualify as "significant" or "protected" under the Hayward Tree Preservation Ordinance. Future Project-related development activities could result in the removal of such trees. However, mandatory compliance with the City of Hayward Tree Preservation Ordinance ensures the Project would result in a Less Than Significant Impact.	N/A	LTS
(Cultural Resources) Impact Culture-1: Changes to Known Historic Resources. Future construction within the Project area may involve physical changes to known or unknown historic resources. However, the review of future development proposals for compliance with CEQA and the Hayward Historic Preservation Ordinance (Municipal Code Chapter 10, Article 11) would result in Less Than Significant Impacts.	N/A	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
(Geology & Soils) Impact Geo-1: (Fault Rupture). The historic record indicates that a major earthquake on the Hayward Fault or other nearby faults could result in ground fault rupture within the Project area and with the potential to damage or destroy existing and future dwelling units, roads, utilities and other structures. However, existing regulations would apply to new development pursuant to the Specific Plan, reducing this effect to Less Than Significant levels.	N/A	LTS
(Geology & Soils) Impact Geo-2: (Seismic Ground Shaking): The Project is located in an area that would be subject to very strong ground shaking in a major seismic event. However, existing regulations would continue to apply to new development pursuant to the Specific Plan, reducing this effect to Less Than Significant levels.	N/A	LTS
(Geology & Soils) Impact Geo-3: (Ground Failure and Landslides). The Project area includes lands where historic occurrences or location conditions indicate a potential for liquefaction and/or earthquake-induced landslides. However, existing regulations would continue to apply to new development pursuant to the Specific Plan, reducing this affect to Less Than Significant levels.	N/A	LTS
(Geology & Soils) Impact Geo-4: (Soil Erosion). Site preparation and construction activity associated with future developments and improvements implemented by the Project could result in soil erosion as the surface is disrupted. However, existing regulations would continue to	N/A	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
apply to new development pursuant to the Specific Plan, reducing this effect to Less Than Significant levels.		
(Geology & Soils) Impact Geo-5: (Expansive Soils). The Project area does not include a known unstable geologic unit but it does include soil types which are highly susceptible to expansion, which may shrink or swell as a result of seasonal or human-made soil moisture content changes, and which can damage structures and other improvements and utilities. However, existing regulations would continue to apply to new development pursuant to the Specific Plan, reducing this effect to Less Than Significant levels.	N/A	LTS
(Greenhouse Gas Emissions) Impact GHG-1: (Generation of Long-Term Operational GHG Emissions). The Project would generate long-term operational GHG emissions over its lifetime. However, the Project's GHG efficiency, which accounts for the population and employment of the Project area, would be below the BAAQMD's GHG efficiency-based threshold. Therefore, the Project would not generate a level of GHG emissions that would have a significant impact on global climate change. As a result, this impact would be less than cumulatively considerable and Less Than Significant.	N/A	LTS
(Hazards & Hazardous Materials) Impact Haz-1: (Transport, Use and Disposal of Hazardous Materials). The Project would increase the intensity land use within the Project area and, in doing so, increase the number of businesses that routinely transport, use, or dispose of hazardous materials.	N/A	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
However, through the application of existing federal, state and local policies and regulations, those businesses would not create a significant hazard to the public. A Less Than Significant Impact would result under this criterion.		
(Hazards & Hazardous Materials) Impact Haz-3: (Hazards Near Schools). The Project does not include a proposed land use classification that would explicitly emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. Existing state regulations on the siting of potential future land uses transporting or using hazardous materials would ensure a Less Than Significant Impact would result under this criterion	N/A	LTS
(Hazards & Hazardous Materials) Impact Haz-7: (Wildland Fire Hazards). The Project would result in additional people and/or structures being placed in a locally designated wildland fire hazard area. However, continued application of the Hayward Hillside Design and Urban/Wildland Interface Guidelines, including provisions of the Hayward Prevention Code, ensures the Project would not result in significant risk of loss, injury or death involving wildland fires. A Less Than Significant Impact would result.	N/A	LTS
(Hydrology & Water Quality) Impact Hyd-2: (Groundwater Recharge). The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. (Less Than Significant Impact)	N/A	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
(Hydrology & Water Quality) Impact Hyd-3: (Drainage Pattern Alteration). The Project would not substantially alter the existing drainage pattern of the area, would not alteration of the course of a stream or river and, consequently, would not result in substantial erosion, siltation or flooding on- or off-site. (Less Than Significant Impact)	N/A	LTS
(Hydrology & Water Quality) Impact Hyd-6: (Flood Hazard, Dam or Levee). The northern portion of the Project area has the potential to be exposed to a flood hazard from dam or levee failure. No tsunami or seiche hazard is present. Mandatory compliance with standard building and safety codes would ensure flood hazards from dam or levee inundation are not significant. (Less Than Significant Impact)	N/A	LTS
(Noise) Impact Noise-3: (Substantial Permanent Noise Increase - Traffic) Increased vehicular traffic resulting from the Project would not contribute to a significant or cumulatively considerable increase in ambient noise levels on local roadways. (Less Than Significant Impact)	N/A	LTS
(Population & Housing) Impact Pop-2: (Displace Housing). The Project would not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere. A Less Than Significant Impact would result.	N/A	LTS
(Public Services) Impact Pub-3: (Schools) The Project would not result in substantial adverse physical impacts	N/A	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios for schools. This is considered a Less Than Significant Impact.		
(Parks & Recreation) Impact Park-1: (Substantial Deterioration of Existing Parks and Recreation Facilities) Future development in the Project area would result in an increase in residents and daytime employees above that contemplated by the Hayward General Plan. That increase in residents and employees could be expected to utilize park and recreational facilities located both inside and outside of the Project area. However, that increase would not result in the substantial physical deterioration of such facilities since existing park acreage in Hayward exceeds the five (5) acre per 1,000 population standard specified in the Hayward General Plan and because new development would be expected to construct new park facilities and/or contribute in-lieu fee payments for such facilities. This would constitute a Less Than Significant Impact.	N/A	LTS
(Transportation) Impact Trans-4: (Congestion Management Plan – Year 2020) The Project is projected to contribute to increase in PM peak hour volumes at most Congestion Management Plan roadway segments in the Year 2020 Plus Project condition. However, no roadway segment under the Year 2020 Plus Project condition is projected to result	N/A	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
in an unacceptable LOS or increase in volume to capacity (V/C) ratio above 5%. Therefore, for the Year 2020 Plus Project condition, the Project would result in a Less Than Significant Impact.		
(Transportation) Impact Trans-5: (Congestion Management Plan – Year 2035) The Project is projected to contribute to increase in PM peak hour volumes at most Congestion Management Plan roadway segments in the Year 2035 Plus Project condition. However, no roadway segment under the Year 2035 Plus Project condition is projected to result in an unacceptable LOS or increase in volume to capacity (V/C) ratio above 5%. Therefore, for the Year 2035 Plus Project condition, the Project would result in a Less Than Significant Impact.	N/A	LTS
(Transportation) Impact Trans-7: (Design Feature Hazard associated with New Thoroughfares) The Project includes planned new thoroughfares connecting to existing thoroughfares. Detailed engineering safety studies of each planned new thoroughfare, including their intersection with existing thoroughfares, has not been accomplished to date. However, the Project would require a detailed examination of new thoroughfares through an existing "Precise Plan Lines for Streets" review process. Implementation of this review process would ensure that the design of these new roads does not result in a roadway design hazard. Thus, a Less Than Significant impact would result under this criterion.	N/A	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES		
Potential Environmental Impacts	**Recommended Mitigation Measures**	**Resulting Level of Significance**
(Transportation) Impact Trans-10: (Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.) New development under the Project would add new transit trips on the existing bus and rail transit system, including during peak commute hours. However, increased transit ridership resulting from implementation of the Project can be accommodated by existing or projected capacity. This is a Less Than Significant impact.	N/A	LTS

PUBLIC INVOLVEMENT PROCESS

Public disclosure and dialogue are priorities under CEQA. Accordingly, CEQA mandates two (2) periods during the EIR process when public and agency comments on the proposed project (or project) and draft document are solicited: during the scoping comment period and during the review period of the draft EIR. CEQA and the State's CEQA implementation guidelines also encourage lead agencies to hold public meetings or hearings to review both the draft and final versions of an EIR.

The City of Hayward is now circulating this draft EIR for a forty-five (45) day public review and comment period and will conduct a hearing before the City's Planning Commission and City Council to present the results of the draft EIR and solicit comments in person. The purpose of public circulation and the public hearing is to provide agencies and interested individuals with opportunities to comment on or express concerns regarding the contents of the EIR.

SCOPING COMMENT PERIOD

"Scoping" refers to the public outreach process under CEQA to determine the coverage and content of an environmental impact report. The scoping comment period offers an important opportunity for public review and comment in early phases of a project. The scoping process for an EIR is typically initiated by publication of the Notice of Preparation (NOP) required by CEQA, which provides formal notice to the public and to interested agencies and organizations that an EIR is in preparation.

During the scoping period, agencies and the public are invited to comment on the project, the

approach to environmental analysis, and any issues of concern. CEQA does not require public meetings during the scoping phase, but many lead agencies opt to hold meetings because they provide good opportunities for face-to-face dialogue about public perceptions, needs, and concerns.

The City of Hayward circulated a Notice of Preparation (NOP) on May 22, 2010 to help identify the types of impacts that could result from the Project, as well as potential areas of controversy. However, it was discovered later that that NOP was not received by the State Clearinghouse. Therefore, a second NOP was sent to and received by the State Clearinghouse on April 27, 2011.

The State Clearinghouse forwarded the April 27, 2011 NOP to public agencies considered likely to be interested in the proposed Project and its potential impacts. The time period for submitting comments ran until May 23, 2011. The April 27, 2011 NOP serves as the baseline for the environmental setting, in accordance with CEQA Guidelines §15125.

During the scoping period, work sessions were held before the Hayward City Council on April 27, 2010, and before the Planning Commission on May 13, 2010, to introduce the proposed Project and to initiate the CEQA process. No specific comments relative to this EIR and its scope were received at these meetings. Additionally, no specific concerns have subsequently come to light through either public meetings or hearings; including through communications with city staff. Consequently, there are no known areas of controversy related to the Project.

The City of Hayward did receive three (3) comment letters from public agencies in response to the NOP and they were taken into account during the preparation of this EIR. A copy of received comments are included within Appendix A (NOP and Comments Received).

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The types of impacts expected to result from the proposed Project and each alternative considered would be similar. On the whole, the proposed Project is considered the environmentally superior alternative since it achieves all project objectives while still resulting in similar impacts to the alternatives considered. However, the fourth variable (i.e., Zoning of APN 445-001-002) included under Alternative 'A' and Alternative 'B' would, if included in the proposed Project and in the cumulative scenario, avoid a potentially significant impact under the topic of geology/soils by designating a property underlain by the Hayward Fault as "Civic Space."

ALTERNATIVES CONSIDERED

The following alternatives were considered:

- "No-project" Alternative. CEQA requires analysis of a "no-project" alternative. The "no-project" alternative would retain all existing land use and development policies (e.g., General Plan) and regulations (e.g., Zoning Ordinance). Most properties along the corridor (fronting Mission Blvd.) would retain commercial land use designations. No new thoroughfares would be constructed.

- Alternative 'A'. As described in Table 22-1, Alternative 'A" primarily consists of variations in zoning designations on the proposed Project regulating plan. However, no change would occur to the existing cross-section of Mission Blvd. north of A Street, except that new streetscape amenities would be provided.

- Alternative 'B'. As described in Table 22-1, Alternative 'B" also primarily consists of variations in zoning designations on the proposed Project regulating plan. However, with regard to the cross-section of Mission Blvd. north of A Street, Alternative 'B' would increase the landscaped median by one (1) foot and decrease the sidewalk width by one (1) foot.

ALTERNATIVES CONSIDERED BUT DISMISSED FROM FURTHER ANALYSIS

The following alternatives were considered but dismissed from further analysis for the reasons indicated below:

- None

PROJECT OBJECTIVES SCREEN

Of the alternatives listed above, the following alternatives do not have the potential to meet most of the project objectives:

- "No-Project" Alternative – the proposed Project seeks to advance the Hayward General Plan, as articulated at General Plan Pages 2-11 to 2-12. Adoption of the "No-Project" would not fulfill that policy direction, which is an integral objective of the proposed Project.

FEASIBILITY SCREEN

Of the alternatives listed above, all have the potential to meet most of the project objectives and may be considered feasible. CEQA defines "feasibility" as follows: "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."

IMPACT AVOIDANCE/REDUCTION SCREEN

Of the alternatives listed above that have the potential to meet most of the project objectives and that are considered feasible, the following alternatives would avoid or substantially reduce one or more potentially significant impacts of the proposed project.

- Alternative 'A' – this alternative would reduce cumulative seismic hazards at a property underlain by the Hayward Fault.

Alternative 'B' – this alternative would reduce cumulative seismic hazards at a property underlain by the Hayward Fault.

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3

PROJECT DESCRIPTION

LOCATION

The Mission Boulevard Specific Plan ("Specific Plan") encompasses approximately 600 parcels, 240 acres, and spans a total length of approximately two (2) miles along two (2) segments of Mission Boulevard in the City of Hayward, Alameda County. The Specific Plan's northern segment extends from the northern City boundary (just north of Rose Street) south to A Street; the southern segment extends from Jackson Street south to Harder Road. Between these two segments, the Specific Plan excludes lands associated with the downtown of Hayward, which is subject to the "Downtown Hayward Design Plan" and related "Design Requirements and Guidelines for Downtown Hayward" and the "Commercial Design Manual".

Figure 3-1 identifies the Specific Plan area.

ENVIRONMENTAL SETTING

The following environmental setting description is, pursuant to California Environmental Quality Act (CEQA) Guidelines §15125(a), based upon the physical conditions as they existed at the time the Notice of Preparation (NOP) was published (i.e., April 21, 2011). Also, while the text within this chapter speaks to the regional and neighborhood settings, more detailed descriptions of the environmental setting are provided in subsequent chapters according to individual environmental topics.

REGIONAL SETTING

The City of Hayward is known as the "Heart of the Bay," thanks to its central and convenient location in Alameda County along the east side of the San Francisco Bay, twenty-five (25) miles southeast of San Francisco, fourteen (14) miles south of Oakland, twenty-six (26) miles north of San Jose, and ten (10) miles west of the valley communities of San Ramon, Dublin and Pleasanton.

Mission Boulevard is one of the East Bay's longest, continuous thoroughfares. Though the street name changes depending upon which jurisdiction its' passing through, this thoroughfare spans over thirty (30) miles from Oakland in the north, to Fremont in the south. Mission Boulevard's long history of as a regional thoroughfare is evident in its' designation as State Route 238 (Hayward south to Fremont) and State Route 185 (Hayward north to Oakland).

Figure 3-2 identifies the Specific Plan's regional location.

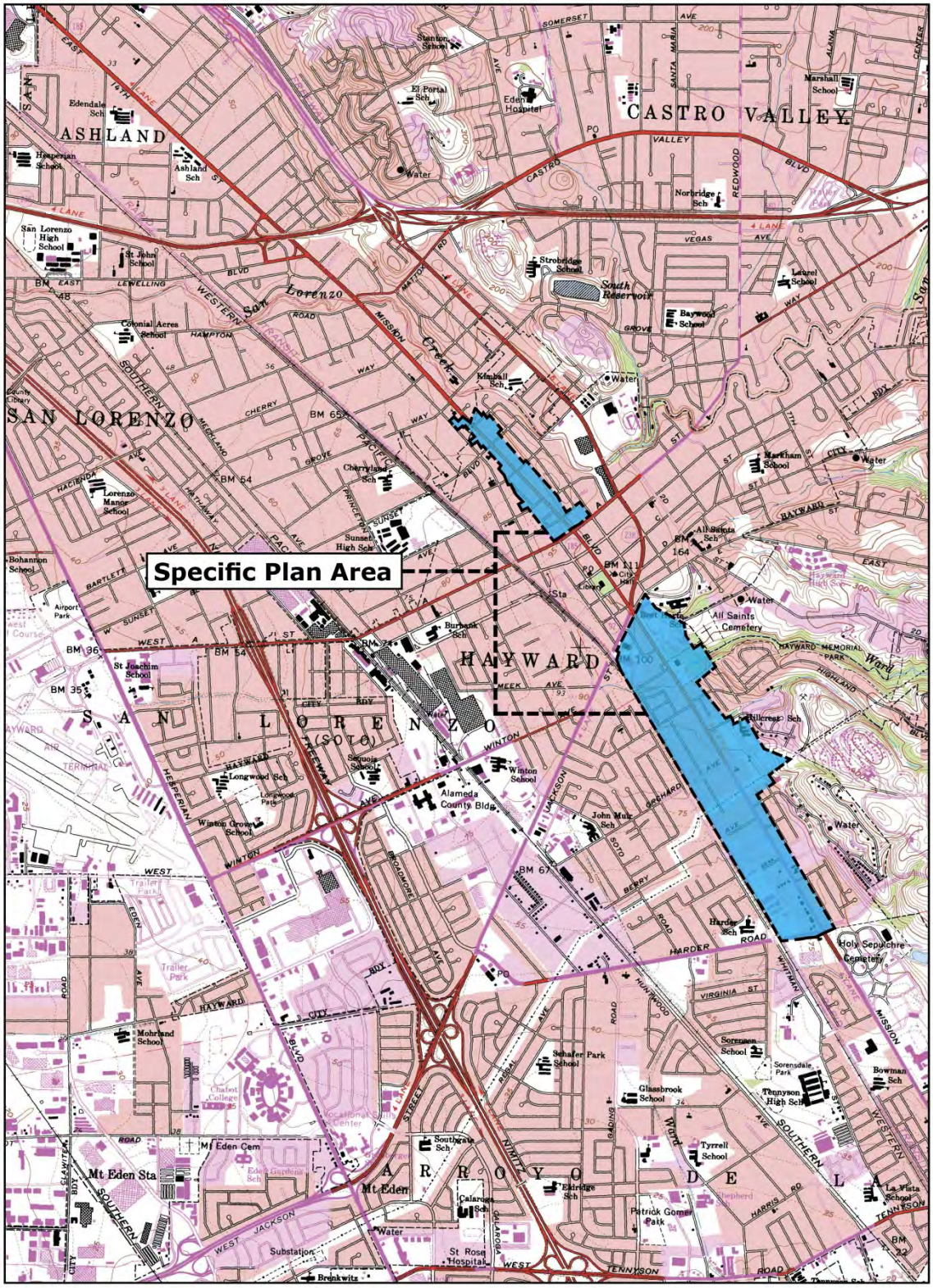

Figure 3-1: Location Map.

Figure 3-2: Regional Location.

NEIGHBORHOOD SETTING

The following text summarizes physical components of neighborhoods surrounding the Specific Plan area:

Northern Segment

The unincorporated "Cherryland" community is located generally westerly and northerly of the northern Specific Plan segment. The Cherryland community includes a business district fronting both sides of Mission Boulevard and contains an assortment of commercial land uses (e.g., office, retail, automobile repair, service). One (1) commercial shopping center (Creekside Center) is located within the Cherryland business district at the intersection of Mission Boulevard and Medford Avenue.

Lands outside of the Cherryland business district, to the west and east of Mission Boulevard, generally consist of residential neighborhoods including both single-family and multiple-family dwellings. Cherryland Elementary School and Brenkwitz High School are located to the west of the Specific Plan's northern segment along Western Boulevard.

Interstate 238 and its intersection with Interstate 580 at Foothill Boulevard is a large physical barrier and visual landmark just north of the Specific Plan's northern segment. The Interstate 580 conveys vehicles from Interstate 5 in the Central Valley to East Bay destinations before terminating in San Rafael. Interstate 238 provides a connection to Interstate 880, a freeway spanning the entire length of the East Bay.

Downtown Hayward

Downtown Hayward is situated between the northern and southern Specific Plan segments. Along Mission Boulevard, Downtown Hayward spans from A Street south to Jackson Street. The Downtown area of Hayward is a historic commercial hub and continues to function so to this day. Retail, restaurant, entertainment and service businesses are prevalent along A Street, B Street, C Street, D Street, Main Street, Foothill Boulevard and Mission Boulevard.

Hayward City Hall provides a civic focal point and gateway to the Downtown. The Hayward BART station is situated to the immediate west of City Hall. The BART tracks serving Hayward Station travel in a north/south direction and are approximately 900 feet west of Mission Boulevard. In recent years, new commercial and residential development in the vicinity of B, C and D Streets and the BART tracks has revitalized the Downtown area, helping to create a vibrant and active neighborhood.

Southern Segment

The Mission Foothills Neighborhood includes the southern Specific Plan segment and residential lands outside of the Specific Plan area trending easterly into the Hayward Hills. Memorial Park and Ward Creek are included within the southern Specific Plan segment but extend outside of the plan, easterly into the hills. Other features to the east include a mixture of single-family and multiple-family dwellings, Bret Harte Middle School, Hayward High School, and California State University East Bay.

Along Mission Boulevard to the south, the City has adopted the South Hayward / Mission Boulevard Form-Based Code to facilitate revitalization through mixed-use development, new civic land (e.g., neighborhood park, community center, linear parks), and improved thoroughfare connectivity. Presently, this stretch of Mission Boulevard contains, in many locations, vacant and/or underutilized commercial properties. The South Hayward BART station is located about 1.25 miles south of Mission Boulevard's intersection with Harder Road.

The Burbank Neighborhood is located west of the southern Specific Plan segment but north of Jackson Street (State Route 92). This neighborhood contains a mixture of older single-family homes and more contemporary multiple-family homes. Further removed from the southern Specific Plan segment is the Winton Middle School and the Cannery Area redevelopment project (presently under construction).

SPECIFIC PLAN DESCRIPTION

The Mission Boulevard Specific Plan ("Specific Plan") intends to provide opportunities for new development in the Mission Boulevard Corridor that respects the existing character of the area and its surroundings, and includes vibrant commercial uses, pedestrian-friendly neighborhoods that are safe, desirable, and at sufficient densities to support public transportation, and a built form that will encourage such uses, and complements the natural and historic amenities existing in the Specific Plan area. A complete copy of the Specific Plan may be obtained from Permit Center, City Hall, 777 B Street, Hayward or the following website address:

http://www.hayward-ca.gov/CITY-GOVERNMENT/SPECIAL-PROJECTS-&-STUDIES/mbcsp.shtmCalifornia Environmental Quality Act (CEQA) Guidelines §15378 defines, in part, that a "Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." Taken as a whole, the Specific Plan contains portions that would result in or can be reasonably foreseen to result in physical changes to the environment. However, the Specific Plan also contains elements that would not result in physical changes to the environment and, thus, are not considered subject to CEQA nor part of the "Project" discussed herein. Therefore, the description below describes those Specific Plan elements that constitute the "Project" within the meaning of CEQA.

POLICIES

The Specific Plan provides a series of policy statements, differentiated according to their urban scale, that are intended to guide implementation. These include the following:

<u>For the Community</u>

- That neighborhoods and transit-oriented development are compact, pedestrian-oriented and mixed-use.
- That neighborhoods should be the preferred pattern of development and that districts specializing in a single use should be the exception.

- That ordinary activities of daily living occur within walking distance of most dwellings, allowing independence to those who do not drive.
- That interconnected networks of thoroughfares be designed to disperse traffic and reduce the length of trips.
- That within neighborhoods, a range of housing types and price levels be provided to accommodate diverse ages and incomes.
- That affordable housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty.
- That appropriate building densities and land uses be provided within walking distance of transit stops.
- That civic, institutional, and commercial activity should be embedded in neighborhoods, not isolated in remote single-use complexes.
- That schools be sized and located to enable children to safely walk or bicycle to them.
- That a range of open space, including parks, squares, plazas and playgrounds, be distributed within neighborhoods.
- That the region should include a framework of transit, pedestrian, and bicycle systems that provide alternatives to the automobile.

For the Transect

- That communities should provide meaningful choices in living arrangements as manifested by distinct physical environments, referred to as Transect Zones.
- That the Specific Plan and Form-Based Code be based on the concept of the Transect, which is a system of ordering human habitats in a range from the most natural to the most urban. The Transect describes the physical character of place at any scale according to the density and intensity of land use and urbanism.
- That the Transect Zone descriptions on Table 1 including, in particular, the T3 Sub-Urban Zone, T4-1 and T4-2 General Urban Zones, T5 Urban Center Zone, and CS Civic Spaces, shall constitute the intent of the Mission Boulevard Corridor Specific Plan and Form-Based Code with regard to the general character of each of these environments within the Specific Plan Area.

For the Block and Building

- That block sizes be scaled small to maximize route options and safety.
- That buildings and landscaping contribute to the physical definition of thoroughfares as civic places.

- That development adequately accommodate automobiles while respecting the pedestrian and the cyclist and the spatial form of public areas.
- That the design of buildings create defensible space, commonly referred to as 'eyes on the street.'
- That architecture and landscape design grow from local climate, topography, history, and building practice.
- That buildings provide their inhabitants with a clear sense of geography and climate through energy efficient methods.
- That civic buildings and public gathering places be provided as locations that reinforce community identity and support self-government.
- That civic buildings be distinctive and appropriate to a role more important than the other buildings that constitute the fabric of the city.
- That the preservation and renewal of historic buildings be facilitated to affirm the continuity and evolution of society.

FORM-BASED CODE

The Specific Plan includes a Form-Based Code that will essentially replace the majority of existing Zoning Regulation provisions applicable to the Plan area. The principal components of the Form-Based Code are a Regulating Plan (i.e., Zoning Map), Transect Zones, and Thoroughfare Plan, as described below.

Regulating Plan

The Specific Plan would insert a Form-Based Code into a new Article 25 in Chapter 10 (Planning, Zoning and Subdivision Regulations) of the Hayward Municipal Code. In doing so, the Form-Based Code would supplant many existing development standards applicable to the Specific Plan area and as primarily expressed through existing, mapped Zoning Districts shown in **Figure 3-3**. However, other existing development standards exclusive of those particular to Zoning Districts would remain applicable to the Project area, except for those provisions specifically defined by Mission Boulevard Corridor Form-Based Code §10-25.140(c).

The area within the Regulating Plan boundaries is divided into Transect Zones and a Civic Space Zone (see **Figure 3-4**). The Transect Zones, whose general intent and development standards are described below, constitute the primary intended physical outcome of future development upon private properties in the Specific Plan Area. The Civic Space Zone, also described below, applies to both existing and proposed future public parks.

Build-Out Assumptions

The Specific Plan and accompanying Form-Based Code will be utilized by the City to guide the long-term development of the plan area. Build-out assumptions for the Specific Plan area utilized

within this Program EIR are identified in **Table 3-1 below**.

TABLE 3-1: BUILD-OUT ASSUMPTIONS

	Transect Zones					Civic Space Zone	Totals
	T-3	T-4(HT)[10]	T-4.1	T-4.2	T5	CS	
Land Area[1, 4, 6]	24	11	114	24	19	21	**213**
Dwelling Units[7, 9]	65	117	1169	247	285	0	**1,883**
Commercial Floor Area[2, 3, 5, 8]	-16,346	2,848	306,095	29,183	160	9,143	**331,083**

[1] Areas expressed in acres; excluding existing and new thoroughfares.

[2] Commercial floor area expressed in square feet (sq.ft.)

[3] Existing building area was determined using County Assessor's data for Existing Building Area and counting only the parcels with commercial use descriptions. For parcels with a use description of "Store on 1st floor, with offices, apts/lofts 2nd/3," it was assumed that half the square footage is commercial at the ground level.

[4] Acreage for all proposed new thoroughfares is subtracted from all residential and commercial floor area calculations.

[5] County Assessor's data indicated existing units for most properties. Number of existing units was changed to zero for properties with commercial use descriptions. Motels and nursing homes were considered commercial uses. For parcels with a use description of "Store on 1st floor, with offices, apts/lofts 2nd/3," the number of existing units was not changed.

[6] Parcel areas were determined by calculating the area of parcels as they will be split by new FBC designations and/or new streets.

[7] Projected number of dwelling units was calculated using the following formula: (midpoint of density x acres x 0.85). Midpoint of density is the midpoint of the density that will be permitted by the corresponding Transect Zone. A factor of 0.85 was used to account for land area used for building setbacks, parking, etc.

[8] Projected new commercial floor area was calculated by multiplying parcels by a factor of 0.275. Commercial floor area is assumed to be developed only on parcels fronting on Mission Blvd or Dollar Ave and where the assessed value of the land exceeds the assessed value of improvements. If the value of existing improvements exceeds the value of the land, then the existing square footage is expected to remain. Though properties owned by the RDA, City, or Caltrans have no assessed value, they are assumed to redevelop. A negative new floor area figure in the T-3 Zone results from the assumed demolition of existing commercial floor area.

[9] New residential units are assumed to be "net new" units developed only on parcels where the assessed value of the land exceeds the assessed value of improvements. If the value of improvements exceeds the value of the land, then the existing units are expected to remain. Though properties owned by the RDA, City, or Caltrans have no assessed value, they are assumed to redevelop.

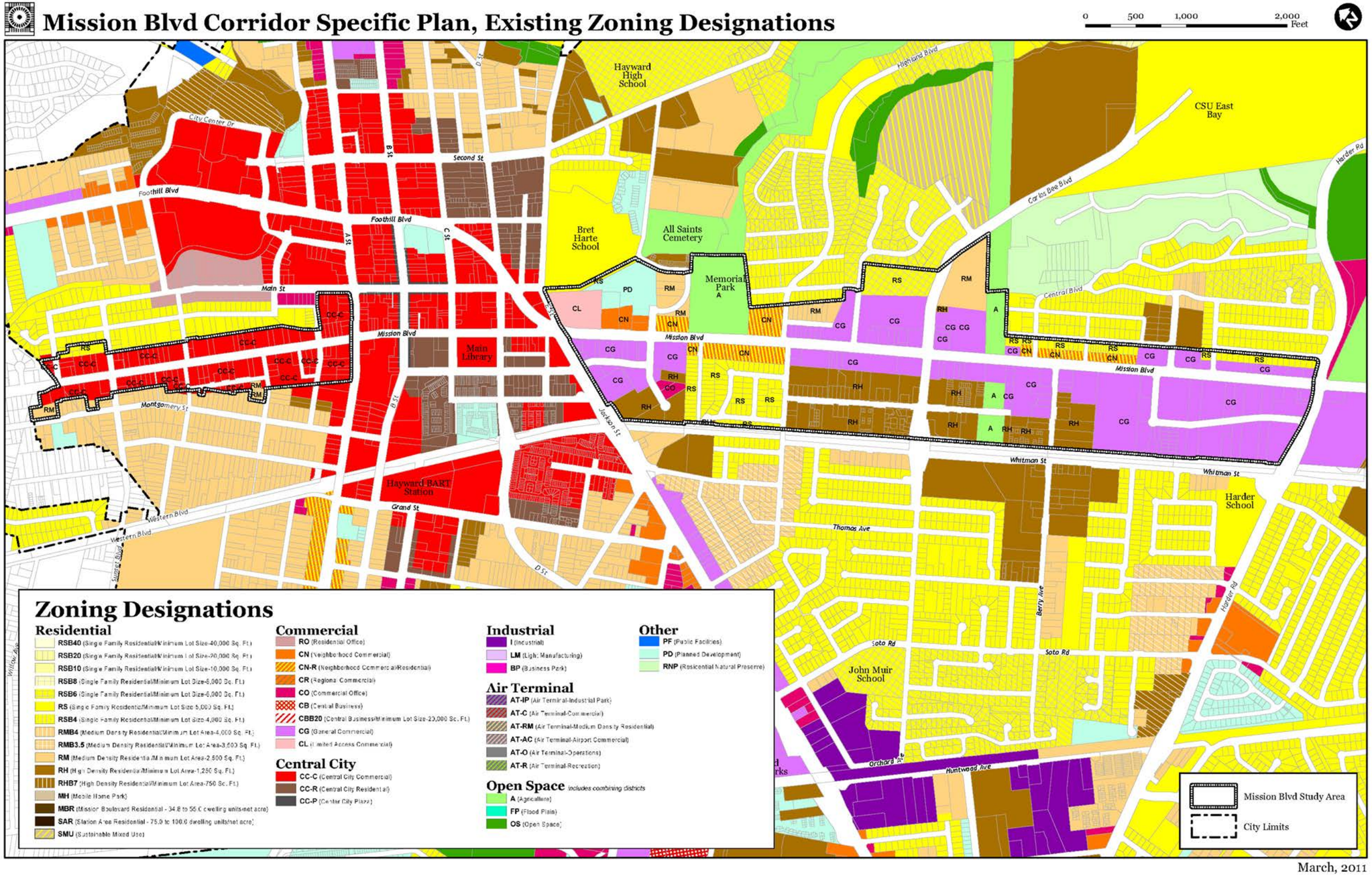

Figure 3-3: Existing Zoning Designations.

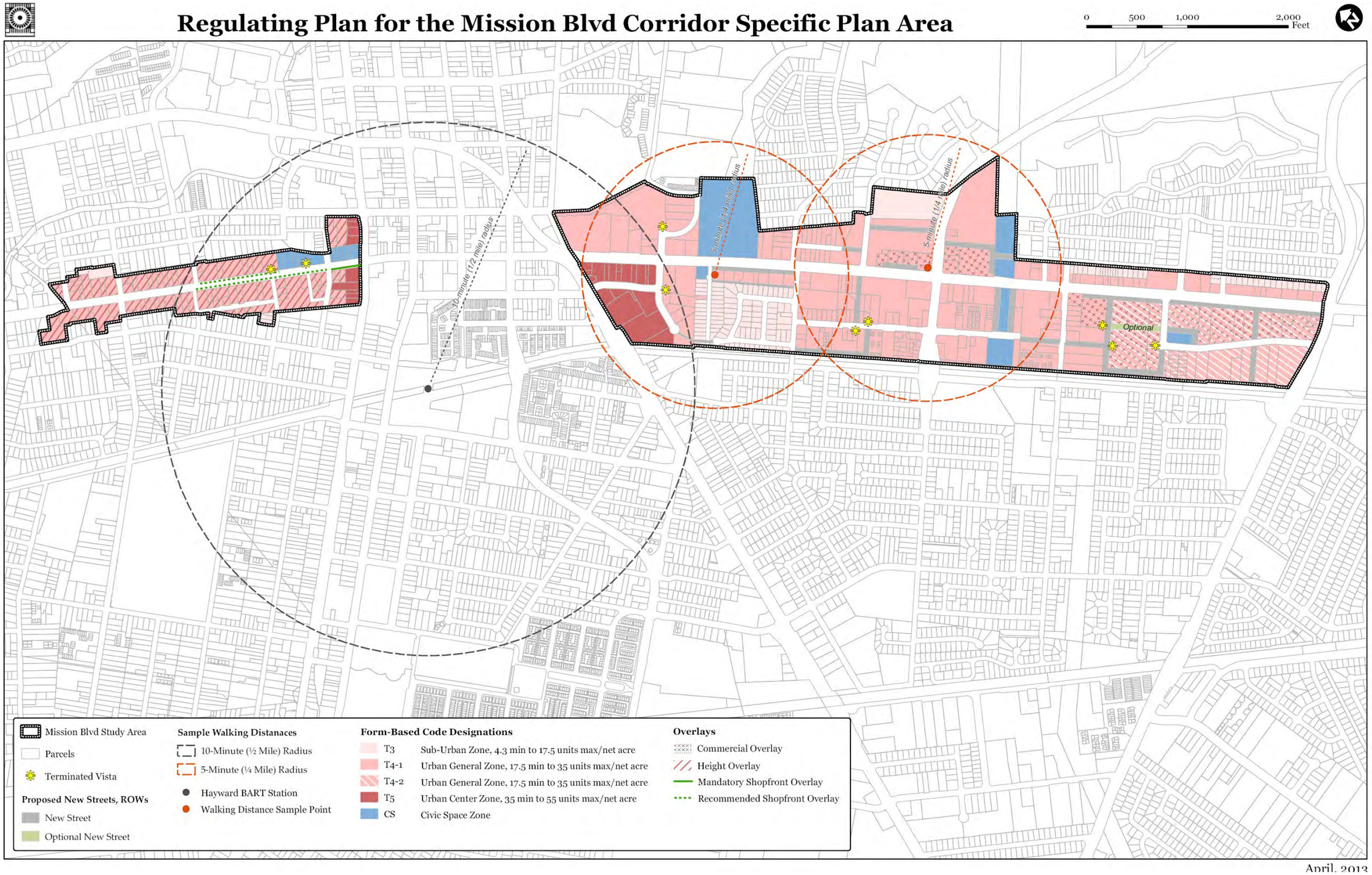

Figure 3-4: Proposed Regulating Plan.

Sub-Urban Zone (T3)

The T3 (Sub-Urban) Zone is intended to consist of low density residential areas, is located adjacent to higher zones including some mixed-use. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions. T3 Zone development standards are identified in **Figure 3-5** below.

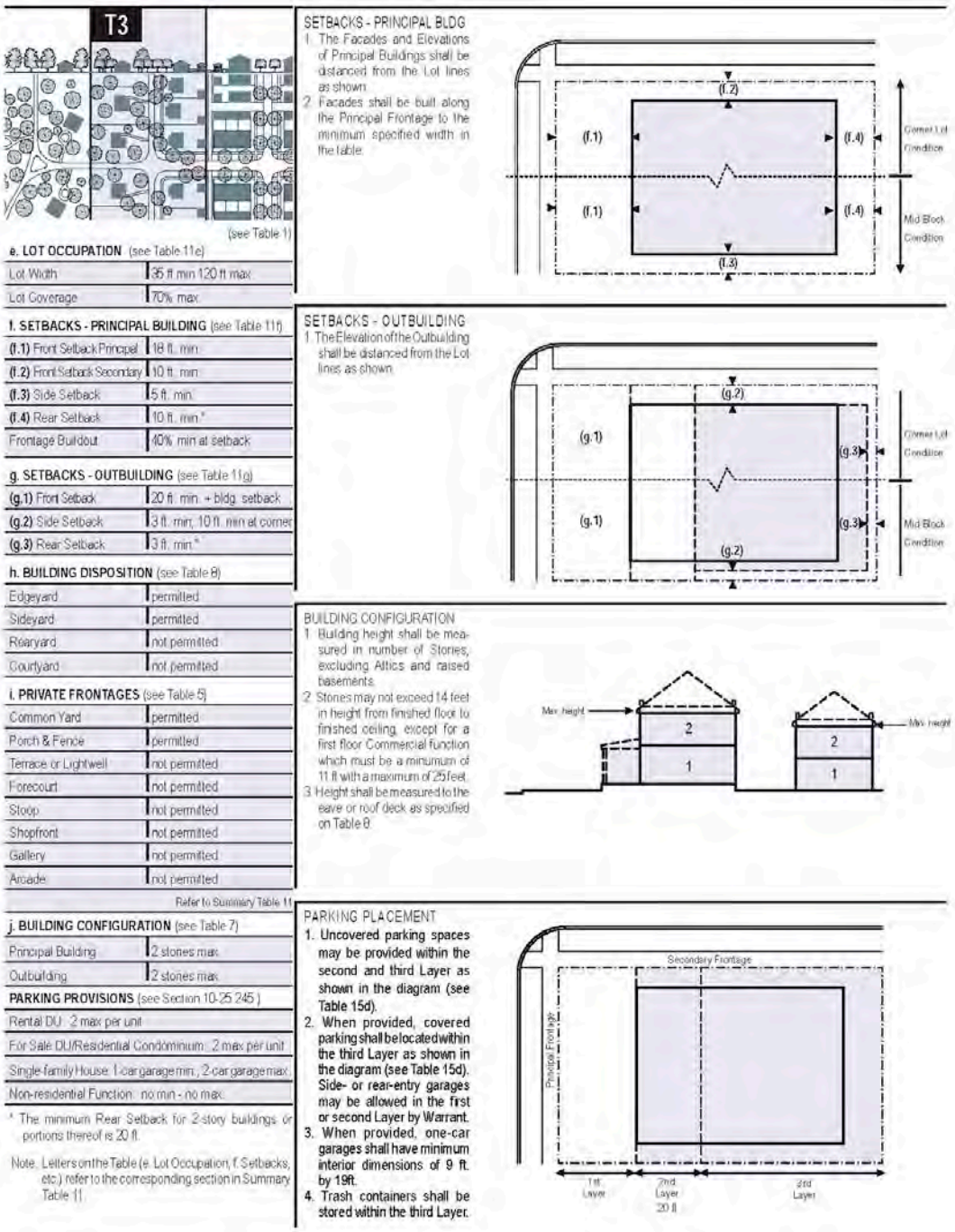

Figure 3-5: T3 Zone Development Standards.

General Urban Zone (T4-1)

The T4-1 (General Urban) Zone is intended to contain mixed uses but with a higher percentage of residential uses. The T4-1 includes a mix of building types: townhouses, apartment buildings, mixed-use buildings and commercial buildings. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks. The T4-1 Zone is differentiated from the T4-2 Zone by its maximum front yard setback (i.e., T4-1: 24 foot maximum; T4-2: 40 foot maximum) and by its maximum block perimeter (i.e., T4-1: 2,400 foot maximum; T4-2: 2,800 foot maximum). T4-1 Zone development standards are identified in **Figure 3-6** below.

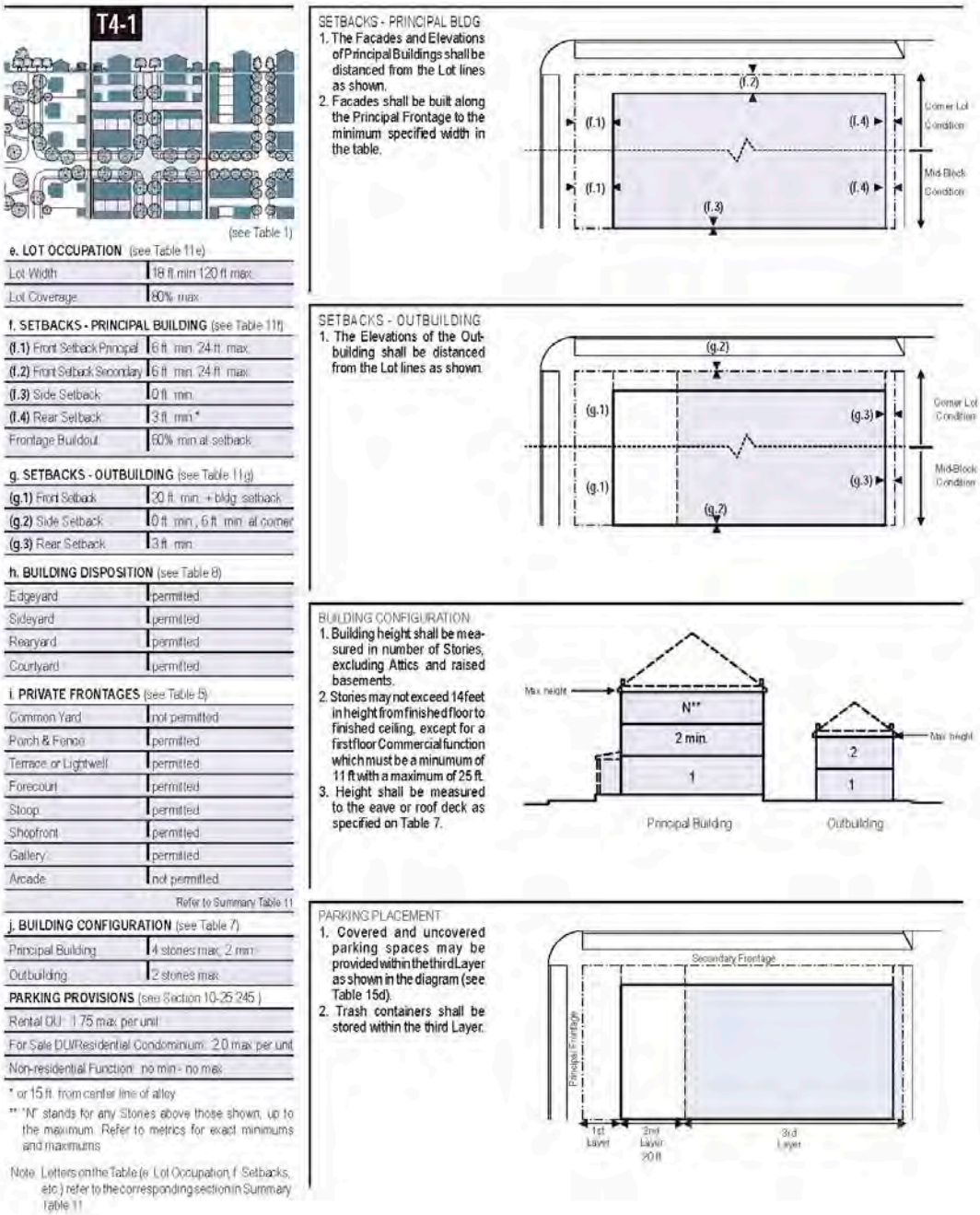

Figure 3-6: T4-1 Zone Development Standards.

General Urban Zone (T4-2)

The T4-2 (General Urban) Zone is intended to contain a wider variety of uses to reflect existing uses and proximity to BART. The T4-2 Zone includes a mix of building types: townhouses, apartment buildings, mixed-use buildings and commercial buildings. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks. The T4-2 Zone is differentiated from the T4-1 Zone by its' maximum front yard setback (i.e., T4-1: 24 foot maximum; T4-2: 40 foot maximum) and by its maximum block perimeter (i.e., T4-1: 2,400 foot maximum; T4-2: 2,800 foot maximum). T4-2 Zone development standards are identified in **Figure 3-7** below.

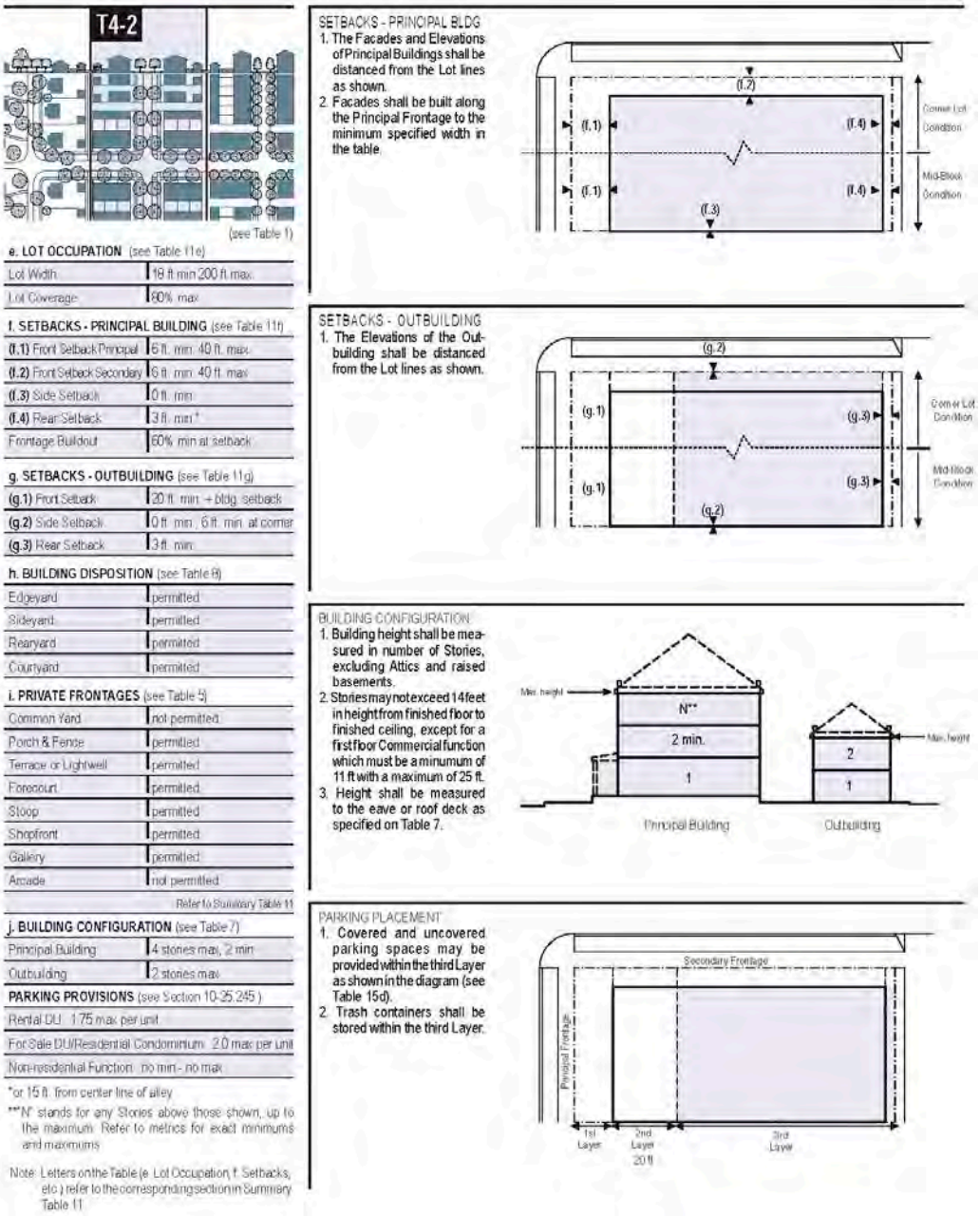

Figure 3-7: T4-2 Zone Development Standards.

Urban Center Zone (T5)

The T5 (Urban Center) Zone is intended to consist of higher density mixed-use buildings that accommodate retail, office, and residential uses along with townhouses and apartment buildings. The T5 Zone has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks. T5 Zone development standards are identified in **Figure 3-8** below.

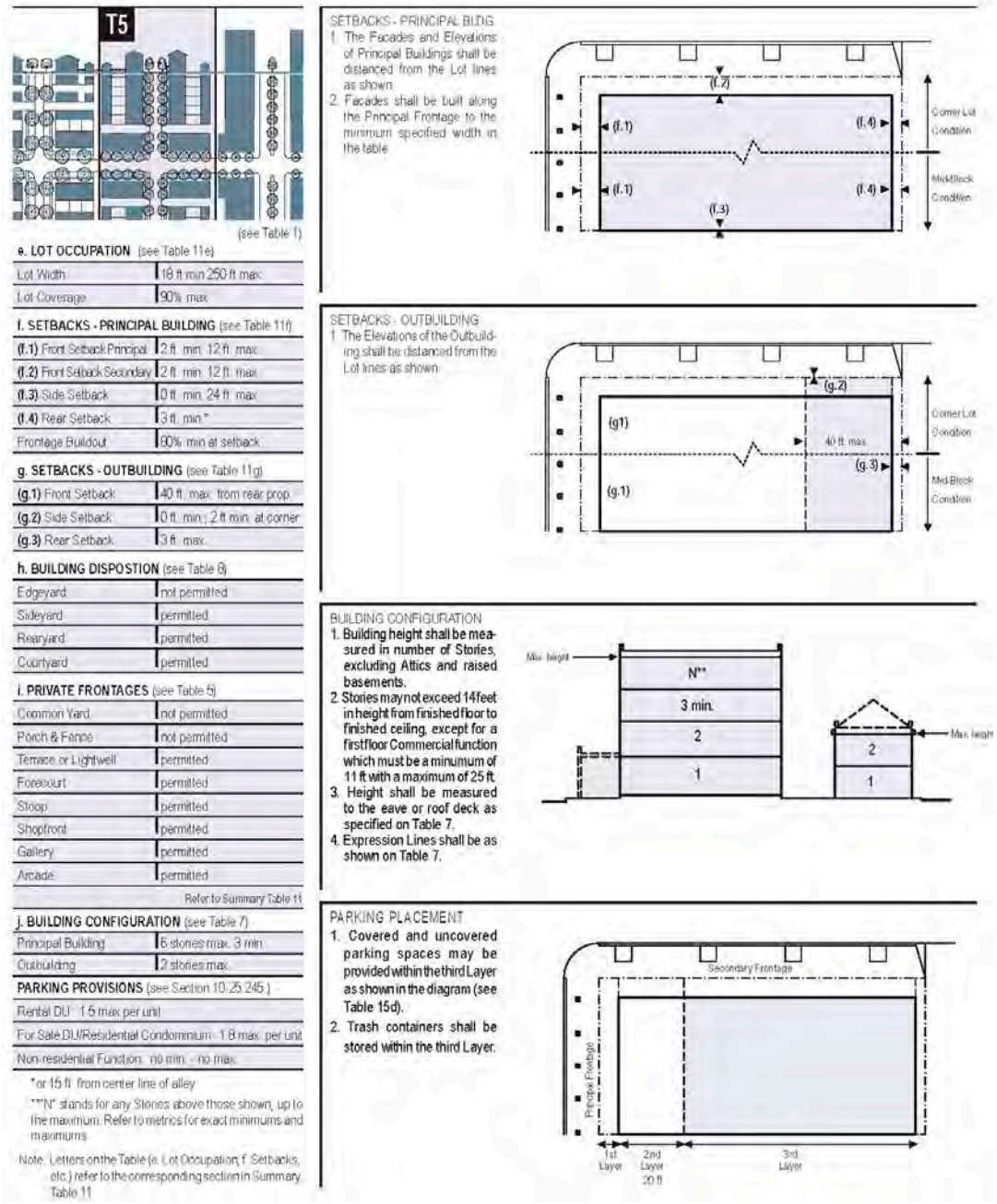

Figure 3-8: T5 Zone Development Standards.

Height Overlay

The Regulating Plan designation of Height Overlay provides modification of building height limits of the underlying T-Zone. Properties designated Height Overlay are limited to between two (2) to three (3) stories.

Commercial Overlay

The Regulating Plan designation of Commercial Overlay prohibits residential land uses from being located on the ground floor of buildings.

Civic Space Zone

The Civic Space Zone (CS) accompanies Transect Zones on the Regulating Plan. The purpose of the CS Zone is for the provision of public Open Space, Civic Buildings and Civic uses. The Form-Based Code provides that Civic Buildings within the CS Zone should be designed in compliance with the standards applicable to the abutting Transect Zone. Also, Open Spaces within the CS Zone are provided general standards (see Form-Based Code, Table 10).

Thoroughfare Plan

The Form-Based Code includes a complement to the Regulating Plan consisting of a Thoroughfare Plan. The Thoroughfare Plan intends to implement the Hayward General Plan's direction to pursue opportunities for infill development and redevelopment to accommodate alternate street patterns, including shorter block lengths, interconnected streets, alleys, and cul-de-sac avoidance (see General Plan, Pages 3-13 to 3-14 and Pages 3-17 to 3-18). The Thoroughfare Plan is shown in **Figure 3-9** below.

New thoroughfares indicated on the Thoroughfare Plan would be constructed over time in conjunction with private development projects on abutting property (see **Figure 3-**10 below). Any such projects which construct these planned new thoroughfares would be eligible to receive a density bonus corresponding to the length of street dedication (see §10-25.275(h)). In the absence of private development projects, the City of Hayward may (over time) also acquire and construct thoroughfare segments identified in the Thoroughfare Plan.

Alongside the planned new thoroughfares, the Thoroughfare Plan also includes changes to certain existing thoroughfares. This would principally occur through increases in sidewalk width and new landscaping installation.[1] Although the majority of these changes to existing thoroughfares would occur over time, either in conjunction with large development projects[2] or by City of Hayward capital improvement projects, the City does intend to construct changes to Mission Boulevard between A Street and Rose Street; as described below.

[1] No existing vehicle travel lanes would be removed.

[2] See proposed Form-Based Code Section 10-25.275(g) for qualifying projects.

Mission Boulevard (A Street to Rose Street)

This Program EIR analyzes the project-specific effects of the following proposed improvements to Mission Boulevard north of A Street to the City Limits, at approximately Rose Avenue. The overall intent of these changes is to improve the physical appearance of Mission Boulevard, provide an incentive for more pedestrian activity, and incentivize economic development in abutting private parcels. **Figures 3-11, 3-12** and **3-13** provides an overhead plan view of proposed changes to this thoroughfare.

The proposed typical street section includes maintaining the existing four (4) travel lanes (two northbound and two southbound), providing two (2) seven (7) foot parallel parking lanes, ten (10) foot sidewalks, as well as installation of a new four (4) foot landscape median. See **Figure 3-14** below.

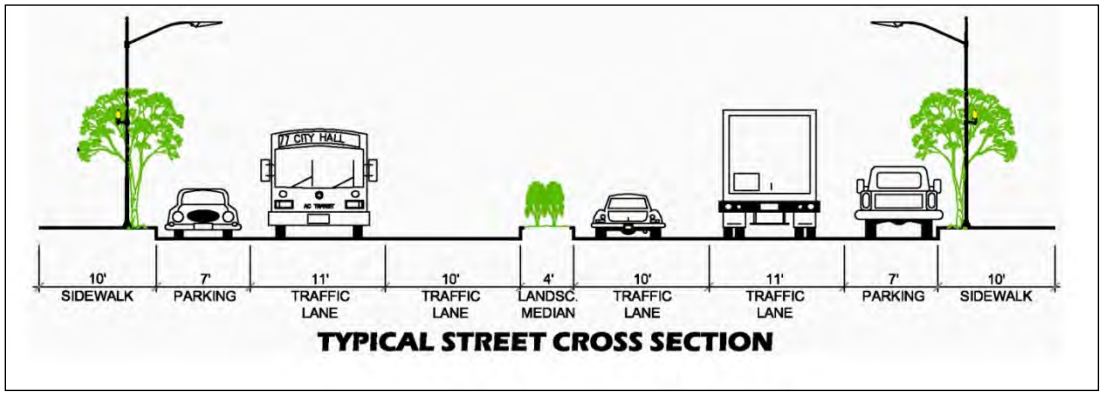

Figure 3-14: Typical Street Cross Section for Mission Blvd (A Street to Rose Street)

Also included are new pavement for parking and travel lanes, installation of new curb, gutter, sidewalks, trees and landscaping. In addition, overhead utilities would be placed underground, new (Light-Emitting Diode) LED street-lighting would be installed, and requisite signage and striping would be installed.

All of the work would be done within the existing eighty (80) foot right of way. No additional right of way is necessary. At Mission Boulevard and A Street, the project will tie into improvements to be constructed shortly as part of the separate Route 238 Corridor Improvement Project.[3]

Other Standards

While the Specific Plan's Form-Based Code includes proposed standards for new Transect Zones, it also includes new standards that would apply throughout the Project area. These include new standards (§10-25.245 through 10-25.290) under the following topics: Parking, Architectural, Fence and Wall, Landscape, Visitability, Sustainability, Subdivision, Sign, Telecommunication Facility, and Emergency Shelter and Group Home Standards.

[3] For more information, see the Route 238 Corridor Improvement Project EIR (State Clearinghouse: 2005112116) at http://user.govoutreach.com/hayward/faq.php?cid=14252.

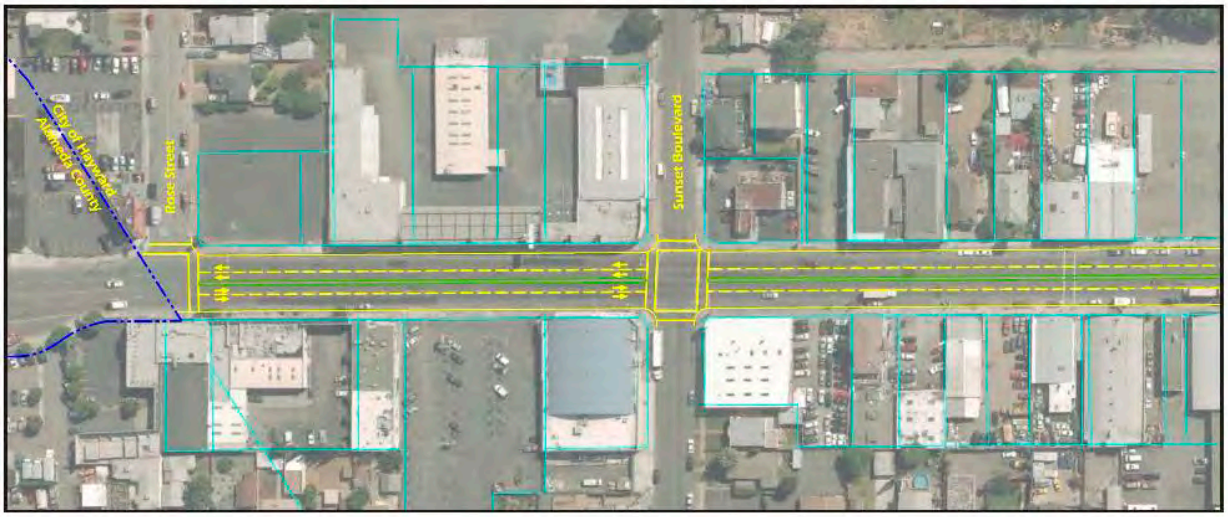

Figure 3-11: Mission Boulevard (Rose Street to Sunset Boulevard).

Figure 3-12: Mission Boulevard (Simon Street to Grace Street).

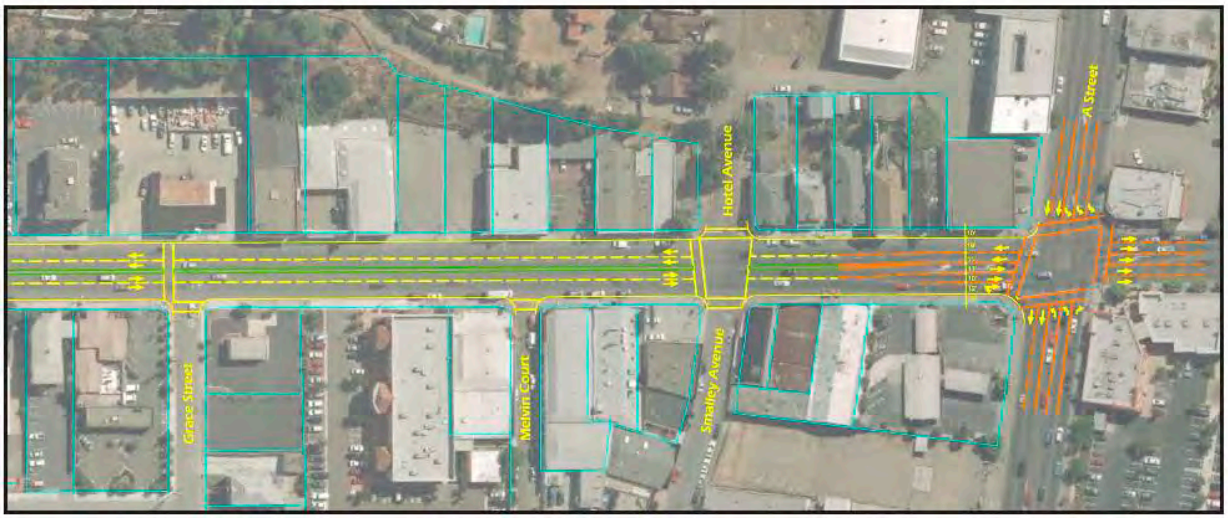

Figure 3-13: Mission Boulevard (Grace Street to A Street).

MOBILITY PLAN

The Specific Plan contains parking and transportation demand management policies (see Mobility Plan, Chapter 5). Travel modes addressed in the Mobility Plan include: automobiles, bicycles, pedestrians and transit (e.g., BART, AC Transit). These modes are addressed within a Parking and Transportation Demand Management Strategy that sets forth a comprehensive management strategy for both public and private parking as well as the generation of vehicle trips, as summarized below, and which would be carried out through separate subsequent discretionary actions by the City of Hayward after approval of the Specific Plan.

Specific Plan strategies for managing on-street parking advance two (2) goals of: (a) ensuring the availability of customer parking in commercial areas; and (b) protecting residential neighborhoods from excessive "spillover parking" by commuters. These on-street parking management strategies are designed to protect both the residential streets within the boundaries of the Specific Plan, and also all of the adjacent residential neighborhoods that could potentially be impacted by redevelopment within the Specific Plan area. Specific Plan strategies directly related to parking management are:

- Create a Commercial Parking Benefit District: Install multi-space, pay-by-space parking meters on any block face in commercial areas where parking occupancy routinely exceeds an 85% occupancy rate. Set parking prices at rates that create a 15% vacancy rate on each block, and eliminate time limits. Dedicate parking revenues to public improvements and public services that benefit the blocks where the revenue was collected.

- Create Residential Parking Benefit Districts: At the same time as parking meters are implemented for curb parking in commercial areas, implement Residential Parking Benefit Districts in adjacent residential areas. Residential Parking Benefit Districts are similar to residential permit parking districts, but allow a limited number of commuters to pay to use surplus on-street parking spaces in residential areas, and return the resulting revenues to the neighborhood to fund public improvements. These Districts should be implemented as necessary once a parking evaluation has taken place.

Specific Plan strategies advance goals to reduce the number of vehicle trips generated by new development including, for example, transportation demand management requirements for future new developments within the Specific Plan area. Specific Plan strategies related to this topic include:

- Invest Meter Revenues in Transportation Demand Management Programs: Invest meter revenues in a full spectrum of transportation demand management strategies for District employees and residents, including transit, carpool, vanpool,

- Provide Universal Transit Passes: Using deeply-discounted group transit pass programs, provide free transit passes to all existing employees and residents. Fund this program using Parking Benefit District revenues and other sources as available. For all new developments, require that universal transit passes be provided to employees and residents through a universal transit pass program.

- Require Parking Cash Out: Require all new and existing employers that provide subsidized employee parking to offer their employees the option to "cash out" their parking subsidy.

- "Unbundle" Parking Costs: Require new office and residential development to "unbundle" the full cost of parking from the cost of the housing or commercial space itself, by creating a separate parking charge for employee and resident spaces.

- Encourage Carsharing Programs: The City of Hayward would encourage the establishment of a car sharing service in Hayward with one or more shared vehicle "pods" strategically located in the Specific Plan area. In order to help establish a car sharing service in the area, the City should consider the following strategies: (a) Require developers of large projects to offer car sharing operators the right of first refusal for a limited number of parking spaces; (b) Require new developments to pay into a car-share start-up fund; (c) Partially or fully subsidize operation costs for a specified term; and (d) Provide other incentives, such as offering convenient and visible curb spaces to car sharing providers for locating car sharing "pods."

- Remove Minimum Parking Requirements: Remove all remaining minimum parking requirements in the Specific Plan area.

The Mobility Plan also contains two (2) proposed pedestrian crossing improvements affecting Mission Boulevard. The following improvements are recommended if warranted by future developments and increased pedestrian demand:

- Pedestrian Crossing at Pinedale Court Intersection. The Route 238 Corridor Improvement Project eliminated the unprotected pedestrian crossing at Pinedale Court and included a landscaped median to discourage pedestrians from crossing the street between the Jack in the Box at the Hayward Plunge just west of Pinedale Court. At the present time, there is no demand for a pedestrian crossing. At such time that development occurs and when sufficient demand has been established, then the developers will be required to evaluate potential options for pedestrian crossings, including a signalized pedestrian crossing. In the interim, there is a safe and viable pedestrian crossing at Fletcher Road. The City worked with AC Transit to appropriately locate bus stops as part of the Route 238 Corridor Improvement Project. Where possible, bus stops were relocated on the far sides of intersections. In addition the existing bus stop on Southbound Mission Boulevard at Pinedale Court was moved further towards Fletcher, so that bus riders can take advantage of the signalized crossing at Fletcher Road to access the Plunge, restaurants and other destinations on the east side of Mission Boulevard. This should reduce the near-term demand for a crossing at Pinedale Court.

- Pedestrian Crossing at Devon Drive. The unprotected crossing at Devon Drive was eliminated. However, the City is providing an illuminated crosswalk at Torrano as part of the Route 238 Corridor Improvement Project. This should address any pedestrian-crossing concerns. At the time a new thoroughfare is constructed between Harder Road and Devon Drive as shown in the Form-Based Code, City staff will analyze the feasibility of providing a pedestrian crossing at that location, as there is a significant distance between these two streets.

SPECIFIC PLAN PHASING

The Specific Plan would not be implemented in distinct phases. Rather, the Specific Plan is intended to facilitate both private development projects as proposals for them may come forward, and public works projects as funding for such improvement becomes available for allocation.

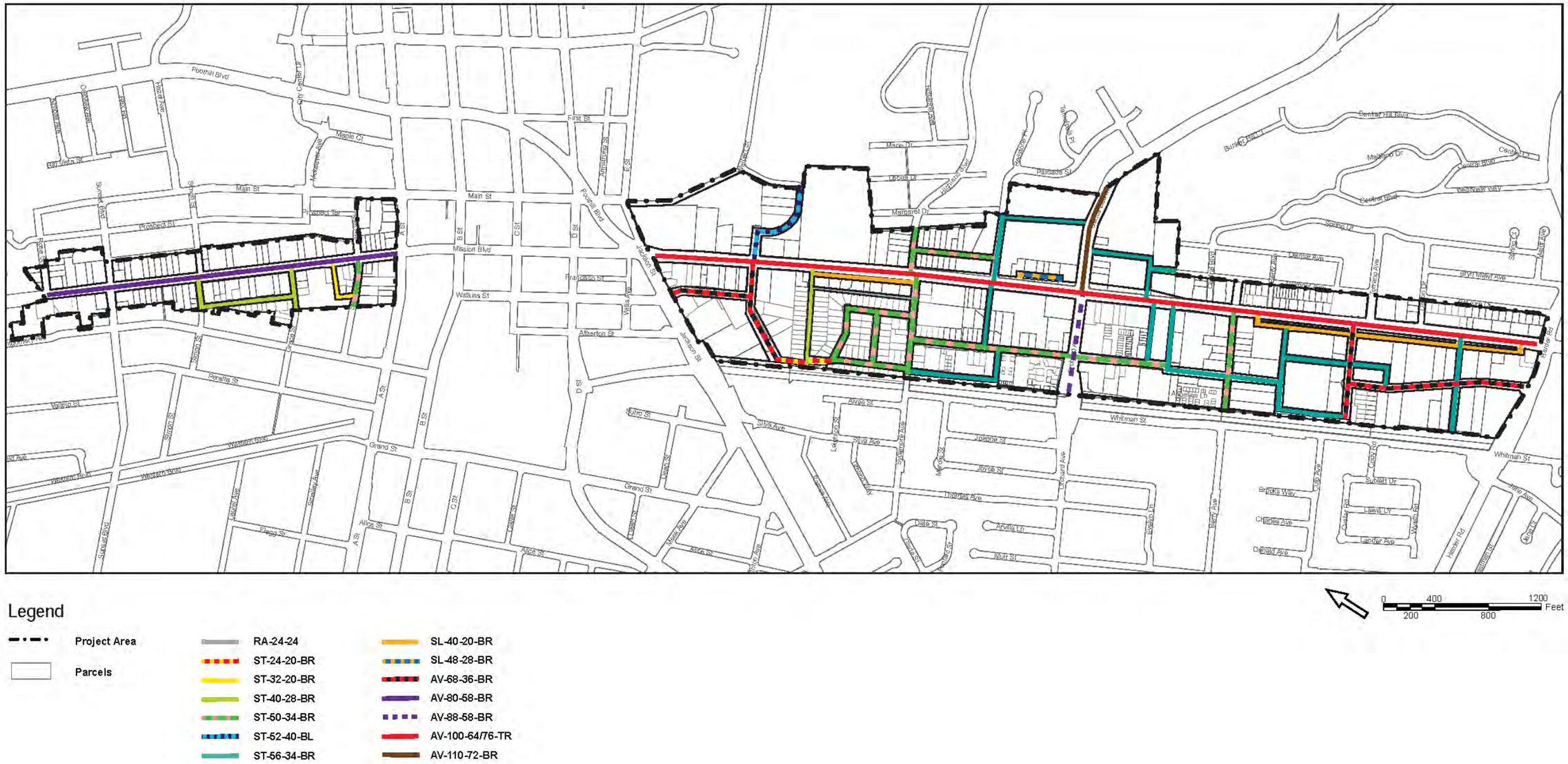

Figure 3-9: Thoroughfare Plan.

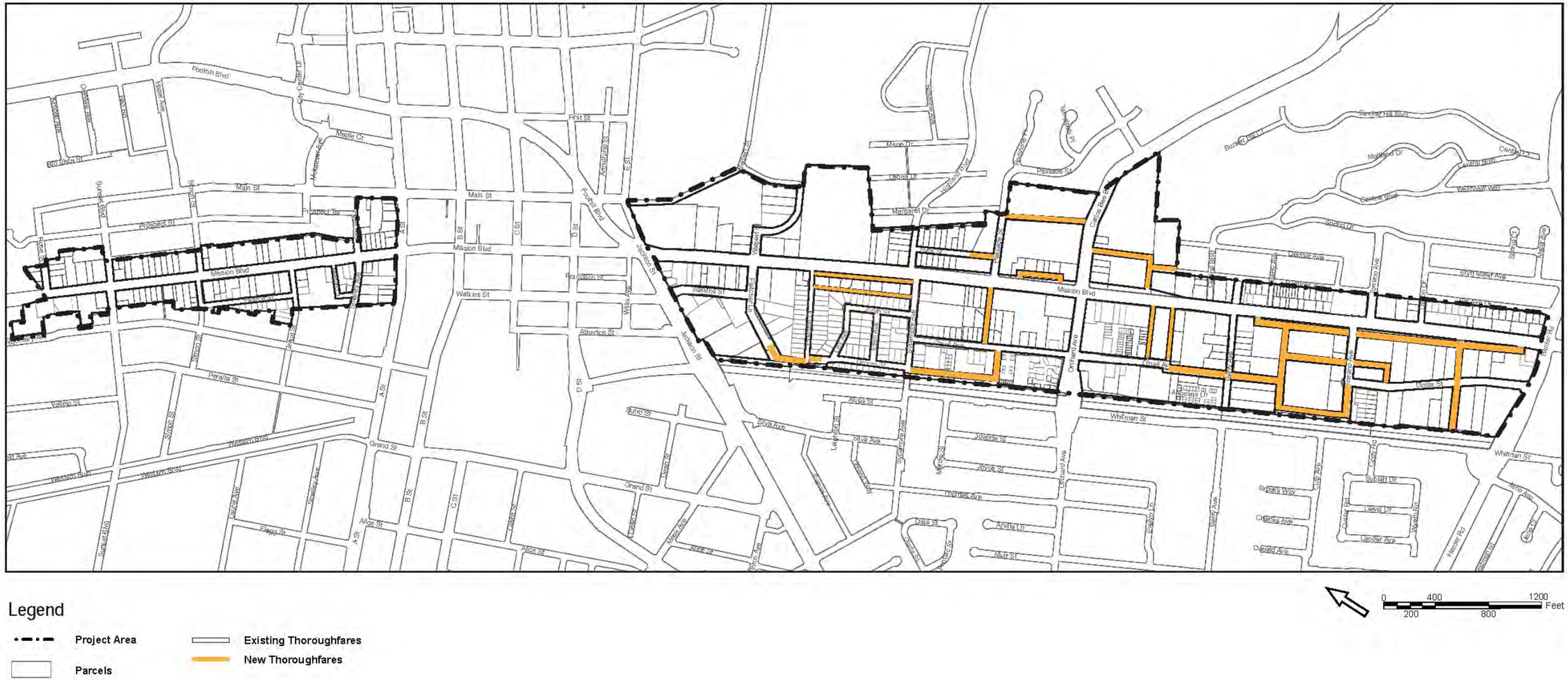

Figure 3-10: New Thoroughfares Plan.

INFRASTRUCTURE & UTILITY PLAN

The Specific Plan includes an Infrastructure & Utility Plan (see Section 5.1) for new and upgraded stormwater, water and wastewater conveyance lines. As thoroughfares indicated on the Thoroughfare Plan are constructed over time in conjunction with private development projects on abutting property, new stormwater, water and wastewater lines must also be installed to serve the subject development and, for example, create a looped network by connecting to existing lines. Additionally, the Infrastructure & Utility Plan identifies a few future conveyance line upgrades that should be accomplished within existing thoroughfares. The Infrastructure & Utility Plan also includes a cost estimate matrix for construction of the aforementioned utility conveyance lines and streetscape improvements depicted in Table 2 (Thoroughfare Assemblies) of the Project's Form-Based Code.

GENERAL PLAN AMENDMENTS

The Specific Plan would change the General Plan Land Use Map designations for most parcels within the boundary illustrated in **Figure 3-15** (Existing General Plan Designations) to Sustainable Mixed Use. Existing and/or planned public schools, parks or mass-transit facilities would receive either the Parks and Recreation or Public/Quasi-Public designations. The existing General Plan describes the Sustainable Mixed Use designation as follows:

> *Mixed Use Developments may include residential with retail and/or office/commercial uses, or educational and cultural facilities with public open space. Residential densities up to 100.0 dwelling units per net acre for mixed use projects that include a residential component. This land use designation is located along major transit corridors, near transit stations or in close proximity to public higher educational facilities or large employment centers. To facilitate transit-oriented development in these areas, developments will have reduced parking requirements. Neighborhood serving retail uses are highly recommended for residential component mixed use projects to reduce car trips.*

Adoption of the Specific Plan would also include an amendment to Appendix D (General Plan and Zoning Consistency Matrix) to indicate the Form-Based Code zoning designations are "consistent" with the General Plan Land Use Map designations of Sustainable Mixed Use, Parks and Recreation or Public/Quasi-Public designations; where applicable.

Figure 3-16 depicts proposed General Plan Land Use Map changes.

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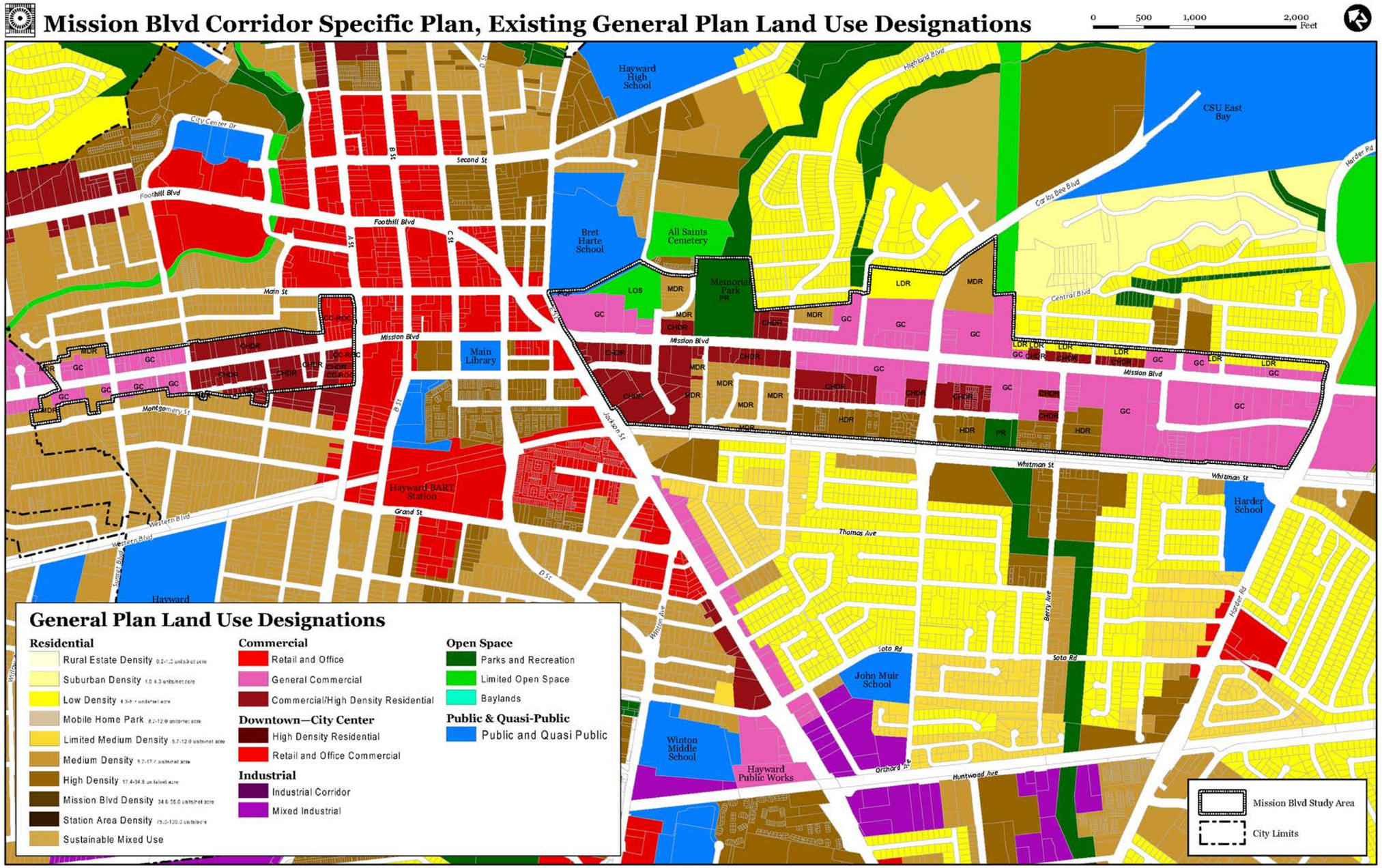

Figure 3-15: Existing General Plan Designations.

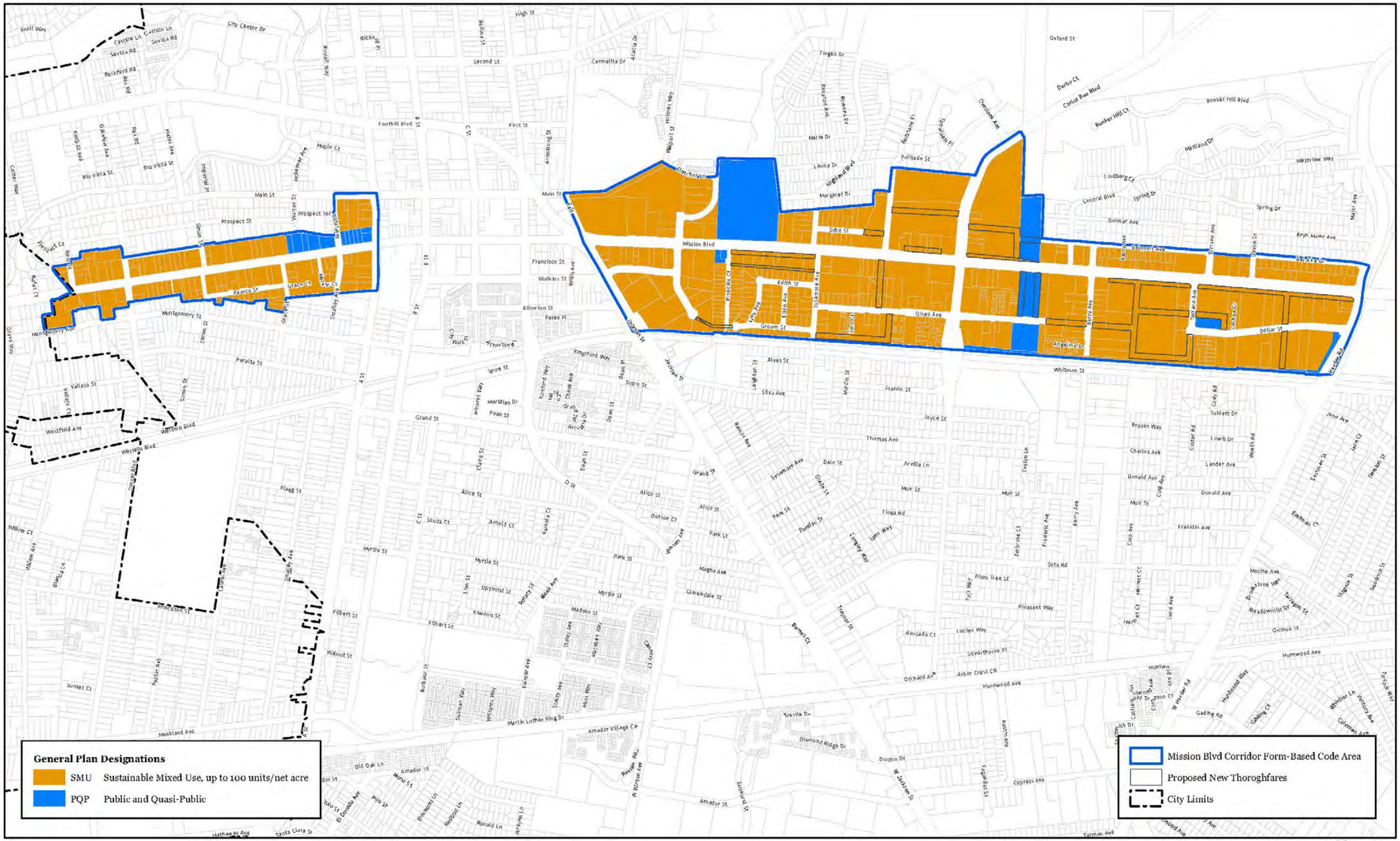

Figure 3-16: Proposed General Plan Designations.

4

AESTHETICS

INTRODUCTION

This chapter provides a summary description of the Project area's existing visual features, including its buildings, thoroughfares and open spaces. It also describes how the Project may affect scenic vistas, scenic resources, visual quality, whether the Project would create substantial sources of light or glare adversely affecting daytime or nighttime views.

SETTING

PHYSICAL ENVIRONMENT

The Project area is generally level and substantially urbanized. **Figure 4-1** below depicts a common street scene at Mission Boulevard. The eastern boundary of the Project area (near Mission Boulevard) abuts the toe of the Diablo Mountain Range. Consequently, slopes increase towards the east (on the east side of Mission Boulevard) into gentle rolling hills. The Project area's only naturalized open spaces are situated within the southern portion of the Project area at the base of these hills though urban development is situated within and around these spaces (see **Figure 4-2)**.[1]

Figure 4-1: Mission Boulevard Looking South Between Jackson Street and Fletcher Lane.

[1] See Figure 7-1 (Biotic Habitats Map) for annotated aerial photograph depicting urbanized and natural areas.

Figure 4-2: View of Hayward Hills from Mission Blvd / Carlos Bee Blvd Intersection.

No highly visible and unique natural features such as rock outcroppings are present in the Project area. Also, there are no tall or prominently visible manmade structures located within the Project area. Mature trees, either in public streets or on private property, are prevalent in the Project area; sometimes as tall as or taller than existing one to two story residential and commercial structures.

Existing Conditions Analysis and Synoptic Survey

The visual quality of the Project area is comprehensively documented in the April 7, 2010 "Existing Conditions Analysis and Synoptic Survey for the Mission Boulevard Corridor Specific Plan and Form-Based Code."[2] The Synoptic Survey contains diagrams documenting existing community design characteristics such as: building footprints, building functions, block perimeter distance, building height, building type, frontage type, lot width, pedestrian and transit amenities, and physical dimensions and functions of every thoroughfare.

Project Area Segments: North and South

The process of historical urbanization in the City of Hayward began in its downtown area in the mid-19th century. Generally speaking, the visual quality and character of the northern and southern Project area segments differ as a result of incremental urbanization emanating from Hayward's downtown area. While the northern Project area is generally more urban in character, the southern can generally be described as more suburban. Therefore, because of this distinction, the following text summarizes the physical components of each segment separately.

[2] Copies are available for review at the City of Hayward Permit Center, 777 B Street or at http://www.hayward-ca.gov/CITY-GOVERNMENT/SPECIAL-PROJECTS-&-STUDIES/mbcsp.shtm

Northern Segment

Buildings along the northern portion of the Project area are generally one (1) to two (2) stories in height, and building setbacks from the street tend to be either very shallow (e.g., zero to five feet) or very deep. Properties with deep setbacks typically have open parking lots between the building and street. **Figure 4-3** below depicts a typical condition along Mission Boulevard where contiguous buildings with shallow setbacks form a "wall" that frames the public realm (i.e., vehicle travel lanes, sidewalk). Also depicted in **Figure 4-3** is the prevalence of auto repair-related land uses in this Project segment.

Figure 4-3: Mission Boulevard Looking South between Sunset Blvd and Simon Street.

A diverse range of other commercial land uses are also prevalent in the northern Project area segment, including retail, service and office uses. However, at the time of this EIR's preparation, many buildings in this segment were vacant.

Southern Segment

Much of the existing development in the southern segment of the Project area consists of auto-oriented land uses (see **Figure 4-4**). Buildings are low-lying, spread out, and typically accompanied by expansive surface parking lots. Land uses in this segment are almost exclusively commercial with auto-repair and auto-sales being prevalent but also including a diversity of retail, service and office uses. Similar to the northern Project area segment, at the time of this EIR's preparation, many buildings in this segment were also vacant.

Outside the southern Project area segment (along Mission Boulevard to the south), the City has prepared the South Hayward BART / Mission Boulevard Form-Based Code to facilitate revitalization through mixed-use development, new civic land (e.g., neighborhood park, community center, linear parks), and improved thoroughfare connectivity. Presently, this stretch of Mission Boulevard contains, in many locations, vacant and/or underutilized commercial

properties with a degraded visual character. One purpose of the South Hayward BART / Mission Boulevard Form-Based Code (and the Project analyzed in this EIR) is to improve the existing visual character.

Figure 4-4: Mission Blvd Looking South at Berry Avenue.

REGULATORY SETTING

General Plan

The City of Hayward General Plan Land Use Element contains the following land use polices and strategies relevant to the Project and issue of aesthetics:

- Support higher-intensity and well-designed quality development in areas within ½ mile of transit stations and ¼ mile of major bus routes in order to encourage non-automotive modes of travel (Policy 2) (Page 2-17)

- Encourage design that orients development to the transit station and facilitates the use of transit. (Strategy 4) (Page 2-17)

- Promote transit-oriented development in the Mission/Foothill Corridor in order to help relieve regional congestion and create a distinctly attractive commercial boulevard. (Strategy 5) (Page 2-19)

- Promote infill development that is compatible with the overall character of the surrounding neighborhood. (Strategy 8) (Page 2-20)

- Encourage visual integration of projects of differing types or densities through the use of

building setbacks, landscaped buffers, or other design features.(Policy 1) (Page 2-20)

- Consider modifications to design guidelines and regulations that provide for flexibility in the review of residential additions while maintaining the integrity of the neighborhood. (Policy 2) (Page 2-20)

- Ensure that design guidelines reflect concerns about the preservation of viewsheds. (Policy 3) (Page 2-20)

Mission-Foothills Neighborhood Plan

The Mission-Foothills Neighborhood Plan applies to the southern segment of the Project area (i.e., south of Jackson Street). Concerning the topic of aesthetics, the Mission-Foothills Neighborhood Plan contains the following provisions relating to neighborhood character and appearance:

- Preserve and enhance environmental features. (Policy B) (Page 2)

- It shall be noted that preservation and accommodation of existing mature trees is an important element of this plan. Individual architectural or site development plans which accommodate, enhance and showcase existing mature trees shall be greatly encouraged. (Strategy 8)

- Shape Residential Development for long-term livability. (Policy C) (Page 3)

- Rezone along Mission Boulevard to allow apartment complex development to provide breaks in strip commercial development and to allow residential development above retail and office use. (Strategy 1) (Page 3)

- Protect views of the hills from west side of Mission Boulevard by restricting height of buildings along the east side to a maximum height of 40 feet with sufficient building setback to retain views of hill. (Strategy 2) (Page 3)

- Foster neighborly commercial development. (Policy E) (Page 5)

- If auto dealers relocate, encourage a shopping center at Harder-Dollar with some uses attractive to university staff and students. (Strategy 2) (Page 5)

- Allow a mixture of residential and neighborhood commercial to replace auto uses in the Mission corridor. (Strategy 4) (Page 5)

- Develop design guidelines for Mission Boulevard which encourage a Spanish/Ranch architectural style of low pitched roofs, courtyards, and woodsy elements such as multi-trunked trees in raised beds or balconies with wooden ballistrades; provide landscaped buffer next to homes. (Strategy 6) (Page 5)

- Allow light industrial uses such as cabinet making no the west side of O'Neil Avenue to allow some jobs near housing, requiring appearance to be compatible with residential uses.

(Strategy 8) (Page 5)

- Require garbage receptacles to be screened from the street by the building, shrubbery, or an enclosure; retain City requirement of backyard pickup, and support current contract for curbside recycling. (Strategy 3) (Page 9)

- Expedite revision and application of Design Guidelines. (Strategy 4) (Page 9)

North Hayward Neighborhood Plan

The North Hayward Neighborhood Plan applies only to the northern segment of the Project area (i.e., north of A Street). Concerning the topic of aesthetics, the North Hayward Neighborhood Plan contains the following provisions relating to neighborhood character and appearance:

- Build street appeal of Mission Boulevard (Goal 3) (Page 5)

- Encourage stores to be sited near the street with rear parking to strengthen sidewalk-oriented commercial development pattern (Page 5)

- Encourage local services like drycleaners, restaurants and specialty stores; discourage car washes, drive-ins and other uses which detract from street appeal such as open car repair bays next to the sidewalk.

Zoning Regulations

Many development types proposed for location in the Project area presently require Site Plan Review (Zoning Ordinance §10-1.3000). Under the Project, Site Plan Review would be required for all new proposed development. In order to authorize Site Plan Review approval, the City decision-making authority must, in addition to determining compliance with all applicable development standards (i.e., those of the Zoning District), make all the following findings:

- The development is compatible with on-site and surrounding structures and uses and is an attractive addition to the City;

- The development takes into consideration physical and environmental constraints;

- The development complies with the intent of City development policies and regulations; and

- The development will be operated in a manner determined to be acceptable and compatible with surrounding development.

As the findings indicate, the visual quality of future development proposed under the Project would be assessed. Similarly, compatibility with the surroundings would also be examined. It is assumed that conformance with the Project's evaluation standards will serve as a principle guide for determining whether the above-listed findings can be made.

Hayward Downtown Historic Rehabilitation District: Commercial Design Manual

A portion of the northern Project area segment (between A Street and Grace Street) is situated

within the Downtown Historic Rehabilitation District. The Hayward Downtown Historic Rehabilitation District: Commercial Design Manual applies to development proposals in this area. The Design Manual provides generalized, summary recommendations for changes to the exterior of historic buildings. Topics addressed include, but are not limited to, signs, colors, windows, storefront, and materials. These design guidelines do not identify scenic vistas.

City-wide Design Guidelines

The City of Hayward has adopted Design Guidelines that establish standards for site planning, circulation, architectural design and landscape design for all development. However, as explained in Chapter 3 (Project Description), the Project would cause these Design Guidelines to be no longer applicable to the Project area since they would conflict with design standards of the Project. Therefore, the city-wide Design Guidelines are not evaluated in this chapter.

IMPACT ANALYSIS

THRESHOLD OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of aesthetics and this EIR, implementation of the Project would have a significant effect on the environment if it were to:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

SCENIC VISTAS

Impact Aes-1: **(Views and Vistas)** The Project could generally be expected to lead to an incremental increase in building heights, mass and bulk. Within the northern Project area segment, the Project restricts building heights to maintain views from Prospect Hill towards the San Francisco Bay. Within the southern Project area segment, the Project could lead to development proposals that may obstruct views of the Hayward Hills. However, fulfillment of the Site Plan Review process would ensure future development proposals evaluated under the Project would not result a substantial adverse impact on scenic vistas. (***Less Than Significant Impact***)

The City of Hayward General Plan does not identify particular vantage points, whether from private or public property, that provide scenic vistas warranting protection. Rather, as indicated

in the regulatory setting section above, the General Plan encourages "higher-intensity and well-designed quality development" and also the use of design guidelines to address concerns about viewsheds.[3] The only detailed policy germane to scenic vistas is found in the Mission-Foothills Neighborhood Plan (applicable to the southern portion of the overall Project area).

The Mission-Foothills Neighborhood Plan states, "Protect views of the hills from west side of Mission Boulevard by restricting height of buildings along the east side to a maximum height of 40 feet with sufficient building setback to retain views of hill." **Figures 4-5, 4-6,** and **4-7** illustrate existing hillside views referenced by the plan statement. As shown in those photographs, views of the hills are currently provided with foreground features consisting of buildings with both shallow and deep setbacks from the street. Properties with deep setbacks predominately include paved parking lots.

Figure 4-5: View of Hayward Hills from Mission Blvd.

Given that the General Plan directs that properties along Mission Boulevard should be developed with higher-intensity and well-designed quality development in order to encourage non-automotive modes of travel, it is foreseeable that the Project would transform the existing setting (i.e., auto-oriented land uses with accompanying paved parking lots) through redevelopment activities resulting in buildings with shallow setbacks from the street and increased building height, mass and bulk. The Project would facilitate that change and, in general, has the potential to obstruct views of the hills from multiple vantage points along the west side of Mission Boulevard.

[3] General Plan Policy 2 (Page 2-17); General Plan Policy 3 (Page 2-20).

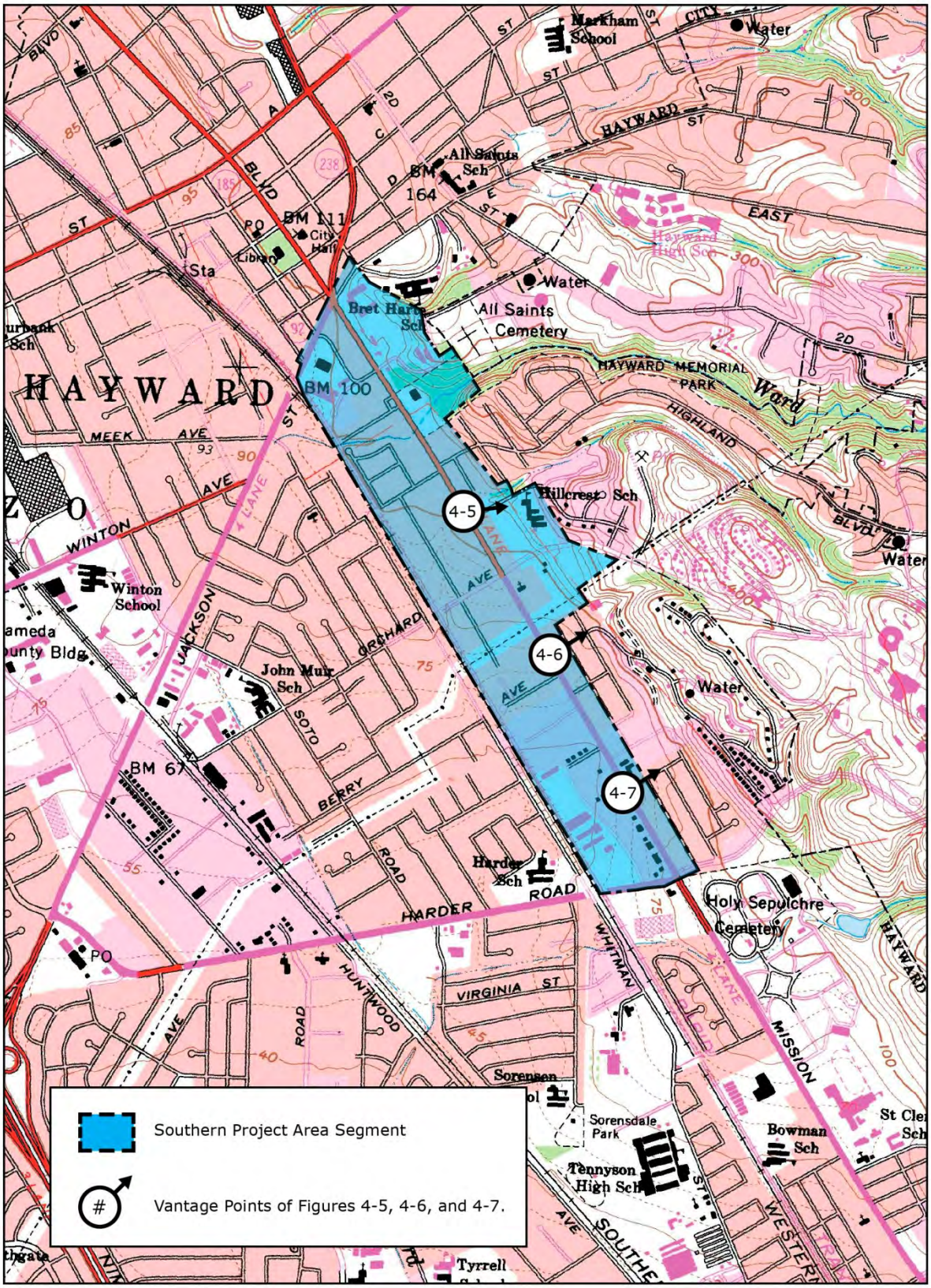

Figure 4-8: Reference Map for Figures 4-5, 4-6, and 4-7.

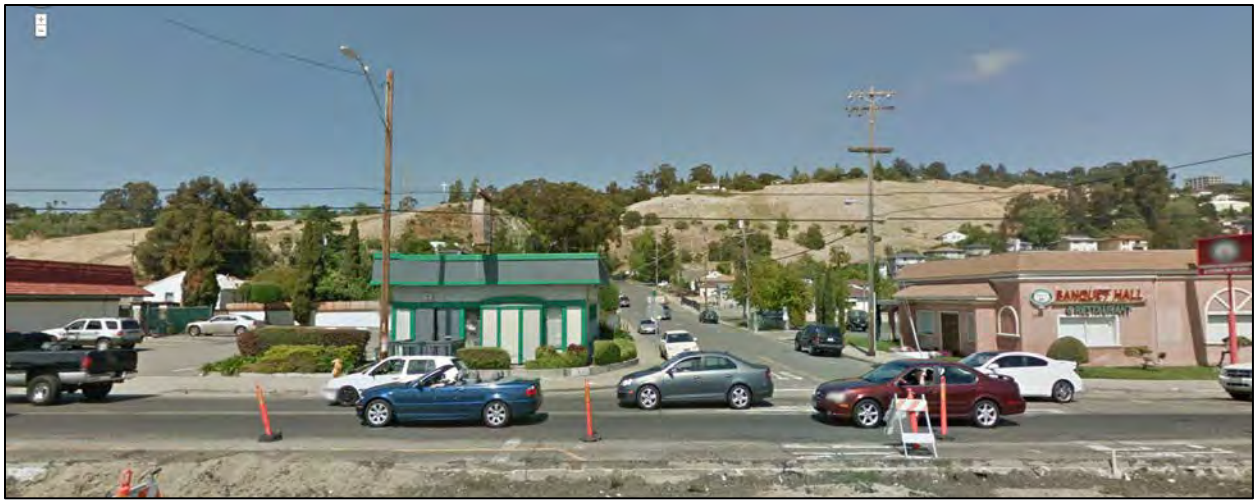

Figure 4-6: View of Hayward Hills from Mission Blvd.

Figure 4-7: View of Hayward Hills from Mission Blvd.

Though the Project contains the potential to affect views of the hills, it is not possible to determine whether such affects would be substantially adverse since the details of particular development proposals are not known at this time.

The City of Hayward presently balances the General Plan's direction to facilitate higher intensity infill development against the Neighborhood Plan policy for preservation of viewsheds through the Site Plan Review process on individual projects, as codified under Zoning Regulations §10-1.3000. Under the Project, the City's Site Plan Review process would be continued. In applying the Site Plan Review process to subsequent development proposals, the potential for adverse impacts to scenic views and vistas will be individually evaluated.

Concerning the northern segment of the Project area (i.e., north of A Street), the Project includes

two (2) height overlays to maintain existing views from homes at Prospect Street to the San Francisco Bay. Height Overlay 1 would limit building heights to a maximum of 2 to 3 stories, Height Overlay 2 would limit building heights to a maximum of 2 to 4 stories. The story limitations of those overlays would provide for future developments along Mission Boulevard that are visible from but would not block existing westerly views from homes along the western side of Prospect Street. The Project would result in ***less than significant impact*** relative to scenic views and vistas at the northern segment of the Project area.

Within the southern segment of the Project area, Project policies do not materially alter the height, mass or bulk of allowed structures, and the City's Site Plan Review process will continue to ensure that views of the hills are protected. The Project would have ***less than significant impact*** relative to substantial adverse impacts on scenic vistas along the southern segment of the Project area since the Site Plan Review process would continue to apply to future development proposals.

DAMAGE SCENIC RESOURCES

Impact Aes-2: **(Damage to Scenic Resources)** The Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. **(*Less Than Significant Impact*)**

The Project consists of an already urbanized area consisting predominately of properties with pre-existing buildings and paved parking lots. There are very few vacant lots in the Project area and, similarly, few open space areas (e.g., Memorial Park, Ward Creek). There is no designated scenic roadway in the Project area.

Within the Project area, there are a number of large mature trees upon public and private properties. The City of Hayward Tree Preservation Ordinance (Municipal Code, Article 15) protects and preserves native or non-native trees of a significant size or quality that have a positive contribution to the City's environment. The ordinance would continue to apply with Project approval. Consequently, the loss of the aesthetic qualities of these trees would be appropriately evaluated in conjunction with specified, future development proposals implemented in accordance with the Project.

As discussed in Chapter 8 (Cultural Resources), the Project area does not presently contain any designated historic buildings, but does contain buildings that have been determined to be eligible for listing on National, State or Local registers of historic places. In those locations, the Project applies a zoning district of Civic, which is intended to accommodate the continued provision of existing, "public open space, civic buildings, and civic uses." If changes are proposed to those properties and/or building determined eligible for listing, the City of Hayward's Historic Preservation Ordinance would apply, and potential adverse impacts would be addressed through a corresponding, future CEQA analyses.

Given that the City's Tree Preservation Ordinance and Historic Preservation Ordinance would continue to apply to the Project area, there is nothing particular about the Project that would lead to adverse effects on scenic resources including, but not limited to, trees, rock outcroppings, and

historic buildings within a scenic highway, and this impact would be ***Less Than Significant***.

VISUAL CHARACTER

Impact Aes-3: **(Visual Character)** The Project would enhance rather than degrade the existing visual character. (***No Impact***)

The relative value of any given feature (urban or nature) is highly subjective and varies according to personal sensibilities. A negative visual impression on one person may be viewed as positive or beneficial by another. Though objective or commonly agreed upon standards for visual value are difficult to establish, an extensive body of literature is devoted to the subject of urban design and visual aesthetics.

Urban Infill Context

The heights, locations, designs, and other information regarding future buildings under the Project cannot be precisely known. The Project would put in place implementing regulations for use in evaluating development proposals over time, as they are presented to the City for consideration. One of the key objectives of the Project is to use those implementing regulations to improve the existing visual character which can be generally described as degraded.

It is not anticipated the Project would result in wholesale redevelopment of the Project area. Some properties may remain in the present condition far into the future. Other existing developed properties may have buildings proposed for additions or alterations. Still other properties may be wholly redeveloped with entirely new structures and open spaces. However, where vacant properties currently exist, it is anticipated and desired by the City that they will contain new structures and open spaces.

Proposed Form-Based Code

The Project would require that new buildings must front public streets and that open parking lots be placed behind them, within them, or be screened from view. The façade of these new buildings would include a frontage type (See Form-Based Code, Table 5) providing for convenient, attractive pedestrian access and landscaping. Proposed new fences and walls would be required to adhere to new aesthetic standards (See Form-Based Code, Table 6). The combined effect of these new regulations will be to gradually improve the visual character of the Project area as viewed from thoroughfares. The anticipated outcome of these incremental changes is illustrated in the before (photograph)/after (rendering) of **Figures 4-9** through **4-14** below.

In conjunction with the Project's public charrette (April 12 to 16, 2010) carried out in advance of the writing the Specific Plan, the illustrative renderings (**Figure 4-9** to **4-14**) were drafted to reflect public input received. In part, those renderings can be interpreted to reflect the aesthetic preferences (i.e., positive visual associations) of persons who participated in the charrette. Those renderings were then utilized to calibrate the Project's development standards so that they would align with the community's preferences and also establish objective-based criteria used to evaluate future development proposals. The renderings show that the Project would generally alter the existing visual character through construction of new structures at vacant or existing developed properties and planting of new street trees.

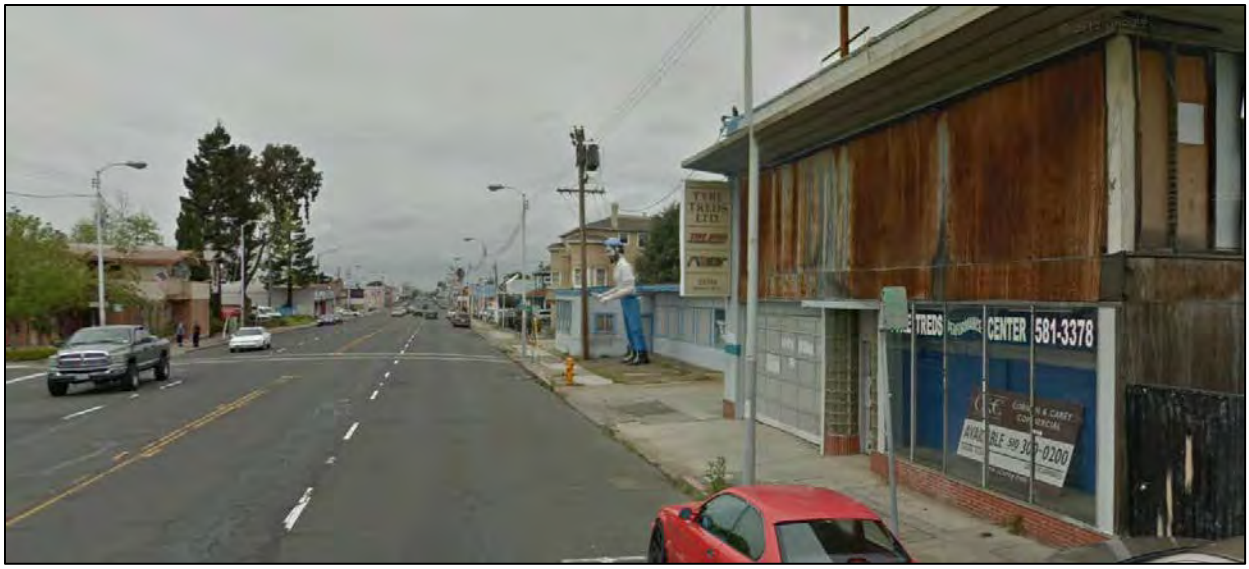

Figure 4-9: Existing Conditions at Mission Blvd., North of A Street

Figure 4-10: Project Rendering at Mission Blvd., North of A Street.

Figure 4-11: Existing Conditions at Mission Blvd, between Sycamore Ave. and Pinedale Ct.

Figure 4-12: Project Rendering at Mission Blvd., between Sycamore Ave. and Pinedale Ct.

Figure 4-13: Existing Conditions at northeast corner of Mission Blvd. and Carlos Bee Blvd.

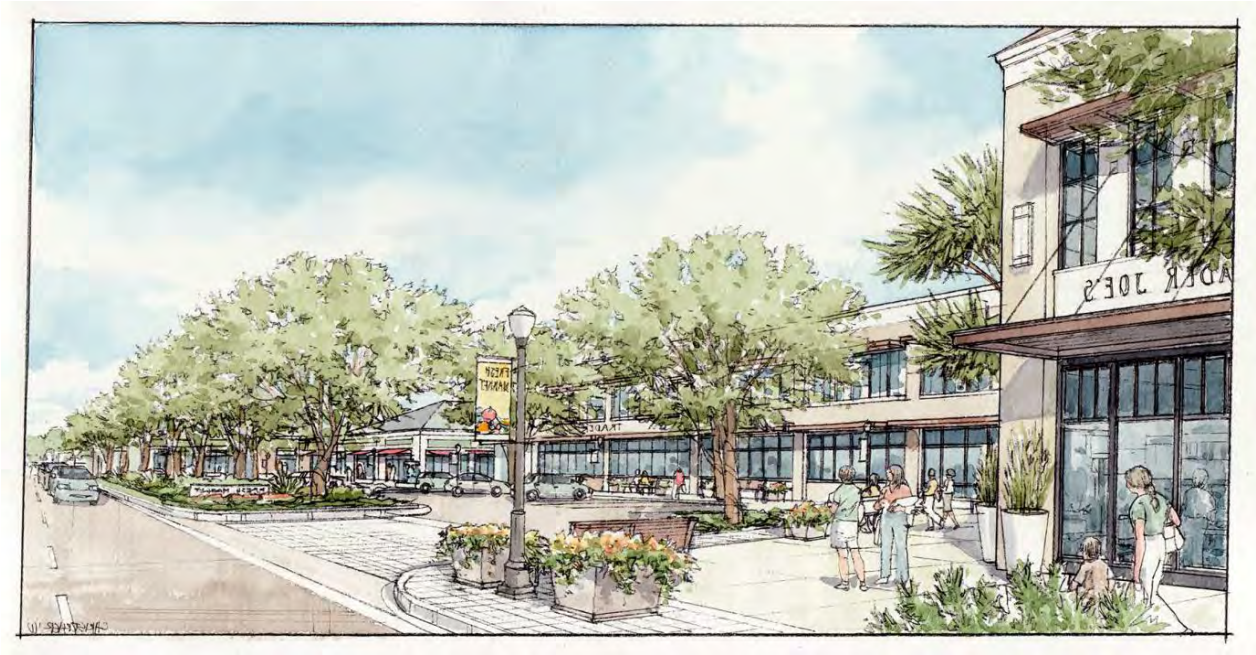

Figure 4-14: Project Rendering at northeast corner of Mission Blvd. and Carlos Bee Blvd.

The Project would establish new development regulations intended to improve an existing degraded visual character. The Project would also retain existing requirements for Site Plan Review for all proposed new development. In doing so, the Project provides objective-based criteria to be used in the Site Plan Review process to ensure that future development proposals might degrade visual character are consistent with the criteria and do not degrade visual character. Given this requirement, the Project would not result in substantial degradation of the existing visual character or quality of the Project area, but instead would have a positive environmental effect. ***No Impact*** would result under this criterion.

SUBSTANTIAL LIGHT AND GLARE

Impact Aes-4: **(Light and Glare)** Development projects submitted to the City of Hayward within the Project area would result in an incremental increase in the amount of light and glare. However, the Project would maintain an existing requirement for lighting to comply with the Hayward Security Standards Ordinance which prevents the casting of light and glare on adjacent properties. (***Less Than Significant Impact***)

The Project area is located in a generally built-out urban area that includes increasingly intensifying existing sources of light and glare from industrial, warehouse, residential, commercial, and mixed-use buildings and land uses. The Project area includes local roadways and major arterials where street lighting emits light during evening hours.

The Project would result in more intensive uses than the existing, vacant or generally one to two-story buildings in the Project area. Increased building masses would result in more sources of light. The amount of light and glare emitted from the Project area would therefore be increased. However, this incremental increase would not substantially increase the overall ambient light levels in the Project area.

The Project would require, at Form-Based Code §10-25.260(iii), that, "Exterior lighting and parking lot lighting shall be provided in accordance with the Security Standards Ordinance (No. 90-26 C.S.) and be designed by a qualified lighting designer and erected and maintained so that light is confined to the property and will not cast direct light or glare upon adjacent properties or public rights-of-way. Such lighting shall also be designed such that it is decorative and in keeping with the design of the development."

The Project would result in a ***Less Than Significant Impact*** related to light or glare.

5

AGRICULTURE & FORESTRY RESOURCES

INTRODUCTION

This chapter of the Draft EIR contains discussion regarding the CEQA topic areas of Agricultural and Forestry Resources. Only limited analysis and discussion for these topic areas is required to make significance determinations due to the urban nature of the Project area.

AGRICULTURE AND FORESTRY RESOURCES

Under the CEQA Guidelines, Appendix G - Environmental Checklist Form, a significant impact will occur if the Project would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

The Project area consists of an urbanized area and includes land that is currently developed with a mixture of residential and commercial buildings. No portion of the Project area is zoned for agricultural use, forest land, timberland, or timber production. No portion of the Project area currently supports agricultural operations or operates under a Williamson Act contract. There are currently no agricultural operations in the immediate vicinity of the Project area, and no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance has been identified on or in the vicinity of the Project area. No portion of the Project area currently contains any forest land for forest uses. Consequently, there would be ***no impact*** related to agricultural and forest resources.

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6

AIR QUALITY

INTRODUCTION

This analysis evaluates the potential air quality impacts associated with implementation of the Mission Boulevard Corridor Specific Plan ("Project"). The analytic methodology and significance thresholds applied herein are consistent with guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1] However, please review Pages 6-11 to 6-12 for a discussion of pending litigation concerning the BAAQMD California Environmental Quality Act (CEQA) Significance Thresholds and Guidelines. This section utilizes emissions model and construction health risk assessment results compiled by Lamphier-Gregory included as Appendix B to this EIR.

PHYSICAL SETTING

METEOROLOGY

Hayward is located within the nine county San Francisco Bay Area Air Basin, specifically in the Southwestern Alameda County subregion of the air basin. The BAAQMD describes this subregion as follows:

> *This subregion is indirectly affected by marine air flow. Marine air entering through the Golden Gate is blocked by the East Bay hills, forcing the air to diverge into northerly and southerly paths. The southern flow is directed down the bay, parallel to the hills, where it eventually passes over southwestern Alameda County. These sea breezes are strongest in the afternoon. The further from the ocean the marine air travels, the more the ocean's effect is diminished. Although the climate in this region is affected by sea breezes, it is affected less so than the regions closer to the Golden Gate.*
>
> *The climate of southwestern Alameda County is also affected by its close proximity to San Francisco Bay. The Bay cools the air with which it comes in contact during warm weather, while during cold weather the Bay warms the air. The normal northwest wind pattern carries this air onshore. Bay breezes push cool air onshore during the daytime and draw air from the land offshore at night.*
>
> *Winds are predominantly out of the northwest during the summer months. In the winter, winds are equally likely to be from the east. Easterly-southeasterly surface flow into southern*

[1] Bay Area Air Quality Management District. May 2011. *California Environmental Quality Act Air Quality Guidelines*.

Alameda County passes through three major gaps: Hayward/Dublin Canyon, Niles Canyon and Mission Pass. Areas north of the gaps experience winds from the southeast, while areas south of the gaps experience winds from the northeast. Wind speeds are moderate in this subregion, with annual average wind speeds close to the Bay at about 7 mph, while further inland they average 6 mph.

Air temperatures are moderated by the subregion's proximity to the Bay and to the sea breeze. Temperatures are slightly cooler in the winter and slightly warmer in the summer than East Bay cities to the north. During the summer months, average maximum temperatures are in the mid-70's. Average maximum winter temperatures are in the high-50's to low-60's. Average minimum temperatures are in the low 40's in winter and mid-50's in the summer.

Pollution potential is relatively high in this subregion during the summer and fall. When high pressure dominates, low mixing depths and Bay and ocean wind patterns can concentrate and carry pollutants from other cities to this area, adding to the locally emitted pollutant mix. The polluted air is then pushed up against the East Bay hills. In the wintertime, the air pollution potential in southwestern Alameda County is moderate. Air pollution sources include light and heavy industry, and motor vehicles. Increasing motor vehicle traffic and congestion in the subregion may increase Southwest Alameda County pollution as well as that of its neighboring subregions.

CRITERIA AIR POLLUTANTS

Ambient air quality standards have been established by state and federal environmental agencies for specific air pollutants most pervasive in urban environments. These pollutants are referred to as criteria air pollutants because the standards established for them were developed to meet specific health and welfare criteria set forth in the enabling legislation. The criteria air pollutants emitted by development, traffic and other activities anticipated under the Project include ozone (O_3), ozone precursors oxides of nitrogen and reactive organic gases (NOx and ROG), carbon monoxide (CO), nitrogen dioxide (NO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Other criteria pollutants, such as lead (Pb) and sulfur dioxide (SO_2), would not be substantially emitted by the Project, and air quality standards for them are being met throughout the Bay Area.

<u>Ozone (O_3)</u>

While O_3 serves a beneficial purpose in the upper atmosphere (stratosphere) by reducing ultraviolet radiation potentially harmful to humans, when it reaches elevated concentrations in the lower atmosphere it can be harmful to the human respiratory system and to sensitive species of plants. O_3 concentrations build to peak levels during periods of light winds, bright sunshine, and high temperatures.

Short-term O_3 exposure can reduce lung function in children, make persons susceptible to respiratory infection, and produce symptoms that cause people to seek medical treatment for respiratory distress. Long-term exposure can impair lung defense mechanisms and lead to emphysema and chronic bronchitis. Sensitivity to O_3 varies among individuals, but about 20

percent of the population is sensitive to O_3, with exercising children being particularly vulnerable.

O_3 is formed in the atmosphere by a complex series of photochemical reactions that involve "ozone precursors" that are two families of pollutants: oxides of nitrogen (NOx) and reactive organic gases (ROG). NOx and ROG are emitted from a variety of stationary and mobile sources. While NO_2, an oxide of nitrogen, is another criteria pollutant itself, ROGs are not in that category, but are included in this discussion as O_3 precursors.

Carbon Monoxide (CO)

Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause dizziness and fatigue, impair central nervous system function, and induce angina in persons with serious heart disease. Primary sources of CO in ambient air are passenger cars, light-duty trucks, and residential wood burning. Emission controls placed on automobiles and the reformulation of vehicle fuels have resulted in a sharp decline in CO levels, especially since 1991.

Nitrogen Dioxide (NO_2)

The major health effect from exposure to high levels of NO_2 is the risk of acute and chronic respiratory disease. NO_2 is a combustion by-product, but it can also form in the atmosphere by chemical reaction. NO_2 is a reddish-brown colored gas often observed during the same conditions that produce high levels of O_3 and can affect regional visibility. NO_2 is one compound in a group of compounds consisting of oxides of nitrogen (NOx). As described above, NOx is an O_3 precursor compound.

Particulate Matter (PM)

Respirable particulate matter, PM_{10}, and fine particulate matter, $PM_{2.5}$, consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled and cause adverse health effects. PM_{10} and $PM_{2.5}$ are a health concern, particularly at levels above the Federal and State ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health because minute particles are able to penetrate to the deepest parts of the lungs.

Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Children are more susceptible to the health risks of $PM_{2.5}$ because their immune and respiratory systems are still developing. Very small particles of certain substances (e.g., sulfates and nitrates) can also directly cause lung damage or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health.

Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as mining and demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional

effect. In addition to health effects, particulates also can damage materials and reduce visibility. Dust comprised of large particles (diameter greater than 10 microns) settles out rapidly and is more easily filtered by human breathing passages. This type of dust is considered more of a soiling nuisance rather than a health hazard.

TOXIC AIR CONTAMINANTS

Besides the "criteria" air pollutants, there is another group of substances found in ambient air referred to as Hazardous Air Pollutants under the Federal Clean Air Act and Toxic Air Contaminants (TACs) under the California Clean Air Act. These contaminants tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects if exposure to low concentrations occurs for long periods. They are regulated at the local, state, and federal level.

TACs are a broad class of compounds known to cause morbidity or mortality (cancer risk), and include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

Diesel exhaust is the predominant TAC in urban air, and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to CARB, diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the California Air Resources Board (CARB), and are listed as carcinogens either under State Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB reports that recent air pollution studies have shown an association that diesel exhaust and other cancer-causing toxic air contaminants emitted from vehicles are responsible for much of the overall cancer risk from TACs in California. Particulate matter emitted from diesel-fueled engines (diesel particulate matter [DPM]) was found to comprise much of that risk. In August, 1998, CARB formally identified DPM as a TAC.

Diesel particulate matter is of particular concern, since it can be distributed over large regions, thus leading to widespread public exposure. The particles emitted by diesel engines are coated with chemicals, many of which have been identified by EPA as hazardous air pollutants, and by CARB as TACs. Diesel engines emit particulate matter at a rate about twenty (20) times greater than comparable gasoline engines. The vast majority of diesel exhaust particles (over 90 percent) consist of $PM_{2.5}$, which are the particles that can be inhaled deep into the lung. Like other particles of this size, a portion will eventually become trapped within the lung, possibly leading to adverse health effects.

While the gaseous portion of diesel exhaust also contains TACs, CARB's 1998 action was specific to DPM, which accounts for much of the cancer-causing potential from diesel exhaust. California has adopted a comprehensive diesel risk reduction program to reduce DPM emissions

85 percent by 2020. The U.S. EPA and CARB adopted low sulfur diesel fuel standards in 2006 that reduce diesel particulate matter substantially.

In cooler weather, smoke from residential wood combustion can also be a source of TACs. Localized high TAC concentrations from wood combustion can result when cold stagnant air traps smoke near the ground and, with no wind, the pollution can persist for many hours, especially in sheltered valleys during winter. Wood smoke also contains a significant amount of PM_{10} and $PM_{2.5}$.

Wood smoke is also an irritant, and is implicated in worsening asthma and other chronic lung problems. BAAQMD Regulation 6, Rule 3, disallows wood-burning devices in new construction, except those meeting U.S. EPA emissions targets and approved by the Air Pollution Control Officer of the Bay Area Air Quality Management. The City of Hayward Municipal Code also similarly restricts the use of wood-burning devices.[2] Compliance with these rules is assumed in this EIR.

ODORS

Objectionable odors may be associated with a variety of pollutants. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries and chemical plants. Odors rarely have direct health impacts, but they can be very unpleasant and can lead to concern over possible health effects among the public. Each year the BAAQMD receives thousands of citizen complaints about objectionable odors.[3]

SENSITIVE RECEPTORS

"Sensitive receptors" are defined as facilities where sensitive population groups, such as children, the elderly, the acutely ill and the chronically ill, are likely to be located. These land uses include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals and medical clinics.

REGULATORY SETTING

STATE OF CALIFORNIA AND FEDERAL AIR QUALITY STANDARDS

Both the California Air Resource Board and the U.S. Environmental Protection Agency have established ambient air quality standards for common pollutants, including ozone, CO, NO_2, PM_{10} and $PM_{2.5}$.[4] These ambient air quality standards represent safe levels that avoid specific adverse health effects associated with each pollutant. Individuals vary widely in their sensitivity to air pollutants, and standards are set to protect more pollution-sensitive populations (e.g., children and the elderly).

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[2] See Hayward Municipal Code Chapter 9, Article 6 (Wood-Burning Appliances).

[3] BAAQMD, BAAQMD CEQA Guidelines, December 2009, as amended.

[4] Other pollutants (*e.g.*, lead, sulfur dioxide) also have ambient standards, but they are not discussed in this document because emissions of these pollutants from the Project are expected to be negligible.

National and state standards are reviewed and updated periodically based on new health studies. California ambient standards tend to be at least as protective as national ambient standards, and are often more stringent. National and California ambient air quality standards are shown in **Table 6-1** (Health-Based Ambient Air Quality Standards), below.

TABLE 6-1: HEALTH-BASED AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standard	National Standard
Ozone	1 Hour	0.09 ppm	--
	8 Hour	0.070 ppm	0.075 ppm
Carbon Dioxide	1 Hour	20 ppm	35 ppm
	8 Hour	9.0 ppm	9 ppm
Nitrogen Dioxide	1 Hour	0.18 ppm	0.100 ppm
	Annual	0.030 ppm	0.053 ppm
Sulfur Dioxide	24 Hour	0.04 ppm	0.14 ppm
	Annual	--	0.030 ppm
Particulates <10 microns	24 Hour	50 ug/m3	15 ug/m3
	Annual	20 ug/m3	--
Particulates <2.5 microns	24 Hour	--	35 ug/m3
	Annual	12 ug/m3	15 ug/m3

Concentrations: ppm = parts per million; ug/m3 = micrograms per cubic meter.

Source: Bay Area Air Quality Management District, Bay Area Pollution Summary - 2010.

For planning purposes, regions like the San Francisco Bay Area Air Basin are given an air quality status designation by the federal and state regulatory agencies. Areas with monitored pollutant concentrations that are lower than ambient air quality standards are designated "attainment" on a pollutant-by-pollutant basis. When monitored concentrations exceed ambient standards within an air basin, it is designated "nonattainment" for that pollutant. U.S. EPA designates areas as "unclassified" when insufficient data are available to determine the attainment status. However, these areas are typically considered to be in attainment of the standard.

EXISTING AIR QUALITY

Air quality in the region is controlled by the rate of pollutant emissions and meteorological conditions. Meteorological conditions such as wind speed, atmospheric stability, and mixing height may all affect the atmosphere's ability to mix and disperse pollutants. Long-term variations in air quality typically result from changes in air pollutant emissions, while frequent, short-term variations result from changes in atmospheric conditions.

The San Francisco Bay Area is considered to be one of the cleanest metropolitan areas in the country with respect to air quality. BAAQMD monitors air quality conditions at more than 30 locations throughout the Bay Area, including a monitoring station in Hayward. Monitoring station measurements indicate that air quality in the vicinity of the Project generally performs well against State standards for criteria air pollutants with few exceedances of pollutant standards between 2008 and 2010, the most recent year available. **Table 6-2** (Summary of Criteria Air Pollution Monitoring Data) summarizes exceedances of the state and federal standards at the San Francisco monitoring site and Bay Area-wide.

TABLE 6-2: SUMMARY OF CRITERIA AIR POLLUTION MONITORING DATA

Pollutant	Standard	Monitoring Site	Days Standard Exceeded		
			2009	2010	2011
Ozone	State 1-Hour	Hayward	4	-	0
		Fremont	4	1	-
		SF Bay Area Air	11	8	5
Ozone	Federal 8-Hour	Hayward	3	-	0
		Fremont	0	1	-
		SF Bay Area Air	8	9	4
Ozone	State 8-Hour	Hayward	4	-	0
		Fremont	2	1	-
		SF Bay Area Air	13	11	10
PM_{10}	Federal 24-Hour	Fremont	-	-	-
		SF Bay Area Air	0	0	0
PM_{10}	State 24-Hour	Fremont	-	-	-
		SF Bay Area Air	1	2	3
$PM_{2.5}$	Federal 24-Hour	Fremont	1	-	-
		SF Bay Area Air	11	6	8
Carbon Monoxide	State/Federal 8-Hour	Fremont	0	-	-
		SF Bay Area Air	0	0	0
Nitrogen Dioxide	State 1-Hour	Fremont	0	-	-
		SF Bay Area Air	0	0	0

Notes: "-" indicates that data was not collected. PM_{10} and $PM_{2.5}$ are measured every sixth day in San Francisco and other Bay Area sites, so the number of days exceeding the standard is estimated. Not all criteria pollutants are measured at the Hayward station. Available data is shown. The Hayward site was temporarily closed during 2010 due to a major construction project adjacent to the site. The Fremont site was closed on October 31, 2010. In 2006, the $PM_{2.5}$ standard was changed from 65 µg/m3 to 35 µg/m3

Source: Bay Area Air Quality Management District Air Pollution Summaries

(http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx). 2011 is the most recent year available.

Table 6-2 (Summary of Criteria Air Pollution Monitoring Data) shows that air quality as a result of exceedances of O_3 and $PM_{2.5}$ and PM_{10} standards are problematic in the San Francisco Bay Area. In recent years, the State and federal O_3 standards have been exceeded at least somewhere in the Bay Area on four (4) to thirteen (13) days per year. The Bay Area has exceeded the $PM_{2.5}$ standard on 6 to 11 sampling days per year. Standards for CO and NO_2, or any other criteria air pollutant, were not exceeded anywhere in the Bay Area during this time period.[5]

ATTAINMENT STATUS

Areas that do not violate ambient air quality standards are considered to have attained the standard. Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. The attainment status for the regional area encompassing the Project is summarized in **Table 6-3** (Regional Attainment Status), below. The Bay Area as a whole does not meet state or federal ambient air quality standards for ground level ozone and $PM_{2.5}$ and State standards for PM_{10} and $PM_{2.5}$.

TABLE 6-3: REGIONAL ATTAINMENT STATUS

Pollutant	Federal Status	State Status
Ozone (O_3): 1-hour Standard	No Designation	Nonattainment
Ozone (O^3): 8-hour Standard	Nonattainment	Nonattainment
Respirable Particulate Matter (PM_{10})	Unclassified	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Unclassified/Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Sulfates	No Designation	Attainment
Lead	Attainment	No Designation
Hydrogen Sulfide	No Designation	Unclassified
Visibility Reducing Particles	No Designation	Unclassified

Source: Bay Area Air Quality Management District and California Air Resource Board, http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm.

[5] BAAQMD, Air Pollution Summaries, http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx , accessed March 28, 2011.

At the State level, the region is considered non-attainment for ground level O_3 and non-attainment for PM_{10} and $PM_{2.5}$. The area is considered attainment or unclassified for all other pollutants. In 1988, California passed the California Clean Air Act (CCAA, California Health and Safety Code § 39600 *et seq.*). Under the CCAA, the Bay Area Air Basin is required to have a Clean Air Plan (CAP) to achieve and maintain ozone standards.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Hayward is located within the nine (9) county San Francisco Bay Area Air Basin and therefore within the jurisdiction of BAAQMD. BAAQMD enforces rules and regulations regarding air pollution sources and is the primary agency preparing the regional air quality plans mandated under state and federal law.

The nonattainment status' conveyed in **Table 6-3** (Regional Attainment Status) is attributed to the region's development history. Past, present and future development projects incrementally contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to (by itself) result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In 1991, the BAAQMD, MTC and ABAG prepared the *Bay Area 1991 Clean Air Plan* or CAP. This air quality plan addresses the California Clean Air Act. Updates are developed approximately every three years. The plans were meant to demonstrate progress toward meeting the more stringent 1-hour ozone California Ambient Air Quality Standard (CAAQS). The latest update to the plan, which was adopted in September 2010, is called the *Bay Area 2010 Clean Air Plan*. The plan does the following:

- Updates the recent Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter (PM), TACs, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Establishes emission control measures to be adopted or implemented in the 2010-2012 timeframe.

BAAQMD also provides a document titled *California Environmental Quality Act Air Quality Guidelines* ("BAAQMD Guidelines"), which provides guidance for consideration by lead agencies, consultants, and other parties evaluating air quality impacts in the San Francisco Bay Area Air Basin conducted pursuant to CEQA. The document provides guidance on evaluating air quality impacts of development projects and local plans, determining whether an impact is significant, and mitigating significant air quality impacts.

BAAQMD updated these Guidelines in coordination with adoption of new thresholds of significance on June 2, 2010.[6] The most recent version of the Guidelines are dated May 2012, (though the May 2011 version includes the updated thresholds, as discussed below). The updated CEQA Guidelines revised significance thresholds, assessment methodologies, and mitigation strategies for criteria pollutants, air toxics, odors, and greenhouse gas emissions.

CITY OF HAYWARD

The Conservation and Environmental Protection Element of Hayward's General Plan addresses issues of air quality (see Pages 7-25 to 7-26) and provides the following policies and strategies:

- Incorporate measures to improve air quality in the siting and design of new development (Policy 10).
    - Provide adequate buffers between sources of toxic air contaminants or odors and existing or potential sensitive receptors (Strategy 1).
    - Evaluate hazardous air pollutant emissions in review of proposed land uses that may handle, store or transport hazardous materials (Strategy 2).
    - Consider measures, including a local ordinance, which would reduce PM_{10} emissions from fireplaces and wood stoves (Strategy 3).
- Maintain improved air quality by creating efficient relationships between transportation and land use (Policy 11).
    - Guide development into patterns that reduce dependency on automobile usage (Strategy 1).
    - Require pedestrian, bicycle, and transit-oriented features in new development projects (Strategy 2).
    - Encourage compact development featuring a mix of uses that locates residences near jobs and services (Strategy 3).
    - Facilitate the development of higher-density housing and employment centers near existing and proposed transit stations and along major transit corridors (Strategy 4).
- Support implementation of Transportation Control Measures adopted by the Bay Area Air Quality Management District (Policy 12).
    - Work with regional and local organizations to promote ridesharing opportunities (Strategy 1).

[6] Bay Area Air Quality Management District, June 2, 2010, News Release, available at: http://www.baaqmd.gov/~/media/Files/Communications%20and%20Outreach/Publications/News%20Releases/2010/ceqa_100602.ashx .

- Review and evaluate the Bicycle Facilities Master Plan to determine if revisions are necessary to promote bicycle usage (Strategy 2).
- Encourage employers and developers to provide bicycle access and facilities (Strategy 3).
- Continue ongoing local signal timing programs (Strategy 4).
- Incorporate subdivision, zoning and site design measures that reduce the number and length of single-occupant automobile trips (Strategy 5).
- Promote demonstration projects to develop new strategies to reduce motor vehicle emissions, such as projects that include Low Emission Vehicle (LEV) fleets and refueling infrastructure (Strategy 6).
- Emphasize pedestrian travel through establishment of pedestrian-friendly design standards and inclusion of pedestrian improvements in capital improvement programs (Strategy 7).
- Consider traffic calming strategies in capital improvement programs (Strategy 8).

IMPACT ANALYSIS

THRESHOLD OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Implementation of the Project would have a significant effect on the environment if it were to:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

The CEQA Guidelines state that, where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. BAAQMD updated their thresholds on June 2, 2010 and the BAAQMD Guidelines in May 2011, which have been used for this air quality analysis, as detailed under each item below.

On March 5, 2012 the Alameda County Superior Court issued a judgment finding that BAAQMD had failed to comply with CEQA when it adopted its 2010 Thresholds. The court did not determine whether the Thresholds were valid on the merits, but found that the adoption of the Thresholds was a project under CEQA. The court issued a writ of mandate ordering BAAQMD to set aside the Thresholds and cease dissemination of them until BAAQMD had complied with CEQA.

This analysis is based upon these BAAQMD 2010 Thresholds. While it is possible to instead analyze the Project under BAAQMD's previous 1999 Thresholds, the newer thresholds are more conservative and based upon current regulations, scientific understanding and methodologies and therefore considered the most appropriate for a conservative CEQA analysis.

CRITERIA AIR POLLUTANTS AND PRECURSOR EMISSIONS

Impact Air-1: **Conflict with Clean Air Plan.** Development anticipated as a result of the Project would increase vehicle use beyond that assumed in the CAP, but would support the goals of the CAP, including applicable control measures. This would be a ***Less Than Significant Impact***.

BAAQMD has determined that for a plan (such as the Project) to result in a significant conflict with the Clean Air Plan, it must be inconsistent with the current CAP control measures and/or result in an increase in vehicle use (measured by either vehicle miles traveled (VMT) or trips) that is proportionally greater than its increase in population. The following discussion is based on BAAQMD's recommended procedure for determining consistency:

<u>Does the Project Support the Primary Goals of the Air Quality Plan?</u>

The primary goals of the 2010 Bay Area CAP are:

- Improving air quality;
- Protecting public health; and
- Protecting our climate (discussed in the Chapter 6 of this Draft EIR).

The Project area is proximate to the Hayward and South Hayward BART Stations. Consistent with the Hayward General Plan, one objective of the Mission Boulevard Corridor Specific Plan is to provide for intensified land uses in the corridor along Mission Boulevard to the north and south of Downtown. This transit-oriented, smart-growth goal is also consistent with regional planning objectives. The Project will facilitate increased use of transit and provide a mix of land uses to encourage walking. This would equate to decreased vehicle trips and reduced vehicle emissions and, thereby, help to support the CAP goals of improving air quality and protecting public health.

<u>Does the Project Include Applicable Control Measures from the 2010 CAP?</u>

The majority of CAP control measures fall into categories not applicable to the Project (e.g., development of regional or local governmental rules and regulations and stationary source

control). Control measures applicable to the Project fall into two main categories: Transportation Control Measures (TCMs) intended to reduce vehicle emissions, and Energy and Climate Measures (ECMs). **Table 6-4** (BAAQMD TCM / ECM Measures and Project Applicability) lists those TCMs applicable to the Project and includes a description of how the Project includes or incorporates those measures. Energy and Climate measures are discussed separately in Chapter 6 (Greenhouse Gas Emissions).

Does the Project Disrupt or Hinder Implementation of Any 2010 CAP control measures?

- Projected VMT or vehicle trips increase is less than or equal to its projected population increase.

The proposed Project would encourage urban infill mixed use development with access to local and regional transit options in the form of multiple bus lines and the Hayward and South Hayward BART stations. The amount of vehicle trips generated by such a project would be anticipated to be substantially reduced through pedestrian, bicycle and transit usage and internal trip capture as multiple uses will be located conveniently near each other. Mixed-use, transit-oriented growth, such as the Project, would generate less trips than growth elsewhere without these characteristics thereby supporting the goal to balance trip growth with population growth.

As discussed above, the Project supports the goals of the CAP, includes applicable control measures, and does not disrupt or hinder implementation of any CAP control measures. The impact is less than significant.

TABLE 6-4: BAAQMD ECM / TCM MEASURES AND PROJECT APPLICABILITY

ECM or TCM#	Name/Source Category	Description	Project Applicability
TCM-3	Improve Local and Area wide Bus Service	These measures focus on sustaining and improving existing services, such as through replacement of worn-out assets, extension of BART lines, and implementation of express routes and transit priority measures (bus lanes, signal priority, bulb-outs, etc.)	These measures are generally funded and implemented on a regional level. However, the Project would indirectly improve transit services by placing additional homes and businesses within walking distance of existing BART Stations and existing thoroughfares (e.g., Mission Boulevard) including existing bus stops and, therefore, increase ridership.
TMC B-2	Improve System Efficiency	These measures include operational improvements to freeway and arterial systems, continued operation of 511 Transit and full implementation of Clipper, implementation of a regional Express Lane Network and consideration of congestion toll pricing, investing in trade corridors for goods movement and incentive funding for cleaner-than-required equipment.	These TCMs are not directly applicable to the Project.

TCM C-1	Support Voluntary Employer-Based Trip Reduction Program	These measures include supporting voluntary efforts by employers to encourage alternative commute modes, encouraging safe routes to schools and transit, promoting ridesharing services, and conducting public outreach and education to encourage alternative transit modes and discouraging high speed driving, which is higher polluting,	The Project would locate homes and businesses within close proximity to existing mass transit. Also, the Project includes new thoroughfares which would shorten walking and biking distances to multiple destination choices.
TCM D-3	Support Local Land Use Strategies	These measures include expanding bicycle facilities and improving bicycle access to transit, improving pedestrian facilities and encouraging walking, promoting higher density mixed-use, residential and employment development near transit.	Implementation under the Project would fulfill all of these measures.
TCM E-2	Implement Pricing Strategies	This measure includes managing travel demand during congested conditions using value pricing, changing parking policies to reduce motor vehicle travel, and reform transportation	The Project would reduce parking requirements and, therefore, apply this measure.
ECM-2	Renewable Energy	Promote distributed renewable energy generation (solar, micro wind turbines, cogeneration, etc.) on commercial and residential buildings, and at industrial facilities.	The Project includes standards for wind and solar power generation at private properties and the City has a Green Building Ordinance. Both of which promote the installation of renewable energy facilities.

SENSITIVE RECEPTORS AND TOXIC AIR CONTAMINANTS

Impact Air-2: **Siting of Sensitive Receptors Near Highway Emissions and Related Risks.** Development anticipated under the Project would bring additional sensitive uses (which could include residences, schools, day care centers, playgrounds, and medical facilities) to sites exposed to increased health risks from vehicle emissions from Mission Boulevard (State Highway 238). However, the application of a BAAQMD recommended "Highway Overlay Zone" would ensure the Project would result in a ***Less than Significant Impact with Mitigation***.

BAAQMD's Thresholds of Significance for plans with regard to community risk and hazard impacts are:

- The land use diagram must identify:
  - Special overlay zones around existing and planned sources of TACs;
  - Special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways.
- The plan must also identify goals, policies, and objectives to minimize potential impacts and create overlay zones for sources of TACs and receptors.

Existing and Planned Stationary Sources of TACS

According to BAAQMD's Stationary Source Risk & Hazard Analysis Tool, there are thirty (30) permitted stationary sources of TACs within the Project area or within one-thousand (1000) feet of it. These are listed in detail in Appendix B. These sources include largely gas stations, auto body/collision shops, and dry cleaners as well as some generators. Emissions from each specific source would be compared against the threshold of ten (10) in a million for cancer, a non-cancer hazard risk of 1 and $PM_{2.5}$ concentrations of 0.3 ug/m^3. A little over half these sources can be classified as low-risk sources, with risks generally below one (1) in a million for cancer, non-cancer hazard indexes below 0.02 and $PM_{2.5}$ concentrations below 0.01 ug/m^3.

There are nine (9) stationary sources known to be above the threshold level, as listed in **Table 6-5** (Potentially High-Risk Stationary Sources). Additionally, health risk levels from stationary sources at the following addresses are unreported: 5500 Jackson Street, 22700 Main Street, 25800 Carlos Bee Boulevard, 21994 Mission Boulevard, and 777 B Street.

TABLE 6-5: POTENTIALLY HIGH-RISK STATIONARY SOURCES

FID	Plant Number	Name	Address	Cancer Risk (in a million)	Hazard Index	PM2.5
2122	G9145	Ashraf Ali #256049	898 A Street	14.151	0.021	-
106	13474	Pacific Bell	1129 B Street	59.68	0.021	0.106
687	5045	Selix Formalwear	22423 Foothill Blvd	115	0.305	0
1921	14074	S F Bay Area Rapid Transit District	699 B Street	16.63	0.006	0.03
675	9139	Alpine Cleaners	22286 Foothill Blvd	23.6	0.063	0
804	G10686	ARCO Facility #09536 - DHILLON & DHILLON	25225 Mission Blvd	36.045	0.054	-
2105	9954	Silktech Cleaners	853 Sycamore Avenue	37.5	0.1	0
742	G8815	Mission Chevron	24086 Mission Blvd	28.518	0.043	-
704	G11150	Foothill Shell #135353	22810 Foothill Blvd	15.031	0.022	-

Source: BAAQMD's Stationary Source Risk & Hazard Analysis Tool, Alameda County, May 2012 data set.

BAAQMD has requested overlay zones for plans with existing or planned sources of TACs in proximity to sensitive uses. Though the location of existing stationary sources listed in Table 6-5 is known today, those sources and their air contaminants may change and/or cease to exist over the Project's timeframe (i.e., year 2035). Similarly, new stationary sources may be established in the future. The Project proposes no new stationary source and any new stationary source proposed within or near the Project area will be required to undergo the BAAQMD permitting

process.

Mobile Toxic Air Contaminants in Project Area

Mission Boulevard and Jackson Street/Foothill Boulevard are high volume streets that run through the Project area and would be additional sources of toxic air contaminants potentially affecting existing and new sensitive receptors. BAAQMD's Highway Screening Analysis Tool presents conservative health risks along high volume roadways. Full details of the risk levels at various distances and heights from the roadway are included in Appendix B, with summary details in **Table 6-6** (Roadway Risk and Hazard Values) below.

TABLE 6-6: ROADWAY RISK AND HAZARD VALUES

Risk Type	**Maximum Risk for New Receptors from Mission Boulevard Emissions**				
Distance from Roadway	10	50	100	500	1000
Mission Blvd, north of A Street					
Increased Cancer Risk	10.27	6.45	4.65	1.611	0.86
Increased Chronic Non-Cancer Risk	0.013	0.008	0.006	0.002	0.001
$PM_{2.5}$	0.124	0.076	0.054	0.018	0.009
Mission Blvd, between W Jackson St and Orchard St					
Increased Cancer Risk	38.13	23.40	16.77	6.04	3.45
Increased Chronic Non-Cancer Risk	0.037	0.022	0.016	0.005	0.003
$PM_{2.5}$	0.262	0.158	0.113	0.039	0.022
Mission Blvd, south of Orchard St					
Increased Cancer Risk	37.55	23.35	16.27	4.84	2.28
Increased Chronic Non-Cancer Risk	0.041	0.025	0.017	0.005	0.002
$PM_{2.5}$	0.327	0.199	0.137	0.039	0.018
W. Jackson St, west of Mission Blvd					
Increased Cancer Risk	31.41	21.40	15.88	6.17	3.73
Increased Chronic Non-Cancer Risk	0.036	0.024	0.018	0.007	0.004
$PM_{2.5}$	0.304	0.205	0.152	0.058	0.034
Foothill Blvd, east of Mission Blvd					
Increased Cancer Risk	28.24	19.10	13.91	4.43	2.16
Increased Chronic Non-Cancer Risk	0.032	0.021	0.015	0.004	0.002
$PM_{2.5}$	0.262	0.175	0.127	0.039	0.018

Source: BAAQMD Highway Screening Analysis Tool, updated data set 4/29/2011

The risk levels shown in this table are at ground level (6 feet). Additional data for other distances from the roadway and at the second story (20 ft) are available in Appendix B.

To calculate the potential of mobile toxic air contaminants upon future development projects in the Project area, risk from stationary sources would be added to the risk from traffic along Mission Boulevard and W. Jackson St/Foothill Blvd and compared against the cumulative thresholds of one-hundred (100) in a million for cancer, a non-cancer hazard risk of ten (10) and $PM_{2.5}$ concentrations of 0.8 ug/m3. Each single source would be compared against the single-source emissions thresholds of ten (10) in a million for cancer, a non-cancer hazard risk of one (1) and $PM_{2.5}$ concentrations of 0.3 ug/m3. Note that these standards are not all currently in

effect as of the writing of this report. The currently effective standards are ten (10) in a million for cancer, a non-cancer hazard risk of one (1), with no PM2.5 thresholds in effect.

According to **Tables 6-5** (Potentially High-Risk Stationary Sources) and **6-6** (Roadway Risk and Hazard Values), health risks could be above site-specific and/or cumulative threshold levels at locations proximate to high volume roadways and/or high-risk stationary sources. The California Air Resources Board's (CARB's) Air Quality and Land Use Handbook: A Community Health Perspective (April 2005) provides additional insight on this topic.

CARB has developed guidelines to be considered in the siting of new sensitive land uses (including residences, schools, day care centers, playgrounds, and medical facilities) to protect vulnerable populations from the adverse health impacts of traffic-related emissions. The guidelines are not regulatory, nor are they binding on local agencies. Specifically, the CARB's advisory recommendation for sensitive land uses proposed near freeways and high-traffic roads is to "[a]void siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles per day." Mission Boulevard is an urban roadway with an AADT level around 139,000 vehicles/day south of the junction with W. Jackson St/Foothill Blvd and 18,800 north of that point.[7] CARB siting recommendations would be applicable for the southern portion of the project.

The CARB Air Quality Land Use Handbook also recognizes that there is no "one size fits all" solution to land use planning, and that in addressing housing and transportation needs, the benefits of urban infill, community economic development priorities and other quality of life issues are also important, and these must be considered and weighed by local decision-makers when siting development projects.

Because BAAQMD recommends overlay zones for plans proposing receptors near high-volume roadways and stationary sources, and to recognize the potential for adverse effects even without adopted BAAQMD thresholds, **Mitigation Measure Air-2** should be implemented.

Mitigation Measure

Air-2a: **Highway Overlay Zone.** The Project shall include an overlay zone extending five-hundred (500) feet from Mission Boulevard and W. Jackson Street. Future development projects within that overlay zone shall adhere to the indoor and exterior air quality measures below.

<u>Indoor Air Quality:</u>

In accordance with the recommendations of the California Air Resources Board (CARB) and the Bay Area Air Quality Management District (BAAQMD), measures shall be incorporated into the project design in order to reduce the potential health risk due to exposure to diesel

[7] Caltrans, 2012, Traffic and Vehicle Data Systems Unit, 2011 All Traffic Volumes on CSHS, accessed at http://traffic-counts.dot.ca.gov/2009all/2009TrafficVolumes.htm, volumes for Mission Blvd (185) north of the 238 junction (W. Jackson/Foothill).

particulate matter to achieve an acceptable interior air quality level for sensitive receptors. The measures shall include one of the following methods:

(a) Development project applicants shall implement all of the following features that have been found to reduce the air quality risk to sensitive receptors and shall be included in the project construction plans. These features shall be submitted to the Development Services Department for review and approval prior to the issuance of a demolition, grading, or building permit and shall be maintained on an ongoing basis during operation of the project.

For sensitive uses (residences, schools, day care centers, playgrounds, and medical facilities) sited within an overlay zone, the applicant shall install, operate and maintain in good working order a central heating and ventilation (HV) system or other air intake system in the building, or in each individual unit, that meets or exceeds an efficiency standard of MERV 13. The HV system shall include the following features: Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building. Either HEPA filters or ASHRAE 85% supply filters shall be used.

Project applicants shall maintain, repair and/or replace HV system on an ongoing and as needed basis or shall prepare an operation and maintenance manual for the HV system and the filter. The manual shall include the operating instructions and the maintenance and replacement schedule. This manual shall be included in the CC&Rs for residential projects and/or distributed to the building maintenance staff. In addition, the applicant shall prepare a separate homeowners manual. The manual shall contain the operating instructions and the maintenance and replacement schedule for the HV system and the filters.

(b) Alternative to (a) above, a project applicant proposing siting of sensitive uses (residences, schools, day care centers, playgrounds, and medical facilities) within an overlay zone shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air polluters prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Development Services Department for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then measures outlined under item (a) are not required.

Exterior Air Quality:

(c) To the maximum extent practicable, individual and common exterior open space proposed as a part of developments in the Project area, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.

(d) Alternative to (c) above, an HRA could be prepared and implemented to take into account the risk specifics of the site, as more fully described in item (b) above.

Air-2b: **Toxic Air Contaminants – Stationary Sources.** The location and potential air contaminants associated with stationary sources present at the time of this EIR's preparation may change over time. Similarly, new stationary sources may be established. Therefore, this mitigation measure provides a dynamic buffer zone to ensure toxic air contaminants from all existing and future stationary sources do not result in unacceptable health risks.

The provisions below shall apply to all future development under the Project occurring within five-hundred (500) feet of any stationary source, existing at the time of EIR preparation or subsequently established, and which exceeds the applicable BAAQMD individual source or cumulative threshold:

(a) All new development proposals shall be evaluated to determine whether they are within five-hundred (500) feet of a stationary source exceeding the thresholds cited above.[8]

(b) Development proposals located within the five-hundred (500) foot radius of a stationary source exceeding threshold shall adhere to the indoor and exterior air quality measures of Mitigation Measure Air-2, including the option to complete a HRA.

The potential for increased health risks for sensitive receptors located near high volume roadways and existing stationary sources of TACs has been recognized by Impact Air-2 and Air-2b. Based upon screening analysis summarized in **Tables 6-5** (Potentially High-Risk Stationary Sources) and **6-6** (Roadway Risk and Hazard Values), it is anticipated that risk levels could exceed the BAAQMD thresholds in the Project area. This impact would be reduced to less-than-significant levels through implementation of **Mitigation Measure Air-2 and Air-2b**, which requires implementation of mitigating features deemed adequate by the BAAQMD.

[8] Online inquiry forms are available at the BAAQMD website (http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx).

CUMULATIVE IMPACTS

Additional analysis to determine cumulative impacts of the Project is not necessary. In developing thresholds of significance, BAAQMD considered the levels at which individual impacts would be cumulatively considerable. As described above, all Project-related air quality impacts are considered *Less Than Significant or Less Than Significant with Mitigation.*

7

BIOLOGICAL RESOURCES

INTRODUCTION

This chapter describes existing known biological resources within the Project area and addresses whether the Project would adversely impact those resources including potential conflicts with adopted plans, policies, and ordinances to protect them.

This chapter includes data from the June 2011 "Mission Boulevard Corridor Specific Plan EIR Biological Resources Report" prepared by H.T. Harvey & Associates for the Project. Prior to conducting field work, H. T. Harvey & Associates ecologists reviewed the California Department of Fish and Game's (CDFG) Natural Diversity Database (CNDDB); recent ecological studies of other projects in the vicinity including the Route 238 Corridor Improvement Project Final Environmental Impact Report; and other technical databases and publications on special-status species in the vicinity in order to assess the current distribution of special-status plants and wildlife in the Project area.

Reconnaissance-level field surveys of the Project area were conducted on 23 September 2010 by H.T. Harvey & Associates. The purpose of these surveys was to provide a Project-specific impact assessment. Specifically, surveys were conducted to: (a) assess existing biotic habitats in the Project Area; (b) assess the site for its potential to support special-status species and their habitats; and (c) identify potential jurisdictional features such as waters of the U.S. and riparian habitat.

Approval of the Project would not result any direct adverse impacts to sensitive/regulated habitats since it is a regulatory document intended to implement future physical changes to the environment. However, the Biological Resources Report is based on assumptions which contemplate the reasonably foreseeable outcomes of subsequent activities under the Specific Plan, including those related to regulations of other State/Federal agencies. Those assumptions include:

- A conservative assumption is made that sensitive/regulated habitats may be impacted through Project related activities.
- Estimates of impacts to wetlands, creeks, and other potentially jurisdictional waters of the U.S./State are preliminary, and are based on the amount of the area identified as potentially jurisdictional during reconnaissance surveys. The boundaries of these features have not yet been verified by the United States Army Corps of Engineers (USACE) or Regional Water Quality Control Board (RWQCB). Impacts to seasonal and perennial wetlands, freshwater marsh, seeps and springs, creeks, and ponds assessed in the Biological Resources Report do not depend on whether such areas are ultimately claimed

or disclaimed as jurisdictional waters based upon current federal regulatory guidance. It is assumed that such areas are still regulated as Waters of the State if they possess wetland characteristics, even if disclaimed by the USACE.

- Future development projects pursuant to the Mission Boulevard Specific Plan may be required to obtain permits from one or more state or federal resource agencies, such as the California Department of Fish & Game (CADFG), RWQCB, or USACE. Those agencies, through their own permitting processes, may require mitigation for certain biological resource impacts that is different in kind and/or amount from the mitigation specified in this EIR. The proponents of such projects will have to comply with both the applicable mitigation measures in this EIR and any additional non-duplicative mitigation measures imposed by the Resource Agencies.

- In the future, the City of Hayward or some other entity could obtain state and federal resource agency permits for the entire site, or a substantial portion of the site, which could then be used by future specific development projects related to the Mission Boulevard Corridor Specific Plan. This could eliminate the need for specific development projects to obtain their own project-specific resource agency permits.

PHYSICAL SETTING

The Project Area is located approximately five (5) miles east of the southeastern shore of San Francisco Bay, at the western toe of the Diablo Mountain Range. Topography on the east side of Mission Boulevard includes some moderately steep foothills descending from the Diablo Range, leveling into the valley on the east side of Mission Boulevard, and draining into San Francisco Bay. Elevations range from approximately 59 feet (ft.) in the southwest corner of the Project Area to 240 ft. in the southeastern portion of the Project Area. The mean annual precipitation varies from 14 to 29 inches, and the mean annual temperature ranges from 52 to 67 degrees Fahrenheit.

The majority of the approximately Project Area is composed of developed and landscaped lands, including residential, retail, business offices, hotels, restaurants, and auto dealerships. However, small portions of the Project Area feature patches of ruderal grassland, riparian woodland, and aquatic habitats.

Nine different soil types underlie the Project Area, although many of these have been degraded due to activities associated with urbanization. *Danville silty clay loam*, 0 to 2 percent slopes, which is primarily a silty clay loam derived from sedimentary alluvium, underlies the majority of the Project site. *Millsholm silt loam*, 30-50 percent slopes, underlies Ward Creek and the surrounding riparian habitat in Hayward Memorial Park. These soils are composed of residuum from weathered sedimentary rock and are relatively shallow silt loams over unweathered bedrock. *Altamont clay*, 15 to 30 percent slopes, underlies the agricultural/ruderal grassland south of Carlos Bee Boulevard and east of Mission Boulevard. These soils are derived from residuum weathered from sandstone and shale and/or residuum weathered from conglomerate, and are clay soils to 50 inches over weathered bedrock.

BIOTIC HABITATS

Four (4) biotic habitats/land use types occur in the Project Area, including: Developed/Landscaped, Agricultural/Ruderal Grassland, Ornamental Woodland, and Riparian/Aquatic/Wetland. Wherever possible, habitats were described based on Holland's system of classification (1986), a relatively coarse level of classification based on general species assemblages and broad edaphic (soil) characteristics. These habitats are described in detail below, and their distribution both within the Project Area and, for certain sensitive habitats, in adjacent areas is shown in **Figure 7-1** (Biotic Habitats Map).

Developed/Landscaped

Vegetation. The majority of the Project Area is developed or landscaped, and is comprised of hardscaped roads, buildings, residential homes, parking lots, ornamental and landscaped areas (typically irrigated and with a mulch base), and irrigated turf. The habitat suitability for rare or native vegetation in these areas is very low, and most areas mapped as Developed/Landscaped are under altered hydrologic regimes, being either dewatered by hardscape or irrigated to support landscaping. The few naturally occurring plants are typical lawn and sidewalk weeds, such as English daisy (*Bellis perennis*), smooth cat's ear (*Hypochaeris glabra*), and yellow sorrel (*Oxalis corniculata*). All developed portions of the Project Area appear to be purposefully and continually maintained, or otherwise are permanently impacted by hardscape and structures.

Wildlife. Developed habitats primarily support common, urban-adapted wildlife species, and overall wildlife abundance and diversity are low. Likewise, landscaped habitats are used sparingly by most wildlife species, largely because of the uniform, open nature of most landscaping and the regular disturbance that occurs due to landscape maintenance and use. However, animals living in adjacent habitats and migratory birds often exploit foraging opportunities offered by landscaped habitats, and dense shrub and tree landscape components may offer sufficient cover for nesting birds and mammals. Common butterflies, such as cabbage whites (*Pieris rapae*) and painted ladies (*Vanessa cardui*), as well as honeybees (*Apis mellifera*) and other common invertebrate species, are expected to use flowering landscape plants for foraging.

Black phoebes (*Sayornis nigricans*) and house finches (*Carpodacus mexicanus*), which were observed during the reconnaissance survey, nest on buildings or other structures on or near the Project Area, and white-crowned and golden-crowned sparrows (*Zonotrichia leucophrys* and *Z. atricapilla respectively*) forage and shelter in landscape shrubbery in the Project Area. Hummingbirds, including Anna's hummingbirds (*Calypte anna*) and Allen's hummingbirds (*Selasphorus sasin*), forage in areas where the landscaping includes flowering plants. The profusion of trees incorporated into the landscaping in the Mission Boulevard area host a variety of foraging songbirds throughout the year, and common species such as dark-eyed juncos (*Junco hyemalis*), northern mockingbirds (*Mimus polyglottos*), and American robins (*Turdus migratorius*) nest in landscape shrubs and trees in the Project Area.

Figure 7-1: Biotic Habitats Map.

Small, non-native mammals, such as house mice (*Mus musculus*), eastern gray squirrels (*Sciurus carolinensis*), and eastern fox squirrels (*Sciurus niger*), forage in shrubs and trees in the landscaped potions of the Project Area, and invasive Norway rats (*Rattus norvegicus*) inhabit landscaped areas as well as storage and garbage facilities, at least in small numbers. Feral cats (*Felis catus*), which were observed in the Project Area, may shelter in or under buildings and in landscape shrubs. Urban-adapted native mammals, such as raccoons (*Procyon lotor*) and striped skunks (*Mephitis mephitis*), occur in this land use type as well.

Agricultural/Ruderal Grassland

Vegetation. Agricultural and ruderal grassland habitat is primarily found on a hillside lot in the eastern portion of the Project Area south of Carlos Bee Boulevard and east of Mission Boulevard. The majority of the lot is, or has been, under cultivation, with a portion at the top of the slope appearing to have been disked as recently as 2010. Only a few species, such as bristly ox-tongue (*Picris echioides*), wild oats (*Avena fatua*), and musk thistle (*Carduus nutans*), are established in the recently disked portion of the field. Further down slope and surrounding the recently disked area, ruderal vegetation is taller and denser. Here it is dominated by wild oats and many non-native weedy herbaceous species, such as prickly lettuce (*Lactuca serriola*), field bindweed (*Convolvulus arvensis*), and chicory (*Cichorium intybus*). A few well-spaced small trees and shrubs, such as coyote brush (*Baccharis pilularis*) and coast live oak (*Quercus agrifolia*), occur within and along the perimeter of the lot. A freshwater seep that occurs halfway down the slope is discussed in the riparian/aquatic/wetland section below.

Wildlife. The ruderal grassland habitat in the Project Area hosts a variety of common invertebrates, which in turn provide food for widespread reptiles, such as western fence lizards (*Sceloporus occidentalis*), and birds, including the western scrub-jay (*Aphelocoma californica*) and northern mockingbird. Although other grassland-associated birds, such as white-tailed kites (*Elanus leucurus*), American kestrels (*Falco sparverius*), and loggerhead shrikes (*Lanius ludovicianus*), may occur in the Project vicinity and forage in the Project Area on occasion, the patch of agricultural/ruderal grassland habitat within the Project Area is too small to support more than a single nesting pair of each of these species. Small mammals and mesocarnivores, including house mice, striped skunks, and raccoons, may also forage in the agricultural/ruderal grassland, and valley pocket gopher (*Thomomys bottae*) burrows were observed in this habitat during the reconnaissance survey.

Ornamental Woodland

Vegetation. Ornamental woodland is present in Hayward Memorial Park east of Mission Boulevard and adjacent to Fletcher Lane. The majority of trees present in this habitat are large, well-established native and ornamental varieties, such as pine (*Pinus* sp.), sycamore (*Platanus* sp.), coast live oak, and eucalyptus (*Eucalyptus* sp.). Understory vegetation in Hayward Memorial Park is primarily landscaped turf and ornamental plantings, with few naturally occurring species present, although some remnant trees from the native landscape have been preserved.

Ornamental woodland also occurs between Carlos Bee Boulevard and Palisade Street, and surrounding a parking lot between Fletcher Lane and Mission Boulevard. Trees here are

primarily intentionally planted or volunteer species, such as eucalyptus, cottonwood (*Populus* sp.), and Atlantic cedar (*Chamaecyparis thyoides*). Understory vegetation is composed mainly of non-native grasses and herbs and is similar to that described for agricultural/ruderal grassland above.

Wildlife. Ornamental woodlands in the Project Area are host to an array of common invertebrate species. In addition, the trees and shrubs provide suitable nesting habitat for common birds, such as American robins, California towhees (*Pipilo crissalis*), and dark-eyed juncos. The trees also provide habitat for the larger common raptors, such as red-tailed hawks (*Buteo jamaicensis*) red-shouldered hawks (*Buteo lineatus*), and great horned owls (*Bubo virginianus*). A red-shouldered hawk was observed perched in a eucalyptus tree during the reconnaissance surveys and a large raptor stick nest was observed in another eucalyptus tree within the park boundaries. Due to the territorial nature of the common raptors identified above, no more than one nest of one of these species would be expected to occur here. The trees could also be used as roost sites by small numbers of common roosting bats, such as the California myotis (*Myotis californicus*). Other mammals, including house mice, striped skunks, and raccoons, also forage in this area.

Riparian/Aquatic/Wetland

Vegetation. The 1.12 ac of aquatic, riparian, and wetland habitat within the Project Area is located within and along the active channel of Ward Creek. The aquatic habitat in Ward Creek is composed of a 15-ft wide channel (the banks of which are concrete lined along a portion of the reach within the Project Area) that flows for approximately 250 ft. through the Project Area and then enters an underground, engineered channel in Hayward Memorial Park. From here, it eventually flows into the San Francisco Bay via Alameda Creek. At the time of the reconnaissance survey, water in the creek was clear and approximately six (6) inches deep. The channel substrate is composed of small to medium sized cobbles.

The riparian corridor lining the steep banks of Ward Creek is composed of a variety of typical native riparian and ornamental species. These include species such as California bay (*Umbellularia californica*), California sycamore (*Platanus racemosa*), pine, and buckeye (*Aesculus californica*). Beneath the riparian canopy, a thick layer of non-native English ivy (*Hedera helix*) has become naturalized. Additional herbaceous species present include non-native Himalayan blackberry (*Rubus ursinus*) and hedge parsley (*Torilis arvensis*) and native species such as stinging nettle (*Urtica dioica*) and common knotweed (*Polygonum lapathifolium*).

A small freshwater seep is present in the agricultural/ruderal grassland field east of Mission Boulevard and south of Carlos Bee Boulevard. Additional wetland features may also be present in and around this parcel that were not identifiable during the late summer reconnaissance surveys (e.g., in the southwest corner of the field where a few scattered patches of giant reed [*Arundo donax*] are present). Wetland vegetation at the seep is composed of saltgrass (*Distichlis spicata*), mint (*Mentha* sp.), and cheeseweed (*Malva parviflora*).

Wildlife. Riparian habitats in California generally support exceptionally rich animal communities and contribute a disproportionately high amount to landscape-level species diversity. The presence of year-round water and abundant invertebrate fauna provide foraging

opportunities for many species, and the diverse habitat structure provides cover and nesting opportunities. The moderately disturbed nature of the riparian habitat in the Project Area somewhat limits its value to wildlife. Nonetheless, it provides important habitat for many wildlife species in the region.

Riparian habitat provides suitable foraging and breeding areas for several functional groups of birds including insectivores (e.g., warblers, flycatchers), seedeaters (e.g., finches), raptors, and cavity-nesters (e.g., swallows and woodpeckers) in addition to a variety of common amphibians, reptiles, and mammals. Among the numerous species of birds that likely use the riparian habitat within the Project Area for breeding are the Bewick's wren (*Thryomanes bewickii*), oak titmouse (*Baeolophus inornatus*), black phoebe, and Anna's hummingbird. Raptors, such as red-shouldered hawks and Cooper's hawks (*Accipiter cooperii*), may nest within the riparian corridor and forage in adjacent habitats. Riparian habitats are also used heavily by migrants and wintering birds.

Several species of reptiles and amphibians occur in riparian corridors. Leaf litter, downed tree branches, and fallen logs provide cover for the arboreal salamander (*Aneides lugubris*), western toad (*Anaxyrus boreas*), and Pacific chorus frog (*Pseudacris regilla*). Several lizards may also occur here, including the western fence lizard, western skink (*Eumeces skiltonianus*), and southern alligator lizard (*Elgaria multicarinata*). Small mammals such as the ornate shrew (*Sorex ornatus*), California vole (*Microtus californicus*), and Audubon's cottontail (*Sylvilagus audubonii*) use these riparian habitats, and the raccoon, striped skunk, and non-native opossum (*Didelphis virginianus*) are also common, urban-adapted species present in riparian habitat. Non-native species, such as the opossum, eastern fox squirrel, Norway rat, and feral cat, may harass, compete with, or depredate eggs and young of native birds and small mammals, reducing the habitat quality for native riparian wildlife species.

REGULATORY SETTING

FEDERAL

Clean Water Act

Areas meeting the regulatory definition of "waters of the U.S." (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the 1972 Clean Water Act (Federal Water Pollution Control Act) and Section 10 of the 1899 Rivers and Harbors Act (described below). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "waters of the U.S.," tributaries of waters otherwise defined as "waters of the U. S.," the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to "waters of the U.S." (33 CFR, Part 328, Section 328.3). Wetlands on non-agricultural lands are identified using the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987).

Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used

for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 CFR, Part 328).

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board (SWRCB) is the state agency (together with the Regional Water Quality Control Boards [RWQCBs]) charged with implementing water quality certification in California.

Any work within areas defined as waters of the U.S. (i.e., wetlands and other waters), may require a Section 404 fill discharge permit from the USACE and Section 401 Water Quality Certification from the RWQCB. For example, the following features within the Project area discussed above, including the bed and banks of Ward Creek up to the ordinary high water mark, the underground culverted channels, and the wetland seep in the agricultural/ruderal grassland south of Carlos Bee Boulevard and Mission Boulevard would likely be jurisdictional, as well as other wetland features that may not have been identified during the late summer reconnaissance surveys. A jurisdictional wetland delineation to determine the precise locations and boundaries of USACE jurisdiction has not been performed for the Project area, but will be necessary before implementation of any Project-related activities that might impact these features.

Porter-Cologne Water Quality Control Act

The RWQCB is responsible for protecting surface, ground, and coastal waters within its boundaries, pursuant to the Porter-Cologne Water Quality Control Act of the California Water Code. The RWQCB has jurisdiction under Section 401 of the Clean Water Act for activities that could result in a discharge of dredged or fill material to a water body. Federal authority is exercised whenever a proposed project requires a Clean Water Act Section 404 permit from the USACE in the form of a Section 401 Water Quality Certification. State authority is exercised when a proposed project is not subject to federal authority, in the form of a Notice of Coverage, Waiver of Waste Discharge Requirements. Many wetlands fall into RWQCB jurisdiction, including some wetlands and waters that are not subject to USACE jurisdiction. RWQCB jurisdiction of other waters, such as streams and lakes, extends to all areas below the ordinary high water mark.

The RWQCB has no formal technical manual or expanded regulations to help in identifying their jurisdiction. The only guidance can be found in Porter-Cologne Water Quality Control Act, Chapter 2 (Definitions), which states, "'waters of the State' means any surface water or ground water, including saline waters, within the boundaries of the state."

Under the Porter-Cologne Water Quality Control Act, the SWRCB and the nine regional boards also have the responsibility of granting Clean Water Act National Pollutant Discharge Elimination System (NPDES) permits and waste discharge requirements for certain point-source and non-point discharges to waters. These regulations limit impacts to aquatic and riparian habitats from a variety of urban sources.

As stated above, any Project activities that impact waters of the U.S./State will require 401

Certification and/or a Waste Discharge Requirement from the RWQCB. In the Project Area, these include the same boundaries of aquatic and wetland habitats as described above for areas subject to jurisdiction under the Clean Water Act.

Federal Endangered Species Act

The federal Endangered Species Act (FESA) protects listed wildlife species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the FESA only if they occur on federal lands or if the project requires a federal action, such as a Clean Water Act Section 404 fill permit from the USACE.

The U. S. Fish and Wildlife Service (USFWS) has jurisdiction over federally listed threatened and endangered wildlife species under the FESA, while the National Marine Fisheries Service (NMFS) has jurisdiction over federally listed, threatened and endangered, marine and anadromous fish.

No federally listed animal species are expected to occur in the Project Area. Santa Cruz tarplant (*Holocarpha macradenia*) (described in detail below), a federally threatened plant species, could potentially occur in the agricultural/ruderal grassland habitat within the Project Area.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA; 16 U.S.C., §703, Supp. I, 1989) prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The trustee agency that addresses issues related to the MBTA is the USFWS. Migratory birds protected under this law include almost all native birds and certain game birds (USFWS 2005). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA protects active nests from destruction and all nests of species protected by the MBTA, whether active or not, cannot be possessed. An active nest under the MBTA, as described by the Department of the Interior in its 16 April 2003 Migratory Bird Permit Memorandum, is one having eggs or young. Nest starts, prior to egg laying, are not protected from destruction. Almost all native bird species occurring in the Project Area are protected by the MBTA.

STATE

California Endangered Species Act

The California Endangered Species Act (CESA, Fish and Game Code of California, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the CDFG has jurisdiction over state listed species. The CDFG regulates activities that may result in "take" of individuals listed under the Act (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in

the definition of "take" under the Fish and Game Code. The CDFG, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification."

No state listed animal species are expected to occur within the Project Area. Santa Cruz tarplant (described in detail below), a state endangered plant species, could potentially occur in the agricultural/ruderal grassland habitat within the Project Area.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) is a state law that requires state and local agencies, such as the SCVWD, to document and consider the environmental implications of their actions and to refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects. CEQA requires the full disclosure of the environmental effects of agency actions, such as approval of a general plan update or the projects covered by that plan, on resources such as airquality, water quality, cultural resources, and biological resources. The State Resources Agency promulgated guidelines for implementing CEQA known as the State CEQA Guidelines.

CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in the FESA and the CESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFG or species that are locally or regionally rare.

The CDFG has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists". Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Guidelines Section 15380(b).

The CNPS, a non-governmental conservation organization, has developed lists of plant species of concern in California. Vascular plants included on these lists are defined as follows:

- List 1A Plants considered extinct
- List 1B Plants rare, threatened, or endangered in California and elsewhere
- List 2 Plants rare, threatened, or endangered in California but more common elsewhere
- List 3 Plants about which more information is needed - review list
- List 4 Plants of limited distribution-watch list.

These CNPS listings are further described by the following threat code extensions:

- .1—seriously endangered in California
- .2—fairly endangered in California
- .3—not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing on List 1B or List 2 are, in general, considered to meet the CEQA's Section 15380 criteria, and adverse effects to these species may be considered significant. Impacts to plants that are listed by the CNPS on List 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those on List 1B or List 2, impacts to them are less frequently considered significant. All impacts to biological resources will be considered during CEQA review of the Project in the context of this EIR.

California Fish and Game Code

The California Fish and Game Code includes regulations governing the use of, or impacts to, many of the state's fish, wildlife, and sensitive habitats. The CDFG exerts jurisdiction over the bed and banks of rivers, lakes, and streams according to provisions of §1601–1603 of the Fish and Game Code. The Fish and Game Code requires a Streambed Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or waterbody and for the removal of riparian vegetation.

Certain sections of the Fish and Game Code describe regulations pertaining to certain wildlife species. For example, Fish and Game Code §3503, 2513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFG. Raptors (i.e., eagles, falcons, hawks, and owls) and their nests are specifically protected in California under Fish and Game Code §3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Non-game mammals are protected by Fish and Game Code §4150, and other sections of the Code protect other taxa.

All native bird and mammal species that occur in the Project Area are protected by the California Fish and Game Code. The bed and banks of Ward Creek and associated riparian habitat as well as any onsite wetland habitat are protected by this code. A Streambed Alteration Agreement would be required before implementation of Project related activities in these habitats.

CITY OF HAYWARD

General Plan: Conservation and Environmental Protection Element

The City of Hayward General Plan contains the following polices and strategies relevant to the Project and issue of biological resources:

- Protect and enhance vegetative and wildlife habitat throughout the Hayward area.
- Avoid development that would encroach into important wildlife habitats, limit normal range areas, or create barriers that cut off access to food, water, or shelter.
- Support efforts to reestablish and maintain marsh habitats on the baylands.
- Preserve tidal flats and salt ponds of low salinity for the migratory waterfowl that depend on these areas.
- Preserve saltwater evaporation ponds to provide important habitats and/or enhance in a manner commensurate with continued salt production.
- Maintain environmental corridors across the bay plain such as creeks with native vegetation.
- Utilize drought-tolerant plant materials in city landscaping.
- Encourage the planting of native vegetation to preserve the visual character of the area and reduce the need for toxic sprays and groundwater supplements.
- Preserve mature vegetation where possible to provide shade, break unwanted wind, and enhance the appearance of development

City of Hayward Tree Preservation Ordinance

The City of Hayward Tree Preservation Ordinance (Municipal Code, Article 15) was adopted to protect and preserve native or non-native trees of a significant size or quality that have a positive contribution to the cities' environment. The Ordinance applies to all existing Industrial, Commercial, and Multi-family development, and to new development, under-developed properties, or undeveloped properties. Trees are considered protected if they have a minimum trunk diameter of eight (8) inches (measured 54 inches above the ground), are street trees, memorial or specimen trees, or native trees from the list below with a minimum trunk diameter of four (4) inches, or a tree planted as a replacement to a protected tree. Significant and protected trees require a permit for removal, relocation, cutting, or reshaping.

Native trees protected by the City of Hayward Tree Preservation Ordinance:

- Big leaf maple (*Acer macrophyllum*)
- California buckeye
- Madrone (*Arbutus menziesii*)
- Western dogwood (*Cornus nuttallii*)
- California sycamore
- Coast live oak

- Canyon live oak (*Quercus chrysolepis*)
- Blue oak (*Quercus douglasii*)
- Oregon white oak (*Quercus garryana*)
- California black oak (*Quercus kelloggii*)
- Valley oak (*Quercus lobata*)
- Interior live oak (*Quercus wislizenii*)
- California bay

In addition to Article 15, and pursuant to Municipal Code Sections 7-2.50 and 7-2.58, it is unlawful for any person to cut, prune, remove, injure, or interfere with any tree, shrub, plant, tree stake, or tree guard in any public street or other public place. Prior permission and approval from the Landscape Maintenance Manager is required, and is valid for only 30 days after issuance. Trees or shrubs that are authorized for removal must be replaced by the permittee with a tree or shrub that conforms to the "Official Street Tree List" and that the Landscape Maintenance Manager designates in the permit for approval.

All trees within the Project Area that fit the above description are protected under the City of Hayward Tree Preservation Ordinance. A permit from the City Manager would be required if the Project would affect any protected trees. In addition, Project related effects to street trees and plants would require permission and approval from the City Landscape Maintenance Manager and trees or shrubs that would be removed, would need to be replaced with a tree or shrub that conforms to the "Official Street Tree List".

IMPACT ANALYSIS

THRESHOLD OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Implementation of the Project would have a significant effect on the environment if it were to:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.
- 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 or 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.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

SPECIAL STATUS SPECIES & HABITAT: HABITAT MODIFICATION

Impact Bio-1 **(Habitat Modifications).**. Future build-out pursuant to the Mission Boulevard Corridor Specific Plan may result in the loss or conversion of up to 238 acres of developed/landscaped, 10 acres of agricultural/ruderal grassland, and, 15 acres of ornamental woodland habitat. (***Less Than Significant Impact***)

Impacts to the developed/landscaped, agricultural/ruderal grassland, and ornamental woodland habitats will reduce their extent in the Project area and will result in a reduction in abundance of some of the common plant and wildlife species that use the Project area. However, these habitat types are relatively abundant and widespread regionally, and none of these habitats represent particularly sensitive, valuable (from the perspective of providing important plant or wildlife habitat), or exemplary occurrences of these habitat types. Therefore, the Project's impacts would be ***Less Than Significant***.

SPECIAL STATUS SPECIES & HABITAT: GOLDEN EAGLE

Impact Bio-2 **(Substantial Adverse Effect on Golden Eagle Populations).** During future construction projects pursuant to the Mission Boulevard Corridor Specific Plan that are located within the agricultural/ruderal grassland habitat area, it is possible that equipment may be operated near golden eagles. Additionally, areas developed here would remove potential foraging habitat for the golden eagle. (***Less Than Significant Impact***)

The golden eagle (*Aquila chrysaetos*) may forage in the agricultural/ruderal grassland habitat in the Project area but it is not expected to occur frequently or in large numbers, or to nest within the Project area. Raptors (i.e., eagles, falcons, hawks, and owls) such as the golden eagle and their nests are specifically protected in California under Fish and Game Code §3503.5.

Future construction projects pursuant to the Project would not result in injury or mortality of any individuals of this species, which are mobile enough to avoid construction equipment. There would also be no substantial loss of foraging or non-breeding habitat, as the Project footprint primarily includes already developed and/or heavily impacted areas. As a result, the Project's impacts do not meet the CEQA standard of having a substantial adverse effect on this species'

populations, and the Project will have a ***less-than-significant impact*** on the golden eagle.

SPECIAL STATUS SPECIES & HABITAT: PALLID BAT

Impact Bio-3 **(Impacts to Pallid Bats).** During future construction projects that implement the Mission Boulevard Corridor Specific Plan that include tree removal and/or building demolition, it is possible that pallid bat roosts could be adversely impacted. However, the use of preconstruction surveys to determine the presence or absence of Pallid Bats, in conjunction with avoidance and creation of alternate habitat in the event of discovery, would ensure the Project would result in a ***Less Than Significant Impact with Mitigation***.

One record of a pallid bat has been reported in the immediate vicinity of the Project Area, and potential breeding habitat is present in old buildings and large trees with cavities. The species can roost in many areas of the Project Area particularly in or near less developed areas. The Pallid bat (*Antrozous pallidus*) has no Federal listing status but is considered a Species of Special Concern by the California Department of Fish & Game (CADFG). The pallid bat is a light brown or sandy-colored, long-eared, moderate-sized bat that occurs throughout California with the exception of the northwest corner of the state and the high Sierra Nevada.

Pallid bats are most commonly found in oak savannah and in open dry habitats with rocky areas, trees, buildings, or bridge structures that are used for roosting. Coastal colonies commonly roost in deep crevices in rocky outcroppings, in buildings, under bridges, and in the crevices, hollows, and exfoliating bark of trees. Night roosts often occur in open buildings, porches, garages, highway bridges, and mines. Colonies can range in size from a few individuals to over a hundred but usually consist of at least twenty (20) individuals. Pallid bats typically winter in canyon bottoms and riparian areas. After mating during the late fall and winter, females leave to form maternity colonies, often on ridge tops or other warmer locales.

Pallid bat roosts are very susceptible to human disturbance, and urban development has been cited as the most significant factor contributing to their regional decline. In the Project area, large trees with cavities and old buildings may provide suitable habitat. CNDDB records (2011) include one occurrence of the species immediately adjacent to the Project area and a second occurrence less than three (3) miles to the south. Suitable habitat for the pallid bat may be directly lost as a result of development through the demolition of buildings or other structures or the removal of trees used as breeding or roosting sites. Redevelopment of old or abandoned structures, as is likely under the Project, may impact roosts for pallid bats.

Individual bats can be killed or injured during construction activities when trees or structures that contain roosting colonies or individual bats are removed or demolished as a result of crushing, being disturbed during torpor, separation or disturbance related abandonment of nursing young by their mothers, or being exposed to predation in daylight. Development may also result in the loss or reduction of foraging habitats, such as streams and open grassland areas over which the bats forage.

Because destruction of an occupied bat roost could result in the loss of numerous individuals,

thus affecting regional abundance of the species involved, avoidance and minimization of impacts to individual bats at occupied roost sites is important. Implementation of mitigation measures Bio-3a through 3d will reduce impacts to pallid bats to a ***less-than-significant level***.

Mitigation Measures

Bio-3a **Pre-demolition Surveys and Buffer Zones.** A pre-demolition survey for roosting bats will be conducted prior to any removal of buildings or trees ≥12 inches in diameter at 4.5 ft. above grade. The survey will be conducted by a qualified bat biologist (i.e., a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle and collect bats). No activities that would result in disturbance to active roosts shall proceed prior to the completed surveys. If no active roosts are found, then no further action would be warranted. If a pallid bat roost is present, Mitigation Measures Bio-3b shall be implemented.

Bio-3b **Avoidance**. If an active pallid bat maternity roost is found, the project shall be redesigned to avoid the loss of the building or tree occupied by the roost, if feasible. If avoidance is not feasible, Mitigation Measures 3c and 3d shall be implemented. If the roost is a non-maternity roost, then avoidance is not necessary, but Mitigation Measure 3c shall be implemented to avoid the injury or mortality of individual pallid bats.

Bio-3c **Exclude Pallid Bats Prior to Demolition of Roosts.** If an active pallid bat roost will be impacted, demolition of that tree or structure will commence before maternity colonies form (i.e., prior to March 1) or after young are volant (flying) (i.e., after July 31). A disturbance-free buffer zone, the extent of which shall be determined by a qualified bat biologist based on site-specific conditions, will be observed during the maternity roost season (March 1–July 31)

Bats may be evicted during the period August 1-October 31, or November 1-February 28 only during prolonged periods of warm conditions. Bats shall not be evicted on rainy nights or nights when temperatures are predicted to be less than 50 degrees F. The individuals shall be safely evicted under the direction of a qualified bat biologist by opening the roosting area to allow air flow through the cavity. Demolition should then follow no sooner than the following day (i.e., there should be no less than one night between initial disturbance for air flow and the demolition). This action will allow bats to leave during dark hours, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. Trees with roosts that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours.

Bio-3d **Provide Alternative Pallid Bat Roost.** If a tree or structure containing a pallid bat maternity roost is to be removed by the proposed Project, a qualified biologist shall design and determine an appropriate location for an alternative roost structure. The qualified biologist will determine the appropriate location for the alternative roost structure based on the location of the original roost and the habitat conditions in the vicinity. The roost structure will be built to specifications as determined by the qualified biologist, or it may be purchased from an appropriate vendor. The structure will be placed as close to the impacted roost site as feasible. The project applicant will monitor the roost for up to three years (or until occupancy is determined, whichever occurs first) to determine use by bats. If by Year 3 pallid bats are not using the structure, a qualified bat biologist, in consultation with the CDFG, will identify alternative roost designs or locations for placement of the roost.

SPECIAL STATU SPECIES & HABITAT: BREEDING ANIMAL SPECIES

Impact Bio-4 **Impacts to Habitat for and Individuals of Certain Potentially Breeding Special-status Animal Species.** Some special-status animal species could potentially breed in or adjacent to the Project area but are not expected to be significantly impacted by the Project. These species include the white-tailed kite, loggerhead shrike, western pond turtle, and San Francisco dusky-footed woodrat. (***Less Than Significant Impact***)

White-tailed kites (*Elanus leucurus*) and loggerhead shrikes (*Lanius ludovicianus*) are uncommon to rare in urban/suburban areas in the East Bay due to the scarcity of suitable grassland habitat, and due to the limited extent of foraging habitat and disturbance there is a low probability that either species nests in the Project area. Nevertheless, there is some potential for up to one pair of each species to nest in the agricultural/ruderal grassland habitat in the Project Area. Any such nesting pairs could be displaced by future Project-related construction activities. Therefore, a small amount of marginal nesting and foraging habitat would be removed as a result of Project activities.

Western pond turtles (*Actinemys marmorata*), if they occur at all, are expected to be rare in the Project Area, potentially occurring only in the aquatic and riparian habitat within Hayward Memorial Park. However, because the banks of Ward Creek within the Project area boundaries are partially lined with concrete and the creek flows into an underground, engineered channel shortly after crossing the Project boundary, western pond turtles are not expected to occur in large numbers or to breed regularly within the Project area.

Because of the highly-developed nature of the Project area, there is little suitable habitat present for the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*). Further, because San Francisco dusky-footed woodrats are extremely sensitive to non-native predators, what little habitat is present (e.g., the riparian habitat in Hayward Memorial Park) likely provides only marginally suitable habitat for this species. Thus, San Francisco dusky-footed woodrats are not expected to occur in large numbers within the Project area.

Because the amount and quality of habitat being impacted is low for the above-listed species, and the number of breeding individuals that could be disturbed is very small, the Project's impacts would not substantially reduce regional populations of these species. Thus, these impacts do not meet the CEQA standard of having a substantial adverse. Although the loss of any active nests of protected birds would be in violation of federal and state laws (see Regulatory Setting above), impacts to these species and their habitats would be considered a ***less than significant impact*** under CEQA.

SPECIAL STATUS SPECIES & HABITAT: PLANTS

Impact Bio-5 **Impacts to Special-status Plants.** The agricultural/ruderal grassland, wetland, and riparian habitats within the Project area may provide habitat for plants considered special-status by the USFWS, CDFG, or CNPS. Future development pursuant to the Specific Plan could adversely impact special-status plants and their associated habitats. However, with implementation of preconstruction surveys to determine absence or presence and, if discovered the avoidance, preservation or provision of compensatory mitigation, would ensure the Project would result in a ***Less Than Significant Impact with Mitigation***.

Special-status plant species that could occur in the Project vicinity and could potentially be impacted by specific elements of the Project are the Santa Cruz tarplant (*Holocarpha macradenia*), Johnny nip (*Castilleja ambigua ssp. ambigua*), fragrant fritillary (*Fritillaria liliacea*), and Diablo helianthella (*Helianthella castanea*).

Mitigation Measures

Bio-5a **Conduct Special-status Plant Surveys in Locations Where Project Activities Are Proposed to Occur in Natural Areas.** Prior to approving construction in any of the areas mapped as agricultural/ruderal grassland, wetland, or riparian habitat in the Project Area, the project proponent shall be required to hire a qualified biologist to conduct focused surveys during the published blooming period for the Santa Cruz tarplant, Johnny nip, fragrant fritillary, and Diablo helianthella. The locations and specific habitat requirements of each of these species are outlined in the Biological Resources Report prepared for the Mission Boulevard Corridor Specific Plan EIR.

Bio-5b **Determine CEQA Significance for Potential Impacts.** After protocol-level floristic surveys are completed, a species-specific determination of potential significance will be conducted for each plant species by a qualified plant ecologist, using the results of the Project Area survey and existing databases.

Due to the regional rarity of the one species (Santa Cruz tarplant) that is listed under the federal and California Endangered Species Act, if this species is found to be present, any adverse effects on this species will be

considered potentially significant. If activities will result in the loss of any Santa Cruz tarplants found within the proposed work area, the impact will be deemed significant and unmitigable. Implementation of the avoidance component of Mitigation Measure 5c shall be implemented for such impacts. As described earlier, the only remaining documented occurrences of this species are from Santa Cruz and Monterey counties, although the plant was known at one time on coastal terraces of the Bay Area. The discovery of this federally threatened and state endangered plant in the Project Area would represent a substantial finding requiring protection.

If any other CNPS-listed plant species are found within or directly adjacent to the proposed work area, the impact will be deemed less than significant and no further mitigation will be required if activities will result in either: (1) the loss of less than 5 percent of the known individuals documented as occurring within 50 mi of the impact location; or (2) if the total number of individuals is unknown, the loss of less than 5 percent of the known populations. Such an impact would be considered less than significant because regional populations will remain abundant following Project implementation and the Project will not substantially reduce the number or range of these species.

If such activities will result in loss of more than 5 percent of the known populations or individuals of these species documented as occurring within 50 mi of the impact location, this impact is determined to be significant.

It is likely that if found, impacts to small populations of List 4 species such as Johnny nip would be considered less than significant. These plant species are widely distributed, with many known, extant populations occurring in many counties. In other cases, the species are considered to be more rare but the amount of suitable habitat present on-site is limited, meaning that any potentially present populations are likely to be small in size and, therefore, impacts to these would likely also be less than significant. However, impacts to populations of more restricted, rare, or declining species are likely to be considered significant unless mitigated. Finally, for those species that have a potential to occur on-site as a large population due to the abundance of potentially suitable habitat, impacts to a large population of so-called “watch-list” (i.e., CNPS List 3 and 4) species may be considered significant unless mitigated.

For any special-status plant for which it is determined that Project activities may result in a significant impact, the following mitigation measure will be implemented.

Bio-5c **Avoid and Preserve Special-status Plants.** To the extent feasible, construction activities will avoid impacts to known special-status plant populations on site. All Santa Cruz tarplants and populations of CNPS-

listed plants (for which a determination of significance has been determined under Mitigation Measure 5b) that are to be avoided shall be protected by a permanent buffer zone established prior to site grading. The buffer for any special-status plants on site shall be established at 50 ft. from the perimeter of the population or the individual plants unless otherwise agreed upon by a qualified botanist retained by the City. With implementation of this component of this mitigation measure, the impact would be reduced to a less-than-significant level.

Bio-5d **Compensatory Mitigation.** If avoidance of the CNPS-listed plants (for which a determination of significance has been determined) is not feasible, mitigation shall be provided via the preservation, enhancement, and management of occupied habitat for the affected species. Habitat that supports the species that are impacted shall be preserved and managed in perpetuity. The mitigation habitat shall be of equal or greater habitat quality compared to the impacted areas, as determined by a qualified botanist, in terms of soil features, extent of disturbance, vegetation structure, and dominant species composition, and will contain at least as many individuals of the impacted species as are impacted by Project activities. The permanent protection and management of mitigation lands shall be ensured through an appropriate mechanism, such as a conservation easement or fee title purchase. A Habitat Mitigation and Monitoring Plan (HMMP) will be developed and implemented for the mitigation lands. That plan will include, at a minimum, the following information:

- A summary of habitat impacts and the proposed mitigation
- A description of the location and boundaries of the mitigation site and description of existing site conditions
- A description of measures to be undertaken to enhance (e.g., through focused management) the mitigation site for the focal special-status species
- A description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which will be determined by a qualified botanist)
- Proposed management activities to maintain high-quality habitat conditions for the focal species
- A description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc.
- Contingency measures for mitigation elements that do not meet

performance criteria

Alternatively, mitigation could be provided by contributing funds to an entity, such as the East Bay Regional Parks District, that would be used specifically to enhance and manage habitat supporting the species for which mitigation is needed. Such enhancement and management would be performed in accordance with the HMMP contents listed above.

Resulting Level of Significance

Implementation of recommended mitigation measures Bio-5a through 5d above will reduce impacts to special-status plants to a ***Less Than Significant*** level.

RIPARIAN HABITAT

Impact Bio-6 **Indirect Impacts to Water Quality and Sensitive Habitats.** **C**onstruction activities pursuant to the Specific Plan could result in indirect effects on water quality and sensitive aquatic and wetland habitats in and near the Project area. (***Less Than Significant Impact with Mitigation***)

In the absence of measures to prevent erosion and sedimentation, sediment may wash from construction areas into adjacent aquatic habitats, or soil loosened by grading could slide downslope into such areas. Such impacts could result in the loss or degradation of wetland or aquatic habitats and degradation of water quality in adjacent waters. Due to the value of wetlands to the ecology of the Bay's aquatic habitats and the value of these aquatic habitats to a variety of fish, benthic organisms, and other species, degradation of water quality or wetlands would be a significant impact.

Mitigation Measures

Bio-6a **Incorporate Best Management Practices for Water Quality During Construction.** The Project will incorporate Best Management Practices (BMPs) for water quality. These BMPs will include numerous practices that will be outlined in the Stormwater Pollution Prevention Plan (SWPPP), but will include measures such as:

1. No equipment will be operated in live flow in any of the channels or ditches on or adjacent to the Project Area.

2. No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into aquatic or wetland habitat.

3. Standard erosion control and slope stabilization measures will be required for work performed in any area where erosion could lead to sedimentation of a waterbody. For example, silt fencing will be

installed just outside the limits of grading and construction in any areas where such activities will occur upslope from, and within 50 ft. of, any wetland, or aquatic habitat. This silt fencing will be inspected and maintained regularly throughout the duration of construction.

4. Machinery will be refueled at least 50 ft. from any aquatic habitat, and a spill prevention and response plan will be developed. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Bio-6b **Minimize Soil Disturbance Adjacent to Wetland Habitat.** To the extent feasible, soil stockpiling, equipment staging, construction access roads, and other intensively soil-disturbing activities will not occur immediately adjacent to any wetlands that are to be avoided by the project. The limits of the construction area will be clearly demarcated with Environmentally Sensitive Area fencing to avoid inadvertent disturbance outside the fence during construction activities.

Bio-6c **Ensure Adequate Stormwater Run-off Capacity.** Increases in stormwater run-off due to increased hardscape will be mitigated through the construction and maintenance of features designed to handle the expected increases in flows and provide adequate energy dissipation. All such features, including outfalls, will be regularly maintained to ensure continued function and prevent failure following construction.

Resulting Level of Significance

Implementation of recommended mitigation measures Bio-6a through 6c above will reduce impacts to special-status plants to a ***Less Than Significant*** level.

FEDERALLY PROTECTED WETLANDS

Impact Bio-7 **Impacts to Sensitive Plant Communities and Habitats.** Approximately 1 acre of riparian and 0.2 acres of aquatic and wetland habitats have been identified in the Project area and may be affected by construction activities pursuant to the Specific Plan. (***Less Than Significant with Mitigation***)

Aquatic and riparian habitat is located along the bed and banks of Ward Creek (within Hayward Memorial Park) and wetland habitat is located in the agricultural/ruderal grassland field. While the actual acreage of impacts to these sensitive habitats is unknown at this time, it is possible that these habitats could be affected by the proposed project.

Mitigation Measures

Bio-7a **Delineate Riparian, Aquatic, and Wetland Boundaries.** Prior to any ground disturbing activities that could potentially have direct impacts on riparian, aquatic, or wetland habitats, a focused delineation will be

performed to determine the precise limits of these habitats within the project Area.

Bio-7b **Impact Avoidance/Minimization.** Future project elements shall be designed to avoid and minimize impacts to these sensitive habitats to the extent practicable while still accomplishing project objectives.

Bio-7c **Restoration of Temporarily Impacted Wetland/Aquatic Habitats.** Riparian, aquatic, or wetland habitats that are temporarily impacted during construction of specific development projects shall be restored to pre-existing contours and levels of soil compaction following build-out. The means by which such temporarily impacted areas will be restored shall be detailed in the mitigation plan described in Mitigation Measure 7d below.

Bio-7d **Compensation for Permanently Impacted Riparian, Wetland and Aquatic Habitats.** Unavoidable permanent fill of riparian, wetland, and aquatic habitats shall be mitigated at a minimum ratio of 1:1 (mitigation area: impact area) by creation or restoration of similar habitat. Mitigation may be achieved through a combination of on-site restoration or creation of riparian, wetland, or aquatic habitats (including removal of on-site fill or structures that results in a gain of wetland or aquatic habitats); off-site restoration/creation; funding of off-site restoration/creation projects implemented by others; and/or mitigation credits purchased at mitigation banks within the San Francisco Bay Region.

For funding of off-site improvements or purchase of mitigation bank credits, the Project Proponent shall provide written evidence to the City that either: (1) compensation has been established through the purchase of a sufficient number of mitigation credits in a mitigation bank to satisfy the mitigation acreage requirements of the Project activity; or (2) funds sufficient for the restoration of the mitigation acreage requirements of the Project activity have been paid to an entity implementing a project that would create or restore habitats of the type being impacted by the project.

For areas to be restored as mitigation for temporary or permanent impacts, the project applicant shall prepare and implement a mitigation plan. The project applicant shall retain a qualified restoration ecologist or wetland biologist to develop the mitigation plan, which shall contain the following components (or as otherwise modified by regulatory agency permitting conditions):

- Summary of habitat impacts and proposed mitigation ratios, along with a description of any other mitigation strategies used to achieve the overall mitigation ratios, such as funding of off-site improvements and/or purchase of mitigation bank credits

- Goal of the restoration to achieve no net loss of habitat functions

and values

- Location of mitigation site(s) and description of existing site conditions
- Mitigation design:
  - Existing and proposed site hydrology
  - Grading plan if appropriate, including bank stabilization or other site stabilization features
  - Soil amendments and other site preparation elements as appropriate
  - Planting plan
  - Irrigation and maintenance plan
  - Remedial measures/adaptive management, etc.
- Monitoring plan (including final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc.)
- Contingency plan for mitigation elements that do not meet performance or final success criteria.

Resulting Level of Significance

Implementation of recommended mitigation measures Bio-7a through 7d above will reduce impacts to special-status plants to a ***Less Than Significant*** level.

MIGRATORY FISH OR WILDLIFE

Impact Bio-8 **(Migratory Fish or Wildlife)** The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (***Less Than Significant Impact***)

The Project area excludes waterways providing for the migratory movement of fish. However, riparian areas mentioned above could provide for migratory movements of wildlife species. Where such riparian areas are present within the Project area, potentially adverse impacts, including those associated within migratory movements, would be reduced to a ***Less Than Significant*** level through mitigation measures Bio-7a through 7e.

LOCAL BIOLOGICAL RESOURCE POLICIES OR ORDINANCES

Impact Bio-9 **Conflict with Hayward Tree Preservation Ordinance.** The Project area includes many trees that would qualify as "significant" or "protected" under the Hayward Tree Preservation Ordinance. Future Project-related development activities could result in the removal of such trees. However, mandatory compliance with the City of Hayward Tree Preservation Ordinance ensures the Project would result in a ***Less Than Significant Impact***.

Many of the trees located in ornamental woodlands, riparian woodlands, and along the roads located in the Project Area are considered "significant" or "protected" under the City of Hayward Tree Preservation Ordinance. A permit from the City Landscape Architect would be required for removal, relocation, cutting, or reshaping of protected trees. In addition, removal, relocation, cutting, or reshaping of street trees would require permission and approval from the City Landscape Maintenance Manager and removed trees would need to be replaced with a tree or shrub that conforms to the "Official Street Tree List".

These trees, although they provide some wildlife habitat, are typically not naturally occurring and are usually non-native ornamental species. Thus, due to their low habitat functions and the urbanized setting of the Project area, their loss, and the loss of potential nesting, roosting, and foraging opportunities associated with them, is not considered significant. Therefore, potential Project-related impacts associated with this criterion are considered to be ***Less Than Significant***.

HABITAT CONSERVATION PLAN

Impact Bio-10 No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan applies to the Project area. Therefore, the Project would have ***No Impact*** under this criterion.

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan applies to the Project area. As such, the Project would have ***no impact*** under this criterion.

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8

CULTURAL RESOURCES

INTRODUCTION

This chapter describes existing known cultural resources within the Project area and addresses whether implementation of the Project would cause: (1) a substantial adverse change in the significance of a historic or archaeological resource (as defined in Section 106 of the National Historic Preservation Act and Section 15064.5 of the CEQA Guidelines); (2) directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or (3) result in the disturbance of any human remains, including those interred outside of formal cemeteries.

This chapter includes data from the September 2012 "Archaeological Resources Assessment Report for the Mission Boulevard Corridor Specific Plan EIR, Alameda County, California" prepared by William Self Associates for the Project. This chapter also utilized information from the March 2010 "Hayward Historical Resources Survey & Inventory Report," prepared by Circa, Inc. for the City of Hayward in conjunction with revisions to the City's historic preservation program.

PHYSICAL SETTING

ARCHAEOLOGICAL RESOURCES

Prehistoric and Ethnographic Context

The Project area lies within the region occupied by the Ohlone or Costanoan group of Native Americans at the time of historic contact with Europeans. Although the term Costanoan is derived from the Spanish word Costaños, or “coast people,” its application as a means of identifying this population is based in linguistics. The Costanoans spoke a language now considered one of the major subdivisions of the Miwok-Costanoan, which belonged to the Utian family within the Penutian language stock. Modern descendants of the Costanoan prefer to be known as Ohlone. The name Ohlone is derived from the Oljon group, which occupied the San Gregorio watershed in San Mateo County. The two terms (Costanoan and Ohlone) are used interchangeably in much of the ethnographic literature.

Each language group was subdivided into smaller village complexes or tribal groups. These tribal groups were independent political entities, each occupying specific territories defined by physiographic features. Each group controlled access to the natural resources of its territory, which also included one or more permanent villages and numerous smaller campsites used as needed during a seasonal round of resource exploitation.

Extended families lived in domed structures thatched with tule, grass, wild alfalfa, or ferns. Semisubterranean sweathouses were built into pits excavated in stream banks and covered with a structure against the bank. The tule raft, propelled by double-bladed paddles, was used to navigate across San Francisco Bay.

Mussels were an important staple in the Ohlone diet, as were acorns of the coast live oak, valley oak, tanbark oak, and California black oak. Seeds and berries, roots and grasses, and the meat of deer, elk, grizzly, rabbit, and squirrel formed the Ohlone diet. Careful management of the land through controlled burning served to ensure a plentiful, reliable source of all these foods.

The Ohlone usually cremated a corpse immediately upon death but, if there were no relatives to gather wood for the funeral pyre, interment occurred. Mortuary goods comprised most of the personal belongings of the deceased.

The arrival of the Spanish in 1775 led to a rapid and major reduction in native California populations. Diseases, declining birth rates, and the effects of the mission system served to largely eradicate the aboriginal life ways. Brought into the missions, the surviving Ohlone, along with the Esselen, Yokuts, and Miwok, were transformed from hunters and gatherers into agricultural laborers. Following secularization of the mission system, numerous ranchos were established, and many of the few Indians who remained were then forced, by necessity, to work on the ranchos.

In the 1990s, some Ohlone groups (e.g., the Muwekma, Amah, and Esselen further south) submitted petitions for federal recognition. Many Ohlone are active in preserving and reviving elements of their traditional culture and are active participants in the monitoring and excavation of archaeological sites.

SB 18 - Native American Commission Consultation

Prior to preparing the Mission Boulevard Corridor Specific plan, a list of tribes with traditional lands or cultural places located within the City's jurisdiction was requested from the California Native American Heritage Commission (NAHC). The NAHC, in turn, provided a tribal consultation list and the results of a NAHC records search which "failed to indicate the presence of Native American cultural resources in the immediate project area."

Letter consultation requests were sent to four tribes identified by the NAHC. No letter recipient responded to the consultation request within the ninety (90) days prescribed by Government Code §65352.3(a)(2).

The NAHC also provided a list of eight (8) Native American individuals/organizations potentially having knowledge of cultural resources in the Project area. While no written replies were received, phone conversations did not reveal the presence of particular resources within the Project area. All respondents via telephone indicated a recommendation to have a Native American construction monitor present during ground disturbance activities.

HISTORICAL RESOURCES

During the early Spanish mission period, cattle from Mission San Jose, established in 1797,

grazed over the Project vicinity, and by 1829, areas within this portion of what was to become Alameda County were occupied by Native Americans who had formerly lived at Mission San Jose (Baker 1914:32).

In 1841 and 1843, Don Guillermo Castro was granted Rancho San Lorenzo and settled near a spring on the western edge of San Lorenzo Creek canyon, in the area that would become downtown Hayward. Castro's former land holdings make up the majority of the current City of Hayward and include the northern portion of the current Project area and the northern section of the southern portion of the Project area. The westernmost portion of Hayward was part of the "Little San Lorenzo" or Rancho San Lorenzo Baja, granted to Francisco Soto in 1842 and 1844. Soto's adobe stood on the southwest side of Mission Boulevard opposite what is now Hayward Memorial Park. Most of the southern portion of the Project area is located in what was Soto's property.

William Hayward purchased land from Castro and opened a store housed in a tent near Castro's adobe. In the fall of 1852 he built a home and then a hotel/tavern. The site would soon be home to the well-known Hayward's Hotel. The hotel was located north of A Street on the east side of Mission Boulevard in the northern section of the Project area. It was eventually destroyed by fire in 1923. In 1854, Castro platted the town which he called San Lorenzo, and, with some changes he made two years later, established the basic layout of the modern city of Hayward. In 1856, Hayward was appointed the town's first postmaster and his hotel functioned as the first post office. As a result, the town was nicknamed "Haywards" and shortly thereafter a petition was sent to Washington D.C. requesting the name be officially changed to Haywards. The post office would not allow towns to be named after living persons, and so the town was renamed Haywood. The name "Hayward" would not be decided on until 1911. The name San Lorenzo was taken by the current city of San Lorenzo in 1854, before which it had been known as "squatterville."

The Project area is located within Eden Township, one of Alameda County's six (6) townships designated ca. 1852 to 1853. By the 1860s, Eden Township was an agricultural district. H. W. Crabb, the Assessor for Eden Township, recorded that in 1865, barley, wheat, apples and cucumbers were being cultivated in Eden Township, and extolled the suitability of the portion of land situated between the bay and foothills for agricultural purposes. Two years later, Crabb recorded that currants and cherries were also being grown.

Early facilities established by Castro and Hayward, the town's location as a stage stop between Oakland and San Jose, as well as the development of the short-lived local rail line between Alameda and Hayward in 1865, spurred early growth within the Hayward community. Though the local rail line did not last long and the town experienced severe structural damage during the earthquake of 1868, the location continued to attract settlement. The town of "Haywards" was incorporated on March 11, 1876. The population of the town was about 1,300 in 1878.

In 1878, the northern portion of the Project area was owned by William Hayward on the east side of Mission Boulevard, and William Meek and William Pierce on the west side of Mission Boulevard William Meek also owned property within the southern portion of the Project area, along with Daniel Culp and A. DeHaro. Meek was one of the pioneer settlers of Alameda County. He was a farmer and fruit-grower. He was originally from Ohio, and had arrived in the county in 1860. He resided in San Lorenzo, and owned 2,800 acres of non-contiguous land

throughout Eden Township. By 1875, Meek was the richest man in Eden Township and his orchards had gained "almost a national reputation." Culp was a farmer from Pennsylvania who owned 270 acres. He was involved in growing hay and had $1,100 worth of livestock in 1878. DeHaro had a much smaller plot of 52 acres on which he had a small orchard. There is a residence within the DeHaro property depicted on the 1878 Thompson & West Atlas of Alameda County, however, it appears to be located to the east of the Project area. William Hayward has been briefly discussed above. A building is depicted on the 1878 Thompson & West map, which roughly corresponds to the location of his famous hotel. Closer to the Hayward townsite, land in the northern part of the southern portion of the Project area was owned by J. Townsend, A. Bassett, John Walpert, J. Hutton, J. Carr, and people listed solely as Cortez, LB, ATH, MPB, and JST.

By 1869, the transcontinental railroad had been built through the region. In 1878, the Southern Pacific Railway Company began services between Santa Cruz and Oakland, passing via Mt. Eden and San Lorenzo. As a result, transporting goods by rail surpassed the previous method of shipping by water in importance. The Southern Pacific line also carried passengers as well as freight, and ran fifteen (15) passenger trains per day. The Western Pacific Railroad (WPRR) was established east of the Southern Pacific line in 1910. The Western Pacific's line was within close proximity to the former local line that ran between Alameda and Hayward.

By the 1890s, the array of cultivated produce had expanded. Then California Governor Henry Markham described the area as "an almost uninterrupted series of orchards of deciduous fruits, vineyards and berry gardens." By the early 1900s, the Hayward area was one of the country's largest producers of peas, rhubarb, apricots and tomatoes. Sanborn Fire Insurance Maps from this period only depict a small portion of the Project area. The 1893 and 1896 maps cover small stretches of Main Street, Mission Boulevard (labelled Oakland Road or Castro Road), and Pearce Street, as well as the short Grace Street. By the time these maps were created, several dwellings, many with stables and various out buildings at the rear, had been constructed within the Project area. In addition to the Hayward Hotel, the Central Hotel and the Eden Hotel were in business along Mission Boulevard. Beside the Hayward Hotel was the Haywards Livery Stable fronting Main Street, and cottages, a tennis court and the Cold Water Institute, where physicians treated patients with cold water (also known as hydrotherapeutics), were located on the west side of Hayward Hotel. An Episcopal Church at the intersection of Grace and Pearce streets had also been established.

Palmtag's Brewery is depicted as a place of interest within the southern portion of the Project area on a ca. 1880s bird's eye view of the town of Haywards. The brewery was located at the intersection of Mission Boulevard and E. Jackson Street, and was one of two breweries operating within Hayward in the 19th century. The brewery was established in 1866 by Charles Lyon, and purchased by Leo Palmtag in 1874. Palmtag's stepson Charles Heyer joined the business in 1889, and when Palmtag retired in 1905, Heyer reorganized the brewery as the Palmtag & Heyer Brewing & Malting Company. The company merged with several other local and Oakland-based breweries in 1910 to form the Golden West Brewing Company. The plant in Hayward was closed down ca. 1925.

In the early 1900s, the northern portion of the Project area remained largely residential. By 1907, the cottages and Cold Water Institute along A Street had been converted into more hotel rooms

for the Hayward Hotel. Haywards Livery relocated to the corner of A Street and Mission Boulevard, and the Eden Hotel became the Occidental Hotel. A small number of social and commercial ventures were also established in the early 1900s, including a dance hall, bowling alley, the Trinity Church, a furniture store, and an unidentified shop along Mission Boulevard

Sanborn maps did not begin covering the southern portion of the Project area until 1923, although they only depicted the portion of the Project area bounded by Mission Boulevard, Sycamore Avenue, the railroad tracks, and E. Jackson Street, as well as a strip along the south side of Sycamore Avenue and the east side of Mission Boulevard. This area was a mix of rural and residential, with dwellings concentrated mainly along Mission Boulevard, and orchards, hen houses and a hatchery to the west of Mission Boulevard. Memorial Park with its municipal dance pavilion had been established by that time. Other buildings along Mission Boulevard housed a soft drink stand, the Idylwild Eventide Sanitarium, a garage and machine shop, auto storage, and a stone cutter.

Within the northern portion of the Project area, the ruins of the Hayward Hotel, which had burned down earlier that year, are shown on the 1923 Sanborn map. North of Grace Court, the Project area remained residential with dwellings concentrated along Mission Boulevard. Closer to A Street, a number of businesses had been established, including auto repair shops, the Hayward garage, a blacksmith, a gas and oil station, an electrical supply store, a printing store, and a soft drink store.

The Hayward-San Mateo Bridge, built in 1929, and the rising popularity of the automobile attracted more and more people to Hayward. Hayward had become the crossroads of the Bay Area. After World War II, more and more newcomers flocked to Hayward as they searched for and found affordable housing, quick access to job markets and a lifestyle conductive to raising young families. The Hayward Post-war Planning Committee, formed in 1944, laid much of the groundwork for a self-sustaining and balanced community. The Committee formulated a comprehensive 12-Point Plan that led to road improvements, industrial development, bus lines, hospitals, an airport, libraries, a water system, parks and institutions of higher education. Hayward's 1950 population of 14,000 had grown to 72,700 just ten years later and subdivisions soon replaced the orchards and canneries of an earlier era.

The rising popularity of the Hayward area can be seen in the 1950 Sanborn Fire Insurance Maps. The number of residences within the northern portion of the Project area had grown considerably, and the stretch of A Street located within the Project area, as well as Mission Boulevard between Grace Avenue and A Street had become a mix of commerce and light industry with a focus on automotive sales and repairs. Much of the orchards and the hen houses of the southern portion of the Project area in the 1920s had been replaced by residential developments by 1950. The part of the Project area just south of Sycamore Avenue and slightly east of Mission Boulevard had still not been mapped by the Sanborn Publishing Company at that time.

Known and Unknown Historic Resources

The City's 2009 "Hayward Historic Resources Survey and Inventory Report" documents that numerous properties within the Project area contain structures over fifty (50) years in age; with

construction dates ranging from 1850 to 1958. The prevalence of older structures is understandable given the Project area's close proximity to the downtown area[1] of Hayward which historically has contained more structures than outlying areas. Generally speaking, the age of structures within the Project area increases the further removed from the downtown area a property is located. While there are a number of potential historic resources in and around Hayward's downtown area, not many properties and/or structures are listed on local, state or federal registers; as noted below.

Figure 4-1 identifies the area addressed by the 2009 Hayward Historic Resources Survey and Inventory Report; as well as properties determined to have structures with medium to high levels of integrity.

National Register Properties

The Project area does not include any property currently designated on the National Register of Historic Places (HRHP) nor any National Historic Landmark.[2] The City of Hayward presently has only one (1) property listed on the National Register of Historic Places - Green Shutter Hotel (22632-22654 Main Street) - which is located outside of the Project area. However, the Project area does include at least one property - Hayward Plunge (24176 Mission Boulevard) - previously identified as potentially eligible for listing on the NRHP.[3]

The recently completed "Hayward Historic Resources Survey and Inventory Report" identifies a number of properties outside of the Project area that are potentially eligible for listing on the NRHP. Nearly all of those properties are located within the downtown area of Hayward. Given the Project area's proximity to the downtown area of Hayward, it is possible that additional properties within the Project area may contain site features or structures potentially qualifying for listing on the National Register of Historic Places. Therefore, this EIR conservatively assumes that other yet-identified properties within the Project area may include historic resources qualifying for listing on the NRHP.

State Register Properties

There are no known registered California Historical Landmarks or California Points of Historical Interest within the Hayward city limits.[4] However, properties listed in or officially determined eligible for listing in the National Register are automatically listed in the California Register of Historical Resources. The aforementioned Hayward Plunge would, therefore, constitute a historic resource also eligible for listing on the California Register of Historical Resources.

The recently completed "Hayward Historic Resources Survey and Inventory Report" did not identify individual properties within the Project area, other than the Hayward Plunge, that would be considered eligible for listing on the California Register of Historic Resources. However,

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[1] Downtown Hayward is very generally bound by A Street, Alice Street, Jackson Street and Foothill Boulevard.

[2] Hayward Historical Resources Survey & Inventory Report, prepared March 17, 2010.

[3] Ibid

[4] Ibid

while that survey did address properties within the northern segment of the Project area (i.e., north of A Street), it did not address the remaining southern portion of the Project area (see **Figure 4-1** below). Moreover, that survey consisted of a reconnaissance level survey and not a comprehensive parcel-specific evaluation of historic significance and eligibility for all properties within its boundary.

Therefore, given the broad level of detail provided in the recent historic survey and since it did not address all of the Project area, this EIR conservatively assumes that other yet-identified properties within the entire Project area may include historic resources qualifying for listing on the California Register of Historic Resources.

Local Register Properties

Within Hayward, a total of thirteen (13) structures have been officially designated by the City as local historic landmarks. None of those structures are located within the Project area. However, the Project area does include a portion of the Marks Historic Rehabilitation District.

The Marks Historic Rehabilitation District was adopted by the City of Hayward in 1992 pursuant to the Marks Historic Rehabilitation Act of 1976. It's location relative to the Project area is depicted in **Figure 4-1**. The designation was part of a larger effort aimed at downtown revitalization and historic preservation. At that time, the city also initiated a Downtown Retrofit and Revitalization Program to upgrade historic buildings and revitalize the historic downtown core.

In adopting the Marks Historic Rehabilitation District, the City did not establish criteria for the selection of historical properties eligible for financing nor did it specifically identify particular historical properties within the district. However, the subsequent November 1993 "Downtown Hayward Historic Properties Evaluation" of this district did, however, determine that: (1) the district was not eligible for inclusion in the National Register of Historic Places; and (2) seven (7) properties within the Marks District (but outside of the current Project area) would be individually eligible or potentially eligible for listing on the NRHP. Eligibility for listing on the CRHP was not determined by the 1993 evaluation.

The recently completed "Hayward Historic Resources Survey and Inventory Report" documents the presence of ninety (90) structures within the Marks Historic Rehabilitation District that retain a moderate to high level of integrity. Each of those properties were documented by the City's historic resource consultant in Primary Records (523A) for filing with the California Office of Historic Preservation. Many of these structures are located in the northern portion of the current Project area and were identified as having moderate integrity and as being contributors to a local district.

Therefore, given the recent historic survey has identified potential local historic landmarks within the Project area and since additional properties within the Project area may contain site features or structures potentially qualifying for local historic landmark status, this EIR conservatively concludes that other yet-identified properties within the entire Project area may include historic resources also qualifying for local listing.

PALEONTOLOGICAL RESOURCES

Paleontological resources are the fossilized remains of plants and animals, including vertebrates (animals with backbones), invertebrates (e.g., starfish, clams, ammonites, and marine coral), and fossils of microscopic plants and animals (microfossils). The age and abundance of fossils depend on the location, topographic setting, and particular geologic formation in which they are found. Fossil discoveries not only provide a historic record of past plant and animal life, but may assist geologists in dating rock formations. Often, fossil discoveries constrain the known time period and geographic range of flora or fauna.

On a regional scale, fossilized plants, animals and microorganisms are prevalent throughout the East Bay. Many of the hills in the East Bay are made up of sedimentary bedrock that is known to contain a wide range of fossils, including radiolaria, mollusks, diatoms, foraminifera, and non-marine vertebrates. In addition, even geologically young fluvial deposits have been known to contain freshwater mollusks and extinct late-Pleistocene vertebrate fossils. Several paleontological finds, including the remains of mammoths, bisons, bears, and others have been discovered in the East Bay. Fossils may be encountered wherever there are broad, deep cuts into bedrock.

REGULATORY SETTING

California Register of Historic Resources

In considering impact significance under CEQA, the significance of the resource itself must first be determined. At the state level, consideration of significance as an "important archaeological resource" is measured by cultural resource provisions considered under CEQA Sections 15064.5 and 15126.4, and the draft criteria regarding resource eligibility for listing on the California Register of Historic Resources (CRHR). Generally under CEQA, a historical resource is considered significant if it meets the criteria for listing on the CRHR. These criteria are set forth in CEQA Section 15064.5, and defined as any historical resource that:

(a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(b) Is associated with lives of persons important in our past;

(c) 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

(d) Has yielded, or may be likely to yield, information important in prehistory or history.

Section 15064.5 of CEQA also assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed under Public Resources Code (PRC) Section 5097.98.

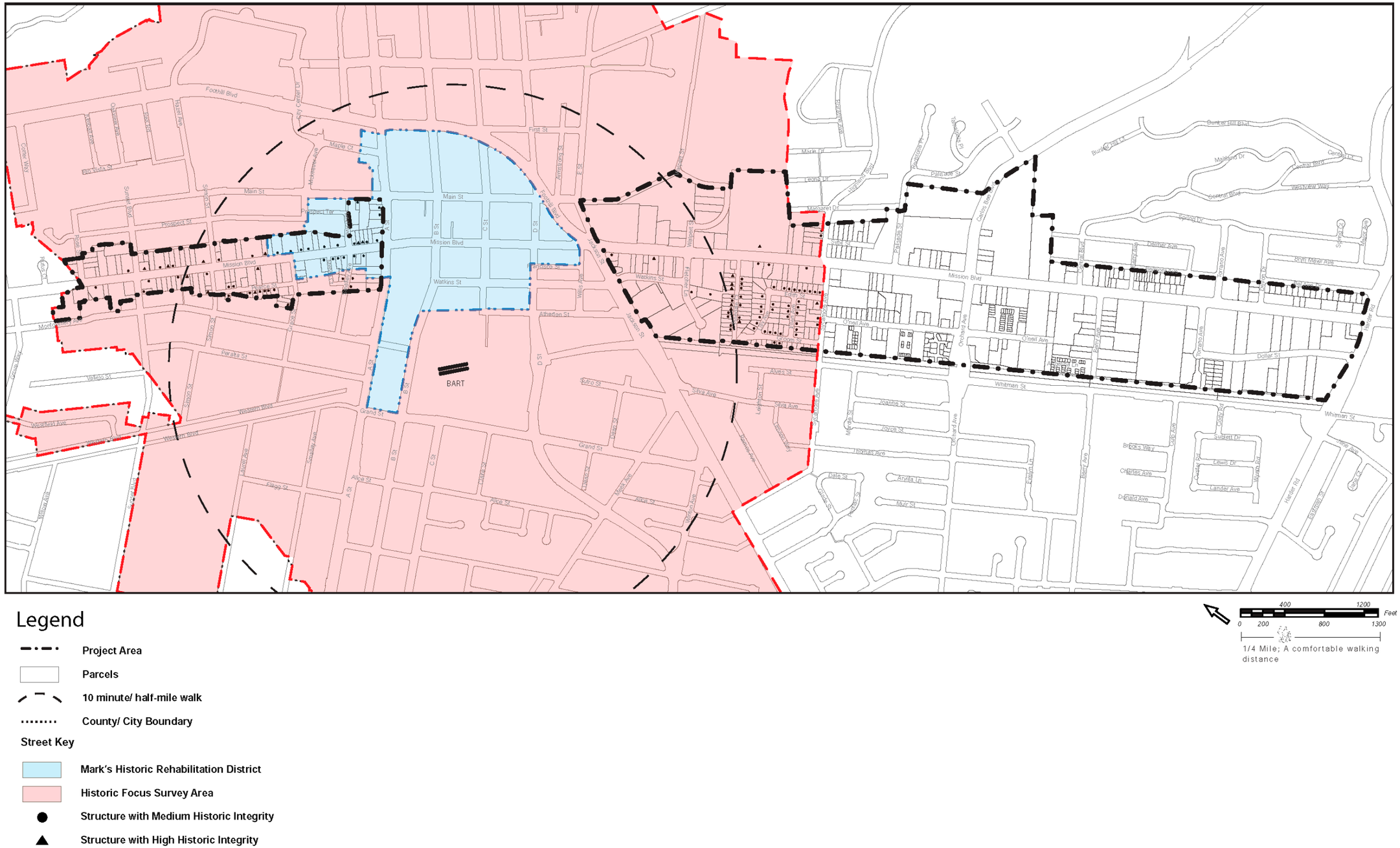

Figure 8-1: 2009 Hayward Historical Resources Inventory and Survey.

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Impacts to "unique archaeological resources" and "unique paleontological resources" are also considered under CEQA, as described under PRC Section 21083.2. A unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge there is a high probability that it meets one of the following criteria:

(a) The archaeological artifact, object, or site contains information needed to answer important scientific questions, and there is a demonstrable public interest in that information;

(b) The archaeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type; or

(c) The archaeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource is an archaeological artifact, object, or site that does not meet the above criteria. Impacts to non-unique archaeological resources and resources that do not qualify for listing on the CRHR receive no further consideration under CEQA.

General Plan

The City of Hayward General Plan Land Use Element contains the following land use polices and strategies relevant to the Project and issue of cultural resources:

- Support the expansion of cultural facilities and amenities such as the Little Theater, Sun Gallery, Hayward Arts Council, and Hayward Area Historical Society that enhance the city's image. (Policy 6) (Page 6-21)
- Enhance the city's image through identification and preservation of historic resources. (Strategy 7) (Page 6-22)
- Review the Historic Preservation ordinance and determine if changes are necessary. (Policy 1) (Page 6-22)
- Conduct a survey of potential historic structures and sites based on evaluation criteria that include their individual significance and their contribution to an historic setting. (Policy 2) (Page 6-22)
- Seek landmark status for valued structures and sites where preservation is deemed feasible, and promote acquisition of historic sites as parks where appropriate. (Policy 3) (Page 6-22)
    - Encourage rehabilitation of valued buildings and sites and provide information on architectural styles, renovation techniques, federal and state tax benefits and other financing sources. (Policy 4) (Page 6-23)
    - Encourage adaptive reuse of Victorians and other vintage buildings as professional offices, restaurants, galleries, shops, lodgings, or venues for special events. (Policy 5) (Page 6-23)

- Consider establishment of historic districts, or special areas such as Preservation Parks, where there are concentrations of historic structures and/or properties that could serve as receptor sites for relocated historic structures. (Policy 6) (Page 6-23)

- Utilize zoning regulations, design guidelines and other development review standards to protect the character of historic districts and sites, and increase the visibility of these sites with appropriate signage and landscaping and alignment of roads or paths where possible. (Policy 7) (Page 6-23)

- Promote establishment of a salt manufacturing historic exhibit, either as part of development proposals for the former Oliver Salt Works site or in another prominent location along the Bay Trail. (Policy 8) (Page 6-23)

- Participate in educational programs that promote the value of historic preservation. (Policy 9) (Page 6-23)

Historic Preservation Ordinance

The City of Hayward approved an updated historic preservation program on June 15, 2010. This included the repeal and replacement of Chapter 10, Article 11 of the Municipal Code, approval of a Historical Resources Survey Inventory and Historic Context Statement Goals and Objectives for Historic Preservation Incentive Programs, and establishment of a Mills Act Program. Summarized components of the Hayward's present historic preservation program include the following:

- *Historic Context Statement*. This is a written account of the physical development of the community. The Historic Context statement enables the assessment of a property's historic significance by creating a framework against which to objectively qualify its relationship to larger historic themes and events.

- *Historical Resources Survey and Inventory*. The recently completed survey was accomplished at two levels of detail, including a: (1) "focused survey" of properties in Hayward's historic downtown and adjacent areas; and (2) "reconnaissance level survey" looking at large groups of buildings throughout the remainder of the city. All survey work draws on sources including the National Register of Historic Places, the California Register the California Historical Resources Information System, the Alameda County survey for Mt Eden, and other local listings found through the Hayward Historical Society, and both official and unofficial. The Hayward Historic Preservation Ordinance contains procedures for revisions to the survey.

- *Historic Preservation Ordinance*. Originally enacted in 1989, the city's current historic preservation ordinance includes contemporary standards and practices, including the following:

    - *Historic Resource Survey and Archaeological Resource Maps*. Procedure for completion of historical resources surveys and archaeological sensitivity maps to provides for the inclusion of additional historic landmarks and districts; including reliance upon the Historic Context Statement as a tool for evaluation calls for the maintenance of a local

register of designated historical resources.

- *Historic Alteration Permit*. It unlawful to alter character defining features of an historical resource without an historical alteration permit. Procedures and standards are provided for the evaluation of proposed alterations, including proposals for the demolition or relocation of a historical resource.

- *Historic Resource and District Designation*. Procedures and criteria for the formal designation of historical resources and districts are provided.

- *Historic Preservation Incentives*. Incentives are provided for the preservation of designated historical resources listed on the local register. These include authorization for the City Council to waive or reduce associated fees, to establish funding programs regarding historical resources, adoption of the Mills Act and the Marks Historical Rehabilitation Act, participation in the development of historic easements to use the State Historical Building Code, and authorization to apply a Historical Zoning Overlay.

- *Standard Conditions of Approval*. For development projects located within archaeologically sensitive areas or within or adjacent to known archaeological sites, the ordinance now provides standard conditions to address the potential for resource discovery during construction and, in the event of discovery, how such resources are to be evaluated and treated.

- *Enforcement and Penalties*. The Planning Director and the Building Official are authorized to enforce the ordinance and requires restoration of an historical resource that is damaged. Provisions for allowing criminal prosecution and imposition of penalties are also provided.

IMPACT ANALYSIS

THRESHOLD OF SIGNIFICANCE

Under the CEQA Guidelines, Appendix G - Environmental Checklist Form, a significant impact will occur if the Project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

- Disturb any human remains, including those interred outside of formal cemeteries.

HISTORIC RESOURCES

Impact Culture-1 **Changes to Known Historic Resources**. Future construction within the Project area may involve physical changes to known or unknown historic resources. However, the review of future development proposals for compliance with CEQA and the Hayward Historic Preservation Ordinance (Municipal Code Chapter 10, Article 11) would result in ***Less Than Significant Impacts***.

Under CEQA Guidelines Section 15064.5 (b), a project with an effect that may cause a substantial adverse change in the significance of an historic resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of an historical resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. The significance of an historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources.

- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA

The City's 2009 Historic Resource Survey documents the presence of numerous properties within the Project area which contain structures over fifty (50) years in age; ranging from 1850 to 1958. One of the objectives of the Project is to facilitate revitalization which can reasonably be expected to consist of changes to sites with existing buildings as well as construction of wholly new structures. However, it cannot be reasonably foreseen at this time whether those future, yet-defined development proposals would result in a substantial adverse change to a known or unknown historic resource.

The Project would establish a new policy which states, "That the preservation and renewal of historic buildings be facilitated to affirm the continuity and evolution of society." The Project would also incorporate by reference and apply the Hayward Historic Preservation Ordinance throughout the Project area. This would include compliance with the historic resource identification provisions of Section 10-11.040 and historical alteration permit requirements of Section 10-11.050.

Evaluation of future development proposals for compliance with the Hayward Historic Preservation Ordinance and CEQA Guidelines §15168(c) will reduce Impacts Culture-2a and Culture-2b, associated with potential future substantial adverse changes to historic resources resulting from future construction, to a level of ***Less Than Significant***.

ARCHAEOLOGICAL RESOURCES

Impact Culture-2 **Disturbance of Unidentified Archaeological Resources.** During earth-moving activities relating to future construction projects which implement the Mission Boulevard Corridor Specific Plan, construction at private property or within the public right-of-way may encounter yet unidentified prehistoric and historic archaeological resources. However, adherence to the Hayward Historic Preservation Ordinance (Municipal Code Chapter 10, Article 11) including, in particular, the adoption and use of an archaeological sensitivity map for the Project area, would ensure ***Less Than Significant Impact with Mitigation*** would result.

The Project area is considered to be sensitive for *prehistoric* archaeological resources, including prehistoric buried human remains. It is within a location that would have been suitable for prehistoric occupation, with access to water at San Lorenzo Creek and Ward Creek, and access to other resources. For example, a records search identified a prehistoric site containing human burials and artifacts alongside San Lorenzo Creek, approximately 660 ft. from the Project area. Although no prehistoric archaeological resources were identified during preparation of this EIR, there remains the potential that buried prehistoric deposits are present within the Project area. In addition, parts of the Project area were not accessible at the time of its preparation, and in many areas the ground surface was obscured by asphalt, landscaping or thick vegetation. As a result, sections of the Project area have not been surveyed.

The Project area is also sensitive for *historic* archaeological resources. Parts of the Project area were not accessible at the time of this EIR's preparation, and in many areas the ground surface was obscured by asphalt, landscaping or thick vegetation. As a result, sections of the Project area have not been surveyed. In addition, although no archaeological resources were identified during the survey of those areas that were accessible (during preparation of this EIR), there is still the potential that buried historic deposits exist within the Project area. In particular, those areas where residences or business were located in the 1800s and early 1900s may contain potentially significant buried historic deposits such as hollow features or sheet refuse. Hollow features include pits, privies, and wells that were created specifically for one function and, upon abandonment, became common receptacles for trash. The refuse provides a discrete picture of the day-to-day behaviors of the people who lived on the property or used the facility. If they can be associated with particular individuals or businesses, span a discrete time period, and are composed of varied materials, these features have relevance for important research themes.

The specific details (e.g., building placement, earth movement) of future development projects within the Project area at private properties cannot be determined at this time and nor are they a component of the current Project. As a result, potential parcel-specific direct or indirect impacts to potentially significant archaeological resources that might be present at private properties and associated with development projects cannot be determined. However, the Project does include

numerous proposed new public roads (i.e., thoroughfares) that can reasonably be expected to involve ground disturbance. Implementation of those new public roads could result in the discovery of yet-unknown archaeological and/or paleontological resources.

The September 2012 "Archaeological Resources Assessment Report for the Mission Boulevard Corridor Specific Plan EIR, Alameda County, California" prepared by William Self Associates includes an archaeological resource sensitivity map intended to fulfill the requirements of Hayward Historical Preservation Ordinance §10-11.040(g) (Identification of Historical Resources). If adopted by the City, that archaeological sensitivity map would enable the mandatory application of Hayward Historical Preservation Ordinance §10-11.150 (Conditions of Approval for Development Projects Located Within Archaeologically Sensitive Areas, and/or Within or Adjacent to Known Archaeological Sites) which would require all development proposals within the Project area to comply with standard conditions approval addressing the potential presence of archaeological resources.[5]

When evaluating development proposals, Hayward Historical Preservation Ordinance §10-11.150 requires city staff to first conduct a records request with the Northwest Information Center to determine whether the particular site is located within or adjacent to a known archaeological site. After completion of that records search and in the event an archaeological site is confirmed, the ordinance requires staff to make a determination as to whether additional CEQA review is necessary. In instances where additional CEQA review is necessary, project-specific mitigation measures would be applied. Alternatively, the following standard conditions of approval would be applied:

> (1) An archaeologist shall be present on-site to monitor all ground-disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below:
>
> (i) Work at the location of the find will halt immediately within thirty feet of the find. If an archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined hereinabove.
>
> (ii) If the find is determined not to be a unique archaeological resource, construction can continue. The archaeologist will prepare a brief informal memorandum/letter that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find.
>
> (iii) If the find appears to be significant and to qualify as a unique archaeological resource, the archaeologist will determine if the resource can be avoided and will detail avoidance procedures in a formal memorandum/letter.
>
> (iv) If the resource cannot be avoided, the archaeologist shall develop an action plan to avoid

[5] Historic Preservation Ordinance §10-11.150 (Conditions of Approval for Development Projects Located Within Archaeologically Sensitive Areas, And/Or Within Or Adjacent to Known Archaeological Sites).

or minimize impacts. The field crew shall not proceed until the action plan is approved by the Planning Director. The action plan shall be in conformance with California Public Resources Code 21083.2.

(2) In addition to the conditions listed above, all development projects located within an archaeological sensitivity area and/or containing known archaeological resources on-site shall also be subject to the following measures as conditions of project approval:

(i) This project may adversely impact undocumented human remains or result in the discovery of significant historic or archaeological materials. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply.

(a) If human remains are encountered, they shall be treated with dignity and respect as due to them. Information about such a discovery shall be held in confidence by all project personnel and shared only on a need-to-know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.

(b) Remains shall not be held by human hands. Surgical gloves shall be worn if remains need to be handled.

(c) Surgical masks shall also be worn to minimize exposure to pathogens that may be associated with the remains.

(ii) In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains, such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.

(iii) An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area, plus a reasonable buffer zone, by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on site at the time or discovery, by the monitoring archaeologist (typically 25 to 50 feet for single burial or archaeological find).

(iv) The exclusion zone shall be secured (e.g., 24-hour surveillance) as directed by City or Alameda County representatives, if considered prudent to avoid further disturbances.

(v) The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:

(a) The City of Hayward Planning Director;

(b) The contractor's point(s) of contact;

(c) The Coroner of the County of Alameda (if human remains found);

(d) The Native American Heritage Commission (NAHC) in Sacramento; and

(e) The Yrgin band of Ohlones.

(vi) The Coroner shall examine the remains after being notified of the discovery. If the remains are Native American, the Coroner shall notify the NAHC within 24 hours.

(vii) The NAHC shall be responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Yrgin band of Ohlones. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)

(viii) Within 24 hours of notification by the NAHC, the MLD will be granted permission to inspect the discovery site.

(ix) Within 24 hours of notification by the NAHC, the MLD may recommend to the City's Planning Director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out.

(x) If the MLD recommendation is rejected by the City, the parties shall attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

Compliance with these provisions of the Hayward Historic Preservation Ordinance would ensure the Project's potentially significant impacts related to undiscovered archaeological resources would be ***Less Than Significant Impact with Mitigation***. Specifically, in order to result at a less than significant impact, the City of Hayward must first publish or adopt the archaeological sensitivity map prepared for the Project. Secondly, continued adherence to the Hayward Historic Preservation Ordinance is necessary Therefore, implementation of Mitigation Measure Culture-2a and Culture-2b is necessary to ensure impacts to archaeological resources are maintained a less than significant levels.

Mitigation Measures

Culture-2a **Adoption of Archaeological Resource Sensitivity Map.** The City of Hayward shall adopt the archaeological sensitivity map found within the September 2012 "Archaeological Resources Assessment Report for the Mission Boulevard Corridor Specific Plan EIR, Alameda County, California" prepared by William Self Associates.

Culture-2b **Utilization of Archaeological Resource Sensitivity Map.** Projects within the Project area shall comply with the Historic Preservation Ordinance for the City of Hayward as set forth in Chapter 10 Article 11 of the Hayward Municipal Code and use the archaeological sensitivity maps provided as Appendix A: Figures 8, 9, and 10 to the September 2012 "Archaeological Resources Assessment Report for the Mission Boulevard Corridor Specific Plan EIR, Alameda County, California" prepared by William Self Associates.

Resulting Level of Significance

Implementation of recommended mitigation measures Culture-2a and Culture-2b above will reduce impacts to archaeological resources to a ***Less Than Significant*** level.

UNIQUE PALEONTOLOGICAL RESOURCE OR UNIQUE GEOLOGIC FEATURE

Impact Culture-3 **Disturbance of Unique Paleontological Resource or Geologic Feature.** During earth-moving activities relating to future construction projects which implement the Mission Boulevard Corridor Specific Plan, construction at private property or within the public right-of-way may encounter undiscovered paleontological resources or unique geologic feature; in particular, those which involve deep excavations. The Project would, however, result in a ***Less Than Significant Impact with Mitigation*** when unanticipated discoveries are addressed through appropriate documentation and evaluation under CEQA §15064.5.

Paleontological resources are the fossilized evidence of past life found in the geologic record. Despite the tremendous volume of sedimentary rock deposits preserved worldwide, and the enormous number of organisms that have lived through time, preservation of plant or animal remains as fossils is an extremely rare occurrence. Because of the infrequency of fossil preservation, fossils – particularly vertebrate fossils – are considered to be nonrenewable resources. Because of their rarity, and the scientific information they can provide, fossils are highly significant records of ancient life.

The low-lying portions of the Project area are underlain by young alluvial deposits associated with a large Holocene (less than 11,000 years old) alluvial fan complex formed where San Lorenzo and Ward creeks release from the Hayward Hills. These alluvial fan sediments consist of interlayered sands silts and clays. Mapping by the California Geology Survey identifies the fan deposits as coarser sediments (Qhf), and linear levee deposits (Qhl), as shown on **Figure 9-1** (**Regional Geologic Map**). The East Bay Plain is typically underlain at the surface by Late Quaternary alluvium and at depth by bedrock of the Great Valley Complex and the Franciscan Complex. Great Valley Complex rocks are exposed in the Hayward Hills east of the Project area, and are tectonically intermixed with rocks of the Coast Range Ophiolite including Gabbro (Jgb) and pillow basalt, basalt breccia and minor diabase (Jpb), as shown on **Figure 9-2** (**Quaternary Geology Map**).

The alluvial fan sediments underlying the Project area have generally been known, with regard to

the East Bay, to yield significant paleontologic remains because they are formations considered as fossil-bearing rock units. If future construction implemented in accordance with the Project results in excavation which is deep enough, significant paleontological discoveries could be made. Such Project-related excavation activities could damage or destroy significant paleontological resources and consequently result in a significant effect. Therefore, the following Mitigation Measure Culture-4 is necessary to reduce this significant effect from the potential discovery of paleontological resources to a ***Less Than Significant*** level.

Mitigation Measures

Culture-3 **Construction Halt and Consultation in Event of Unanticipated Discovery of Paleontological Resources.** In the event of unanticipated discoveries paleontological resources, the project sponsor shall promptly notify the City and retain a qualified paleontologist who shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines §15064.5. In the event of an unanticipated discovery of a brea (a seep of natural petroleum that preserved and fossilized remains of trapped animals) or of fossils during construction, excavations within fifty (50) feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards (SVP 2010). The paleontologist shall notify the City, including all other appropriate agencies, to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.

Resulting Level of Significance

Implementation of recommended mitigation measures Culture-3 above will reduce impacts to paleontological resources to a ***Less Than Significant*** level.

PREVIOUSLY UNDISCOVERED HUMAN REMAINS

Impact Culture-4 **Disturbance of Unidentified Human Remains.** During earth-moving activities relating to future construction projects which implement the Mission Boulevard Corridor Specific Plan, construction at private property or within the public right-of-way may encounter undiscovered human remains. However, adherence to California Health and Safety Code §7050.5(b), would ensure ***Less Than Significant Impact with Mitigation*** would result.

The nearest cemetery is the All Saints Cemetery located outside the Project area at the intersection of Walpart Street and Holmes Way. However, as mentioned above, the Project area

is sensitive for prehistoric human remains. A prehistoric archaeological site containing human burials was identified along San Lorenzo Creek, approximately 660 ft. from the Project area. Although the Project will not involve ground disturbing activities, future development activities undertaken pursuant to the Project and which involve ground disturbance may impact previously undiscovered human remains. Therefore, implementation of Mitigation Measure Culture-3 is necessary to addresses this possibility.

Mitigation Measures

Culture-4 **Adherence to California Health and Safety Code §7050.5(b).** If human remains, or possible human remains, are encountered during future project-related construction activities, Section 7050.5(b) of the California Health and Safety code must be implemented. Section 7050.5(b) states:

"In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

The County Coroner, upon recognizing the remains as being of Native American origin, is responsible to contact the Native American Heritage Commission (NAHC) within 24 hours. The Commission has various powers and duties, including the appointment of a Most Likely Descendant (MLD) to the project. The MLD, or in lieu of the MLD, the NAHC, has the responsibility to provide guidance as to the ultimate disposition of any Native American remains."

Resulting Level of Significance

Implementation of recommended Mitigation Measure Culture-4 above will reduce impacts to undiscovered human remains to a ***Less Than Significant*** level.

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9

GEOLOGY & SOILS

INTRODUCTION

This chapter addresses the potential for seismic-related hazards, geologic hazards, risks to life or property from expansive soils, soil erosion, and landslide hazards within the Project as related to future development proposals resulting from implementation of the Mission Boulevard Corridor Specific Plan.

Information contained in this chapter is derived from a number of sources including: the Hayward General Plan, Hayward General Plan Update EIR, a geotechnical and geologic constraints analysis prepared for the Project by ENGEO dated, September 2011, as well as multiple publications from relevant regulatory agencies (e.g., California Geological Survey, California Division of Mines and Geology, Federal Emergency Management Agency).

PHYSICAL SETTING

Geology and Soils

The low-lying portions of the Project area are underlain by young alluvial deposits associated with a large Holocene (less than 11,000 years old) alluvial fan complex formed where San Lorenzo and Ward creeks release from the Hayward Hills. These alluvial fan sediments consist of interlayered sands silts and clays. Mapping by the California Geology Survey identifies the fan deposits as coarser sediments (Qhf), and linear levee deposits (Qhl), as shown on **Figure 9-1** (Regional Geologic Map). Surface soils throughout the Project area are likely to be variable, but generally are fine-grained and of low to moderate plasticity.

The East Bay Plain is typically underlain at the surface by Late Quaternary alluvium and at depth by bedrock of the Great Valley Complex and the Franciscan Complex. Great Valley Complex rocks are exposed in the Hayward Hills east of the Project area, and are tectonically intermixed with rocks of the Coast Range Ophiolite including Gabbro (Jgb) and pillow basalt, basalt breccia and minor diabase (Jpb) as shown on **Figure 9-2** (Quaternary Geology Map).

Topography

Those portions of the Project area generally to the east of Mission Boulevard extend onto sloping terrain of the Hayward Hills. Slopes in this area are locally steep and much of the terrain has been previously graded for past development (e.g., roads, building pads). Existing graded areas contain both cuts and fills as well as cut and fill slopes. Many of these slopes are steeper than would be permitted by current grading codes, and are not provided with drainage terraces to control erosion.

Some fills constructed in the Project area were likely completed prior to modern grading standards and are likely to be compressible. Areas of natural slopes remain east of Mission Boulevard and south of Carlos Bee Boulevard, and in the parcels adjacent to the incised canyon of Ward Creek. Slope inclinations in these areas are moderate to steep, and there is an existing landslide in the area south of Carlos Bee Boulevard. Areas of potential earthquake-induced landslide hazards have been identified on State maps, as describe below.

Seismicity and Faulting

The Project is located on the East Bay Plain at the foot of the Hayward Hills. The Hayward Hills are a tectonically uplifted block separated from the East Bay Plain by the active Hayward Fault. Other nearby active faults include the Calaveras Fault located about 7.5 miles northeast of the Project area, and the San Andreas Fault located about eighteen (18) miles southwest of the Project area. The locations of these faults and other significant active faults in the Bay Area are shown on **Figure 9-3** (Regional Faulting and Seismicity) and **Figure 9-4** (Alquist-Priolo Fault Zone Map).

The regional seismicity of the Bay Area was evaluated by the Working Group on Northern California Earthquake Probabilities in the Uniform Earthquake Rupture Forecast for California (UCERF 2).[1] According to UCERF 2, the 30-year probability for a Magnitude 6.7 or greater earthquake in the Bay Area is approximately 63%. UCERF 2 estimates the 30-year probability for a Magnitude 6.7 or greater earthquake on the Hayward-Rogers Creek fault system to be 31%.

Fault Rupture

Surface fault rupture occurs when movement on a fault deep within the earth breaks through to the surface and ground displacement occurs. Damage associated with fault related ground rupture is normally confined to a fairly narrow zone along the trend of the primary fault, and to a lesser extent along secondary faults. Structures are often not able to withstand fault rupture, although well-engineered structures having favorable locations with respect to the fault trace may be able to withstand collapse and provide for the life/safety of occupants. Similarly, utilities crossing faults may undergo damage as a result of surface rupture, particularly if they are not specifically designed to accommodate fault displacements. Overall, however, fault displacement involves forces so great that it is generally not economically feasible to design and build structures to accommodate this rapid relative movement.

Hayward Fault Zone

The Hayward fault is one of the most hazardous faults in the United States because of its high slip rate, its demonstrated ability to generate a large earthquake and, importantly, its location through the highly urbanized eastern San Francisco Bay area. The Hayward fault is of particular significance to the City of Hayward because it traverses the most intensively developed portions the city (including the Project area) and because it has generated a large, surface-rupturing

[1] Working Group on California Earthquake Probabilities, 2008, The Uniform California Earthquake Rupture Forecast, Version 2 UCERF 2, USGS Open File Report 2007-1437.

earthquake in historic time.

The Hayward fault extends from the region of Mission Peak, where it is thought to connect at depth to the Calaveras Fault, north to the San Pablo Bay, where it is thought to continue under the Bay and connect to the Rodgers Creek and Tolay faults. The Hayward Fault has accumulated over sixty (60) miles of right-lateral slip during the last twelve (12) million years and continues to have a Quaternary (long-term) slip rate of about seven (7) mm to nine (9) mm per year.[2] The main surface trace of the Hayward fault is creeping at a rate of about 4 mm to 6 mm per year.[3]

In 1868, the southern Hayward fault ruptured for an estimated length of about 30 miles extending from Fremont to Berkeley, with an estimated 6 feet of right-lateral strike-slip motion. This earthquake caused significant to very heavy damage in the relatively sparsely populated East Bay Plain, especially in the town of Hayward. Surface fault rupture was reported in the vicinity of the Project area, and it is believed that the trace of the 1868 surface rupture is located along the eastern side of the Project area, as shown on **Figure 9-4** (Alquist-Priolo Fault Zone Map).[4, 5]

Recently, active traces of the Hayward Fault have been identified within the Project area by the United States Geologic Survey (USGS) and the California Geologic Survey (CGS). [6] The fault traces along the east side of the Project area appear to be the main active traces of the Hayward fault.[7] As described above, it is also believed that these traces are the location of surface fault rupture reported from the 1868 earthquake.

Ground Shaking

An earthquake produces seismic waves that emanate in all directions from the fault rupture surface. The seismic waves cause strong ground shaking, which typically is strongest near the fault and diminishes (attenuates) as the waves move through the earth away from the fault. The severity of ground shaking at a particular site is controlled by the interaction of several factors, including the distance from the earthquake source, earthquake magnitude, and the type, thickness, and condition of underlying geologic materials (bedrock, soils, and man-made fill).

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2 Graymer, R. W., Jones, D. L., and Brabb, E. E., 1996, Preliminary geologic map emphasizing bedrock formations in Alameda County, California; a digital database: U. S. Geological Survey Open-File Report 96-252.

3 Lienkaemper, J. J., Galehouse, J. S., and Simpson, R. W., 2001, Long-term monitoring of creep rate along the Hayward Fault and evidence for a lasting creep response to the 1989 Loma Prieta earthquake, Geophysical Research Letters, v. 28, p. 2265-2268.

4 Ibid.

5 Smith, T. C, 1981, Fault Evaluation Report, Hayward and Newark Quadrangles, California Division of Mines and Geology, FER 103, January 19, 1981.

6 Ibid; and Lienkaemper, J. J., Galehouse, J. S., and Simpson, R. W., 2001, Long-term monitoring of creep rate along the Hayward Fault and evidence for a lasting creep response to the 1989 Loma Prieta earthquake, Geophysical Research Letters, v. 28, p. 2265-2268.

7 Ibid.

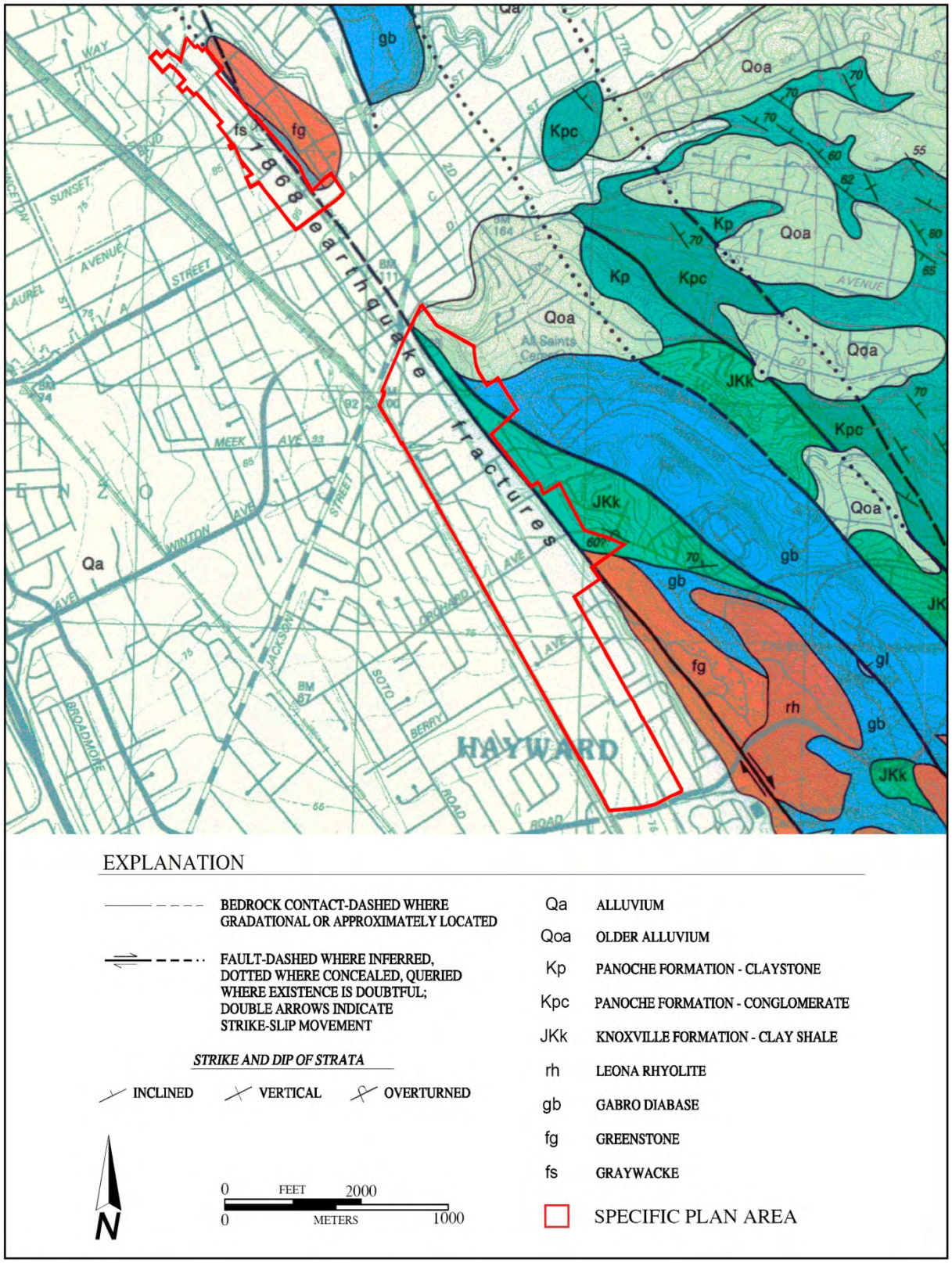

Figure 9-1: Regional Geologic Map.

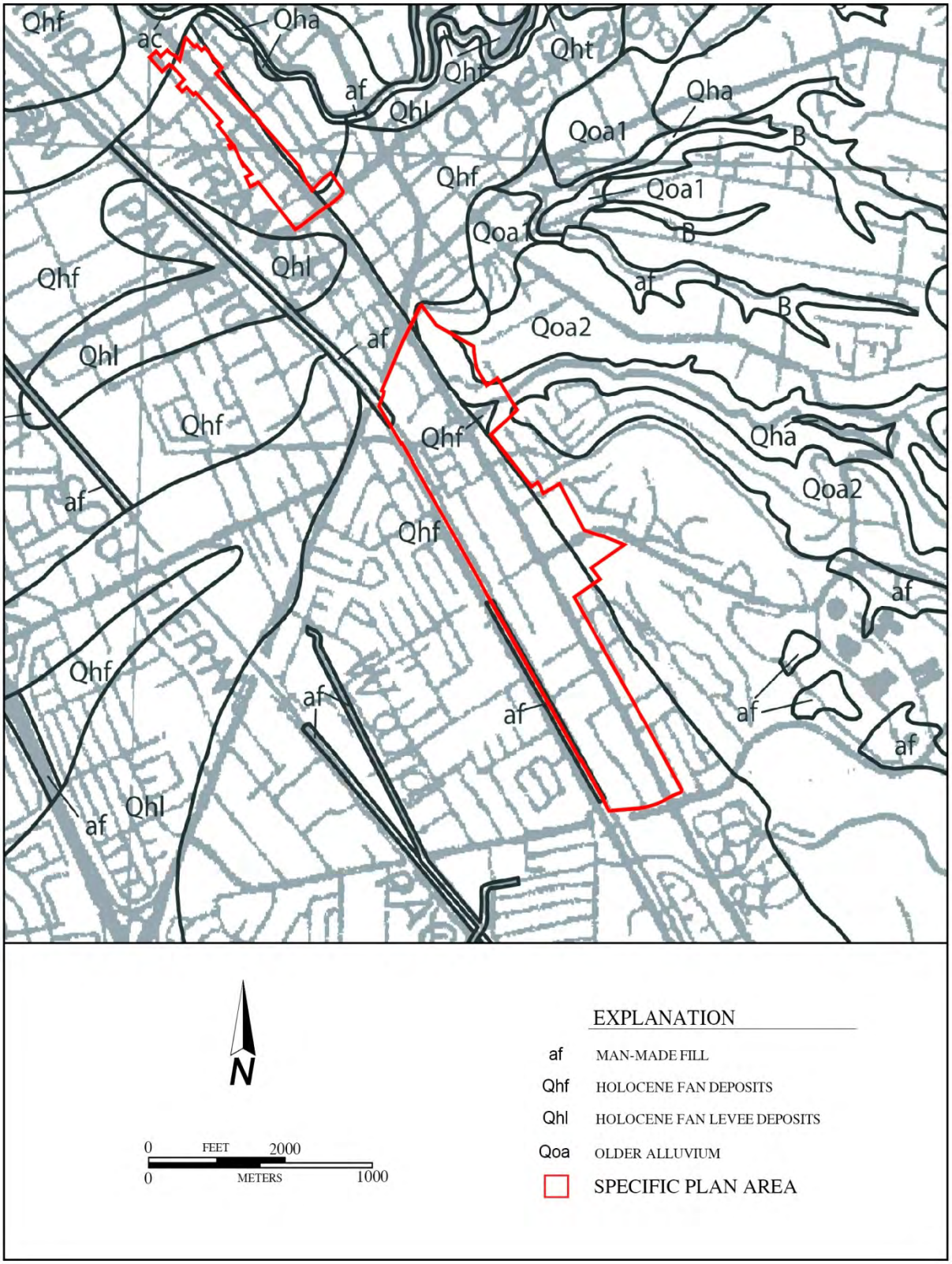

Figure 9-2: Quaternary Geology Map.

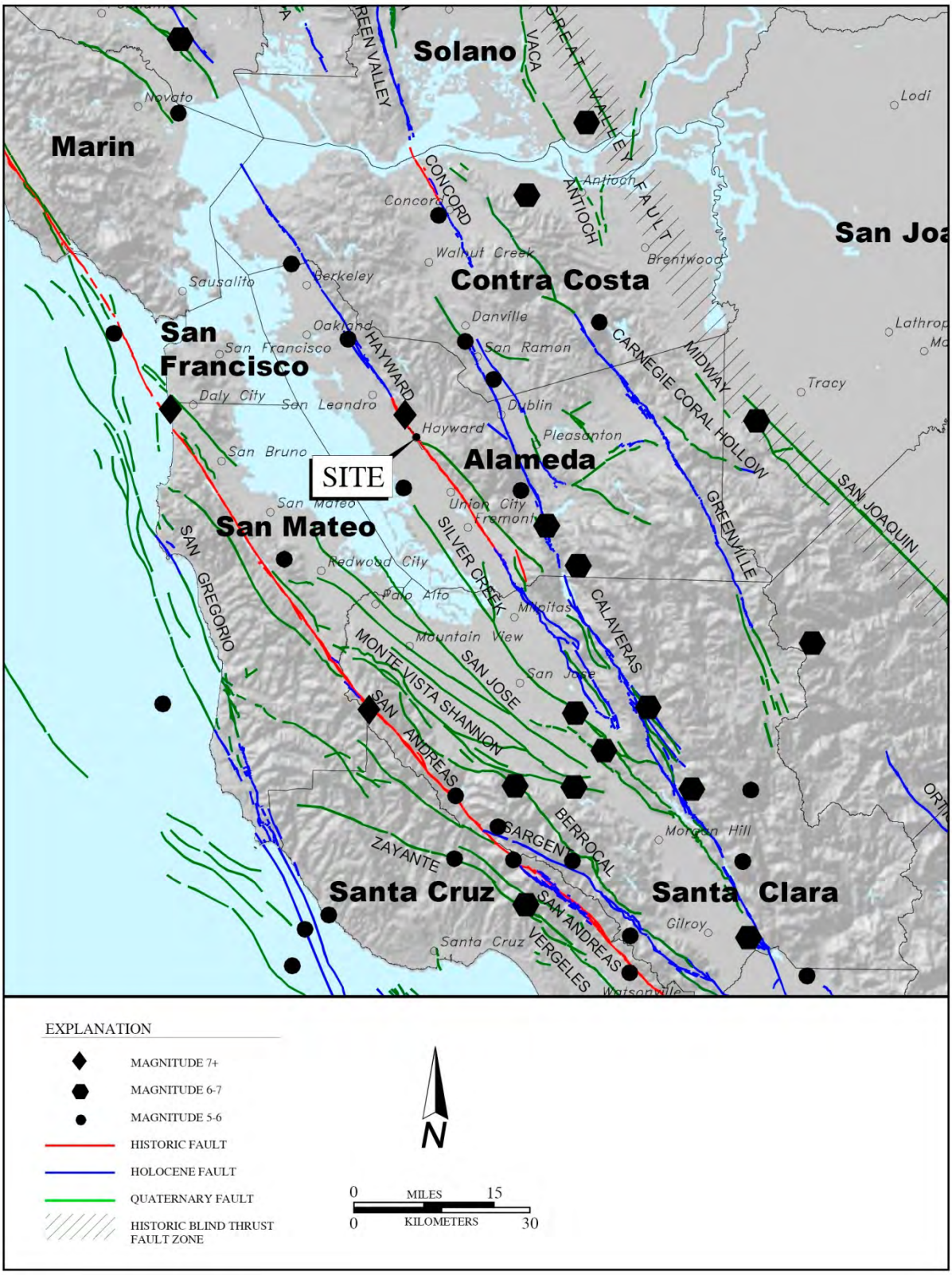

Figure 9-3: Regional Faulting and Seismicity.

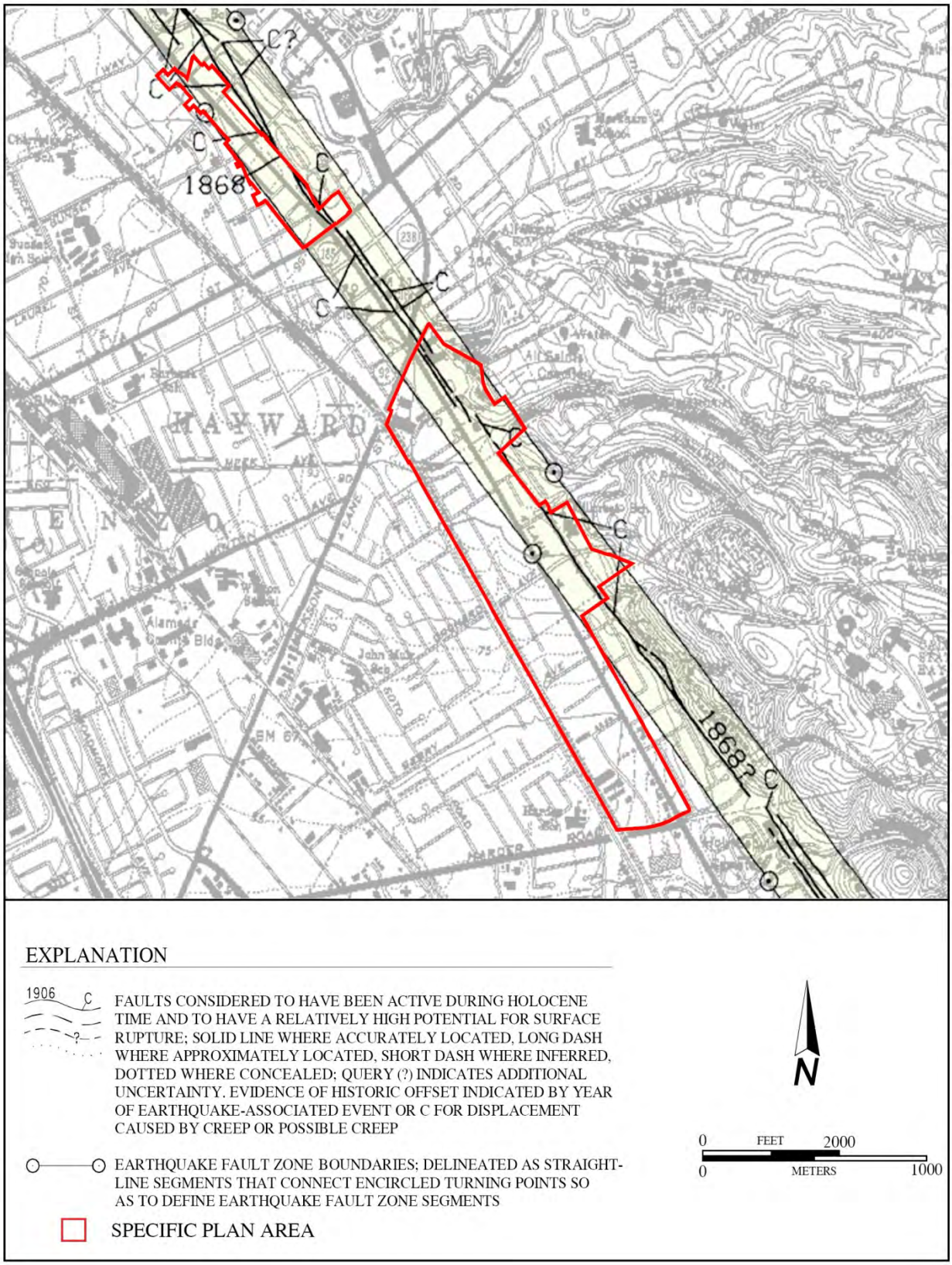

Figure 9-4: Alquist-Priolo Fault Zone Map.

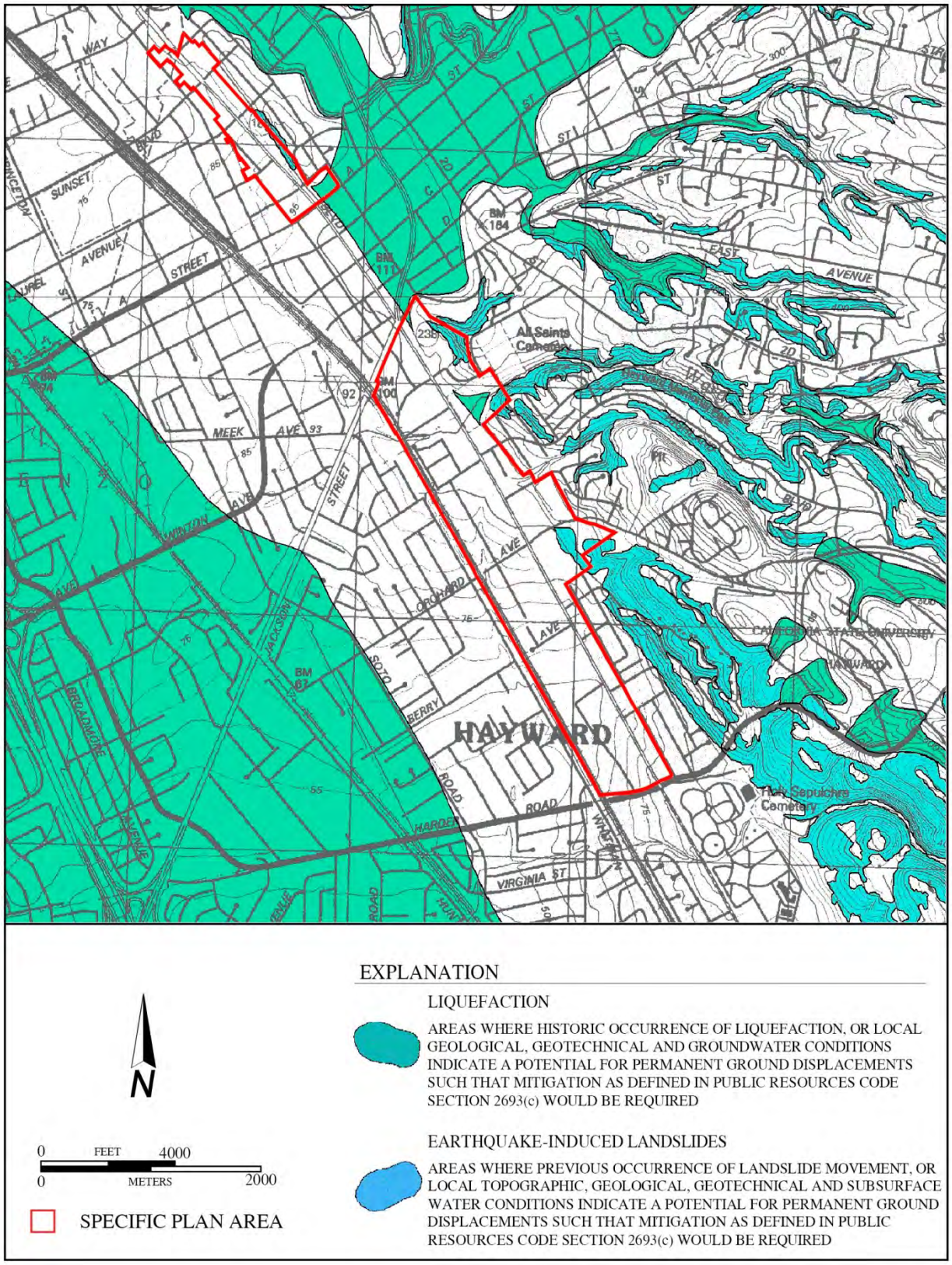

Figure 9-5: Seismic Hazard Zone Map.

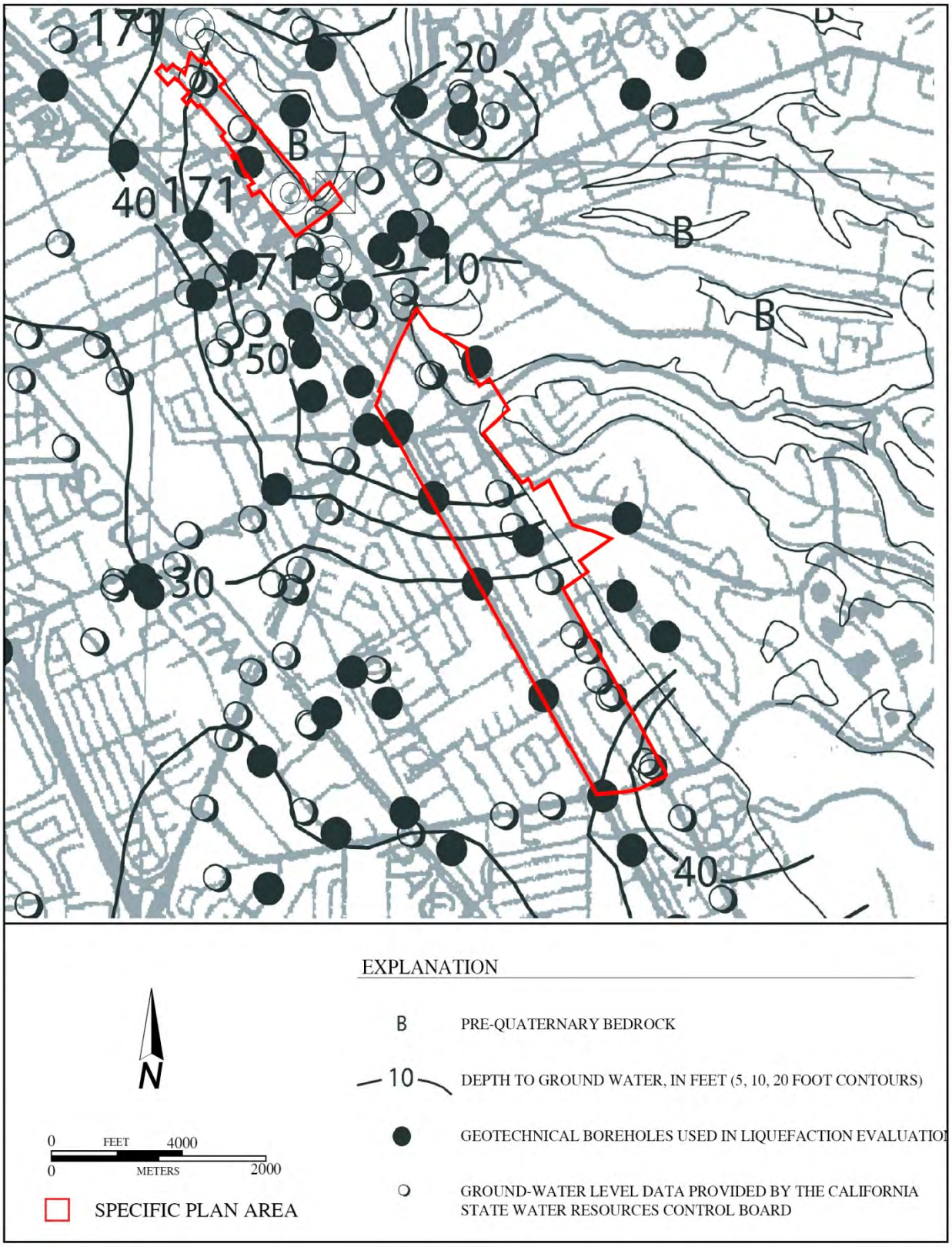

Figure 9-6: Historic High Groundwater Map.

During the 1868 earthquake, ground shaking levels in the Hayward area were reported to be as high as IX to X on the Modified Mercalli Intensity Scale.[8] As described in **Table 9-1** below, the Modified Mercalli Intensity Scale depicts shaking severity.

TABLE 9-1: DESCRIPTION OF MODIFIED MERCALLI INTENSITY SCALE

MMI Value	Shaking Severity Description	Full Description
I	Not Mapped	Not felt.
II	Not Mapped	Felt by persons at rest, on upper floors, or favorably placed.
III	Not Mapped	Felt by almost all indoors. Hanging objects swing. Vibration like passing of light trucks. May not be recognized as an earthquake.
IV	Not Mapped	Vibration felt like passing of heavy trucks. Stopped cars rock. Hanging objects swing. Windows, dishes, doors rattle. Glasses clink. In the upper range of IV, wooden walls and frames creak.
V	Light	Felt outdoors. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing. Pictures move. Pendulum clocks stop.
VI	Moderate	Felt by all. People walk unsteadily. Many frightened. Windows crack. Dishes, glassware, knickknacks, and books fall off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster, adobe buildings, and some poorly built masonry buildings cracked. Trees and bushes shake visibly.
VII	Strong	Difficult to stand or walk. Noticed by drivers of cars. Furniture broken. Damage to poorly built masonry buildings. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices, unbraced parapets and porches. Some cracks in better masonry buildings. Waves on ponds.
VIII	Very Strong	Steering of cars affected. Extensive damage to unreinforced masonry buildings, including partial collapse. Fall of some masonry walls. Twisting, falling of chimneys and monuments. Wood-frame houses moved on foundations if not bolted; loose partition walls thrown out. Tree branches broken.
IX	Violent	General panic. Damage to masonry buildings ranges from collapse to serious damage unless modern design. Wood-frame structures rack, and, if not bolted, shifted off foundations. Underground pipes broken.
X	Very Violent	Poorly built structures destroyed with their foundations. Even some well-built wooden structures and bridges heavily damaged and needing replacement. Water thrown on banks of canals, rivers, lakes, etc.

[8] Brocher, T. M. et al., 2008, The Hayward Fault—Is It Due for a Repeat of the Powerful 1868 Earthquake?, U.S. Geological Survey Fact Sheet 2008-3019

An earthquake has a single magnitude that indicates the overall size and energy released by the earthquake. However, the amount of shaking experienced at different locations varies based on not only that overall magnitude, how far you are from the fault that ruptured in the earthquake, and whether you are on rock or thick valley deposits that shake longer and harder than rock.

Based on historic seismicity, the proximity of known active faults and the estimated earthquake probabilities for the Bay Area as a whole, it should be expected that the Project area will experience strong seismic ground shaking during the lifetime of the proposed improvements. The ground shaking hazard levels within the Project area are similar to those for most of the Bay Area.

Strong ground shaking caused by fault movement during an earthquake has the potential to result in significant loss of life and property damage throughout the City of Hayward. Maximum ground shaking within the city would be expected to result from a large earthquake on the nearby Hayward fault, although strong ground shaking may also occur as a result of moderate or large earthquakes on other faults in the San Francisco Bay region.

Liquefaction

Soil liquefaction is a condition in which saturated, granular soils undergo a substantial loss of strength and deformation due to the shaking action caused, for example, by earthquakes. In the process, the soil behaves like a liquid and moves both horizontally and vertically. Soils most susceptible to liquefaction are saturated, loose, clean, uniformly-graded, and fine-grained sand deposits. If liquefaction occurs, foundations resting on or within the liquefiable layer may undergo settlements, called densification. This will result in reduction of foundation stiffness and capacity.

Areas that are underlain by Holocene alluvial deposits, where depth to ground water is forty (40) feet or less, may be susceptible to liquefaction. The CGS has prepared a historic-high groundwater map as depicted on Figure 7. Regional ground-water contours on Figure 7 show historic-high water depths, as interpreted from borehole logs from investigations between 1955 and 2001. The Hayward Fault as a ground-water barrier, and as a result, depths to first-encountered water range from 10 to 20 feet east of the Hayward Fault to 30 to 50 feet below the ground surface west of the fault.

REGULATORY SETTING

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The Alquist-Priolo Act regulates development on or near active fault traces to reduce the hazard of fault rupture and to prohibit the location of most structures for human occupancy across these traces. As mentioned above and as indicated in F**igure 9-4** (Alquist-Priolo Fault Zone Map), a significant portion of the Project area includes land situated within an

Alquist-Priolo Zone.

Cities and counties must regulate certain development projects within the delineated zones, and regulations include withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement. Since a large portion of the Project area is situated within an Alquist-Priolo Zone, the requirements for geologic investigations would apply to many properties. However, surface fault rupture is not necessarily restricted to the area within an Alquist-Priolo Zone.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones.

Before a development permit is granted for a site within a Seismic Hazard Zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. The Project area includes lands designated as within a Seismic Hazard Zone for both liquefaction and earthquake-induced landslides, as designated by the California Geological Survey in **Figure 9-5** (Seismic Hazard Zone Map).

California Building Code

Published by the International Conference of Building Officials (ICBO), the Uniform Building Code is a widely adopted model building code in the United States. The California Building Code incorporates by reference the 1997 Uniform Building Code (UBC) with necessary California amendments. These amendments include significant building design criteria that have been tailored for California earthquake conditions.

The California Building Code is contained in Title 24 of the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The Project area is located within Seismic Zone 4. Of the four seismic zones, Zone 4 is expected to experience the greatest effects from earthquake groundshaking and therefore has the most stringent requirements for seismic design.

<u>Local Regulations</u>

General Plan

The City of Hayward General Plan Conservation Element contains the following polices and strategies relevant to the Project and issue of geology and soils:

- Seek to minimize risks from geologic and seismic hazards in the siting and design of development. (Policy 5)

- Continue enforcement of the seismic safety provisions of the Alquist-Priolo Act and the Building Code to minimize earthquake-related hazards in new development, particularly as they relate to high occupancy structures or buildings taller than 50 feet in height. (Strategy 1)
- Work with Caltrans and BART to minimize earthquake-related hazards with regard to freeway and rail overpasses (Strategy 2)
- Work with other agencies to ensure that electric transmission lines, water supply systems, wastewater collection systems, gas mains and oil transmission lines crossing fault traces include provision for automated shut-off-valves, switches and equipment needed to restore service in the event of a major fault displacement. (Strategy 3)
- Assume that any site within 50 feet of any fault zone is underlain by an active fault trace until proven otherwise, and prohibit placement of structures for human occupancy across such trace. (Strategy 4).
- Continue development and implementation of programs to strengthen existing structures that may pose a significant threat to human life. (Policy 6)
- Examine the feasibility of developing a program to reduce the hazards posed by soft-story buildings (multifamily structures with little or no first floor bracing). (Strategy 1)
- Examine the feasibility of developing a program to minimize risks to buildings in areas subject to liquefaction or other areas where soil/substrata amplify and prolong ground motion. (Strategy 2)
- Strongly encourage the retrofitting of existing structures, using recognized techniques to withstand ground shaking. (Strategy 3)
- Promote greater public awareness of earthquake hazards, along with assistance to help property owners make their homes and businesses more seismically safe. (Policy 7)
- Expand the scope of educational materials about seismic risks and mitigation measures distributed through the city's emergency preparedness program to include maps that identify potential ground shaking and liquefaction hazards. (Policy 1)
- Explore possible programs (e.g., community fairs, tool-lending libraries) to assist single-family homeowners with earthquake retrofitting measures to reduce the risk of damage and injury during an earthquake. (Policy 2)

Hayward Building Code

The Hayward Building Code, effective as of January 1, 2008 via Ordinance No. 02-12, consists of a local adoption of the 2007 California Building Code, which is based on the 2006 International Building Code, but including certain amendment, additions, and deletions as set forth in the ordinance. The purpose of building codes are to provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all

buildings, structures and certain equipment within this jurisdiction.

Along with the application of separate plumbing, mechanical and electrical codes, the City of Hayward applies its building code to, "Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit."[9] Evaluation of building permit applications includes an assessment of whether required seismic design features are included and, subsequently after permit issuance, confirmation that such features are installed during the inspection process.

Grading and Clearing Ordinance

The Hayward Grading and Clearing Ordinance (Article 8, Chapter 10 of Municipal Code) contains provisions to safeguard life and property and to implement City plans and policies concerning the protection of both natural and man-made environmental features when grading or clearing activities are undertaken. Though certain grading activities may be authorized under a building permit when generally associated with below-grade foundations, basements, or walls, a grading and clearing permit generally is required for the removal or placement of earthen material. A component of the grading and clearing permit process includes, when determined necessary by the City Engineer, the preparation and implementation of an interim erosion and sediment control plan during grading activities.[10]

IMPACT ANALYSIS

THRESHOLD OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of geology and soils, implementation of the Project would have a significant effect on the environment if it were to:

- 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. Refer to Division of Mines and Geology Special Publication 42.
    - Strong seismic ground shaking.
    - Seismic-related ground failure, including liquefaction.

[9] 2007 California Building Code Section 105.1.

[10] Hayward Municipal Code §10-8.20(c) and (d).

- Landslides.

- 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.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

FAULT RUPTURE

Impact Geo-1 **(Fault Rupture).** The historic record indicates that a major earthquake on the Hayward Fault or other nearby faults could result in ground fault rupture within the Project area and with the potential to damage or destroy existing and future dwelling units, roads, utilities and other structures. However, existing regulations would apply to new development pursuant to the Specific Plan, reducing this effect to ***Less Than Significant*** levels.

The active Hayward earthquake fault traverses through the eastern portion of the Project area. The fault is one of the principal seismogenic sources in the eastern San Francisco Bay area, and poses both a surface rupture and strong ground-shaking hazard. Considerable geological and geotechnical work has been conducted along the Hayward fault throughout Hayward over the past several decades, leading to more accurate plotting of the location of the main fault trace and knowledge of its characteristics, as well as information associated with additional active traces of the Hayward fault.

The Hayward General Plan EIR acknowledged the safety hazard associated with potential fault rupture and determined application of the following mitigation measure would sufficiently reduce the risk of exposure to new development:

Mitigation Measure 9-1 (Site Specific Trenching Studies): New development, major rehabilitation projects should continue to be required to comply with the regulations in force within the Alquist-Priolo (Earthquake Fault Hazard) Special Study Zone, which require that properties within the potential fault rupture hazard area be studied (usually by excavating a trench perpendicular to the suspected fault line), that the specific location of a fault trace he found or disproved for an individual property, and that habitable structures must be located a sufficient distance (usually 50 feet) from the trace to avoid direct impacts of surface fault rupture.

The Project includes the application of a new General Plan land use designation (i.e., Sustainable Mixed Use) to properties within the Project area. That action would not further increase the hazards associated with fault rupture when compared to the existing General Plan land use designations, nor would the new General Plan designation invalidate or alter the General Plan

EIR's Mitigation Measure 9-1. The Project's application of new zoning designations to properties within the Project area would similarly also not increase hazards associated with fault rupture. For eleven (11) properties along the east side of Mission Boulevard at the intersection with Smalley Avenue, the hazard associated with fault rupture would be reduced through the application of a new Civic zoning designation, as the Project's Civic zone would not permit new residential or commercial land uses.

The risks of loss, injury or death and structural damage from fault rupture would be reduced through implementation of the requirements associated with the Alquist-Priolo Earthquake Fault Zoning Act. Continued implementation of General Plan EIR Mitigation Measure 9-1would reduce the risk of exposure of fault rupture to new developments, and the Project's would result in an impact relative to this criterion that is ***less than significant***.

SEISMIC GROUND SHAKING

Impact Geo-2 **(Seismic Ground Shaking)**: The Project is located in an area that would be subject to very strong ground shaking in a major seismic event. However, existing regulations would continue to apply to new development pursuant to the Specific Plan, reducing this effect to ***Less Than Significant*** levels.

As discussed in the Setting section, the severity of ground shaking at a particular site is controlled by several factors including the distance from the earthquake source, the earthquake magnitude, and the type, thickness and condition of underlying geologic materials. Areas underlain by unconsolidated, recent alluvium and/or man-made fill have been shown to amplify the effects of strong seismic ground shaking. The presence of such deposits and the fact that the active Hayward fault is located just to the east of the Project area increase the chances that severe ground shaking will likely occur during a major seismic event, which could result in loss of life and/or property associated with the Project.

The Hayward General Plan EIR acknowledged the safety hazard associated with seismic ground shaking and determined that application of the following mitigation measure would sufficiently reduce the risk of exposure to new development:

> *Mitigation Measure 9.2: Building Code Compliance & Education. The effects of ground shaking on structures and other improvements which may be proposed under the General Plan should be reduced by earthquake-resistant design in accordance with the latest editions of the Uniform Building Code and the Califomia Building Code. The potential effects of ground shaking on existing structures should be evaluated by engineering studies as part of any major rehabilitation or addition. Where studies indicate that buildings may be subject to significant damage during earthquakes, the structures can be retrofitted for seismic resistance.*

The Project includes the application of a new General Plan land use designation (i.e., Sustainable Mixed Use) to properties within the Project area. That new land use designation would not further increase the hazards associated with seismic-related ground shaking when compared to the existing General Plan land use designations, nor would the new land use designation

invalidate or alter to the General Plan EIR's Mitigation Measure 9-2. The Project's application of new zoning designations to properties within the Project area would similarly not increase hazards associated with fault rupture.

The risks of loss, injury or death and structural damage from seismic ground-shaking would be reduced through continued implementation of Hayward's project development review and construction oversight process, which incorporates the recommendations of a registered geotechnical engineer in accordance with the California Building Code and standard geotechnical practices. With implementation of those requirements, in accordance with General Plan EIR Mitigation Measure 9-2, the Project's impact relative to this criterion is considered ***less than significant***.

GROUND FAILURE AND LANDSLIDES

Impact Geo-3 **(Ground Failure and Landslides).** The Project area includes lands where historic occurrences or location conditions indicate a potential for liquefaction and/or earthquake-induced landslides. However, existing regulations would continue to apply to new development pursuant to the Specific Plan, reducing this affect to ***Less Than Significant*** levels.

As shown in **Figure 9-5** (Seismic Hazard Zone Map) above, portions of the Project area are located within areas presenting a hazard with regard to liquefaction and earthquake-induced landslides. The Hayward General Plan EIR acknowledged these safety hazards and determined application of the following mitigation measure would sufficiently reduce the risk of exposure to new development:

> *MITIGATION MEASURE 9.3: Site-Specific Geotechnical Investigations Geotechnical evaluations should be required for developments proposed in areas suspected of having high or very high potential for seismically-induced ground failure. Common measures for mitigating these hazards include over-excavation and recompaction of foundation soils, densification of site soils, or providing a mat or other type of reinforced foundation, and avoiding landslide-prone areas and areas with other severe constraints.*
>
> *MITIGATION MEASURE 9.5: Site-Specific Geotechnical Investigations Because of the potential for land-sliding or soil creep on steep slopes, a geologic evaluation by a registered geologist shall be prepared for any development planned within 200 feet of areas greater than 50 percent slope as shown on USGS topographic maps. Any structures situated on slopes greater than 30 percent gradient should incorporate geotechnical recommendations regarding foundations, retaining walls, and grading limitations derived from a site-specific geotechnical investigation.*

The Project includes the application of a new General Plan land use designation (i.e., Sustainable Mixed Use) to properties within the Project area. This new land use designation would not further increase the hazards associated with ground failure or landslides when compared to the existing General Plan land use designations, nor would the new General Plan designation invalidate or alter the General Plan EIR's Mitigation Measure 9-2. The Project's application of new zoning designations to properties within the Project area would similarly not increase

hazards associated with fault rupture.

Liquefaction and earthquake-induced landslide hazards will continue to be reduced to ***less than significant*** levels through implementation of Hayward's development review and construction oversight process which incorporates the recommendations of a registered geotechnical engineer in accordance with the Seismic Hazards Mapping Act and the California Building Code. Continued implementation of the requirements of General Plan EIR Mitigation Measures 9.3 and 9.5 will reduce this effect to acceptable, ***less than significant*** levels.

SOIL EROSION

Impact Geo-4 **(Soil Erosion).** Site preparation and construction activity associated with future developments and improvements implemented by the Project could result in soil erosion as the surface is disrupted. However, existing regulations would continue to apply to new development pursuant to the Specific Plan, reducing this effect to ***Less Than Significant*** levels.

The Project area is predominately urbanized and paved. Areas with remaining visible topsoil are limited to the vicinity of Memorial Park and a hillside area to the southwest of the intersection of Mission Boulevard and Carlos Bee Avenue. The Project proposes a Civic Zone designation to Memorial Park; hence, development for residential, commercial purposes would not be permissible. Nonetheless, throughout the Project area, future site preparation and construction activities associated with individual development or redevelopment projects could result in soil erosion as the surface is disrupted through demolition and/or grading.

Erosion control associated with future development in the Project area will be addressed through the established regulatory provisions of the City and regional agencies, including provisions in the City's Grading and Clearing Ordinance (Chapter 10, Article 8 of Municipal Code), the Stormwater Management and Urban Runoff Control Ordinance (Chapter 11, Article 5 of Municipal Code), best management practices, etc., which would reduce impacts associated with erosion to a ***less than significant*** level. Additionally, adherence to General Plan EIR Mitigation Measure 9.6 below would similarly ensure impacts are at a ***less than significant*** level**.**

> *Mitigation Measure 9.6: Erosion Control Measures During construction, efforts should be made to keep the disturbance of existing vegetation to a minimum. This can be accomplished primarily by keeping construction machinery off of established vegetation as much as possible, especially on the upwind side of the construction site. Specific access routes should be established at the planning phase of the projects, and limits of grading established prior to development should be strictly observed. In addition, mechanical measures, such as silt fences and straw bales, should be used to reduce soil movement, in accordance with Best Management Practices.*

UNSTABLE GEOLOGIC UNIT & EXPANSIVE SOILS

Impact Geo-5 **(Expansive Soils).** The Project area does not include a known unstable geologic unit but it does include soil types which are highly susceptible to expansion, which may shrink or swell as a result of seasonal or human-

made soil moisture content changes, and which can damage structures and other improvements and utilities. However, existing regulations would continue to apply to new development pursuant to the Specific Plan, reducing this effect to ***Less Than Significant*** levels.

Figure 9.3 of the Hayward General Plan EIR shows that much of the Project area is mantled by clayey soils of the Clear Lake-Omni series, which are expansive soils that have a high shrink-swell potential. Such soils, when exposed to natural seasonal or man-made moisture content changes, can damage structures and other improvements and utilities. However, such impacts associated with future development under the Project would be mitigated to less than significant levels in accordance with Hayward's development review and construction oversight process, which incorporates the recommendations of a registered geotechnical engineer in accordance with the California Building Code and standard geotechnical practices. Continued implementation of these processes would reduce impacts associated with erosion to a ***less than significant*** level. Additionally, adherence to General Plan EIR Mitigation Measure 9.4 (below) would similarly ensure impacts are at a ***less than significant*** level.

Mitigation Measure 9.4: Soil Compaction and Amendment. The expansion potential for any clayey materials encountered should be determined on a project-specific basis per ASTM D-4829, Standard Test Method for the Expansion Index of Soils. Highly expansive soils under new buildings and utilities should be removed or amended, and compacted to provide a stable foundation. Surface water should be drained away from the building to minimize the potential for shrink-swell action. To ensure uniform characteristics in areas of low strength soils, and to obviate any potential for differential settlements, site preparation (consisting of over excavation and recompaction of the near-surface soils) may be required prior to placement of new fills, pavements, slabs, and structures; subject to review during grading.

SEPTIC TANKS OR ALTERNATIVE WASTE DISPOSAL

Impact Geo-6 **(Septic Systems).** The Project would result in no impact relative to the use of septic systems or alternative waste treatment systems and the ability of soils to adequately support such systems. This is considered ***no impact***.

Properties within the Project area must connect to Hayward's municipal sewer system in accordance with Municipal Code §11-3.2001 (Duty to Connect to Municipal Sewer). ***No Impact*** would result under this criterion.

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10

GREENHOUSE GAS EMISSIONS

INTRODUCTION

This chapter evaluates the proposed Project's potential impacts related to climate change. It includes a summary of the state of climate change science and the applicable regulatory setting, it describes greenhouse gas (GHG) emissions estimation methods and presents the Project's GHG inventory according to the build out assumptions (see Table 3-1) (incorporating emission reductions associated with currently promulgated regulations), it compares the projected emission results to the applicable thresholds of significance, and presents conclusions and recommended mitigation measures. Information in this chapter of the EIR is specifically derived from technical analyses prepared by Lamphier-Gregory. Technical data and modeling result are included in Appendix B to this EIR. All other sources are referenced in footnotes citing sources used.

PHYSICAL SETTING

Over the last several decades, evidence of human influences on climate change has become increasingly clear and compelling. There is indisputable evidence that human activities such as electricity production and transportation are adding to the concentrations of greenhouse gases that are already naturally present in the atmosphere. These heat-trapping gases are now at record-high levels in the atmosphere compared with the recent and distant past. Warming of the climate system is well documented, evident from increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. The buildup of greenhouse gases in the atmosphere is very likely the cause of most of the recent observed increase in average temperatures, and contributes to other climate changes.[1][2]

GREENHOUSE GASES

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and water vapor (H_2O) are the principal GHGs, and when concentrations of these gases exceed the natural concentrations in the atmosphere, the greenhouse effect may be enhanced. Without these GHGs, Earth's temperature would be too cold for life to exist. CO_2, CH_4, and N_2O occur naturally, as

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[1] U.S. EPA, 2010, Climate Change Indicators in the United States.

[2] "Global climate change" is a broad term used to describe any worldwide, long-term change in the earth's climate. "Global warming" is more specific and refers to a general increase in temperatures across the earth, although it can cause other climatic changes, such as a shift in the frequency and intensity of weather events and even cooler temperatures in certain areas, even though the world, on average, is warmer.

well as through human activity. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely byproducts of fossil fuel combustion, whereas CH_4 results from off gassing associated with agricultural practices and landfills. Man-made GHGs – with much greater heat-absorption potential than CO_2 – include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6), which are byproducts of certain industrial processes.[3]

The Global Warming Potential (GWP) concept is used to compare the ability of each GHG to trap heat in the atmosphere relative to carbon dioxide (CO_2), which is the most abundant GHG. CO_2 has a GWP of one (1), expressed as CO_2 equivalent (CO_2e). Other GHGs, such as CH_4 and N_2O are commonly found in the atmosphere at much lower concentrations, but with higher warming potentials, having CO_2e ratings of twenty-one (21) and 310, respectively. Trace gases such as chlorofluorocarbons and hydrochlorofluorocarbons have much greater warming potential. Fortunately, these gases are found at much lower concentrations and many are being phased out as a result of global efforts to reduce destruction of stratospheric ozone. In the United States in 2010, CO_2 emissions account for about eighty-four (84) percent of the GHG emissions, followed by CH_4 at about nine (9) percent and N_2O at just under five (5) percent.[4]

GHG EMISSIONS INVENTORIES

Global Emissions. Worldwide emissions of GHGs in 2004 were forty-nine (49) billion tons of CO_2e per year. Global GHG emissions due to human activities have grown since pre-industrial times, with an increase of 70% between 1970 and 2004.[5]

U.S. Emissions. In 2008, the United States emitted about seven (7) billion tons of CO_2e, a fourteen (14) percent increase from 1990. Emissions per capita have remained nearly level since 1990, as emissions have increased at about the same rate as the population.[6]

State of California Emissions. In 2009, California's net emissions were approximately 453 million metric tons of CO_2e, or about 6.5 percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has the fifth lowest state-wide per capita GHG emission rates in the country. 2009 total net emissions represent a 1.3 percent decrease from 2000 and a 6.1 increase from 1990 emissions levels.[7]

Bay Area Emissions. The Bay Area Air Quality Management District (BAAQMD) most recently updated the GHG emission inventory in 2010 using a base year of 2007.[8] In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway

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[3] CalEPA, April 3, 2006, Final 2006 Climate Action Team Report to the Governor and Legislature.

[4] U.S. EPA, April 15, 2012, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2010, Table 2-1: Recent Trends in U.S. Greenhouse Gas Emissions and Sinks.

[5] Intergovernmental Panel on Climate Change, November 2007, Climate Change 2007: Synthesis Report, Figure 2.1.

[6] U.S. EPA, 2010, Climate Change Indicators in the United States, p. 11.

[7] California Energy Commission (CEC), Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2009, December 2011.

[8] BAAQMD, February 2010, Source Inventory of Bay Area Greenhouse Gas Emissions.

mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for 36.41% of the Bay Area's 95.8 million tons of GHG emissions in 2007. Industrial and commercial sources were the second largest contributors of GHG emissions with about 36.40% of total emissions. Domestic sources (e.g., home water heaters, furnaces, etc.) account for about 7% of the Bay Area's GHG emissions, and energy production accounted for 15.9% percent. Off-road equipment and agriculture make up the remainder with approximately 3% and 1.2% of the total Bay Area 2007 GHG emissions, respectively.

Hayward Emissions. The City of Hayward conducted an inventory of GHG emissions with their Climate Action Plan, adopted in 2009. In the base year of 2005, the City of Hayward emitted 1,183,274 metric tons CO_2e. The transportation sector is the single largest source of emissions, contributing 62% of total emissions. Energy in the form of natural gas and electricity accounted for 33.5 percent, and landfill-related emissions accounted for 4.4 percent of total year 2005 emissions.

POTENTIAL EFFECTS OF GLOBAL CLIMATE CHANGE

Global Effects

Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial ice loss in the Arctic. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects, according to the International Panel on Climate Change (IPCC).[9]

- Snow cover is projected to contract, with permafrost areas sustaining thawing.
- Sea ice is projected to shrink in both the Arctic and Antarctic.
- Hot extremes, heat waves, and heavy precipitation events are likely to increase in frequency.
- Future tropical cyclones (typhoons and hurricanes) will likely become more intense.
- Non-tropical storm tracks are projected to move poleward, with consequent changes in wind, precipitation, and temperature patterns. Increases in the amount of precipitation are very likely in high-latitudes, while decreases are likely in most subtropical regions.
- Warming is expected to be greatest over land and at most high northern latitudes, and least over the Southern Ocean and parts of the North Atlantic Ocean.

[9] International Panel on Climate Change (IPCC) *Special Report on Emissions Scenarios, 2000,* www.grida.no/climate/ipcc/emission/002.htm, accessed July 24, 2007.

Potential secondary effects from global warming include global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Effects on the State of California

According to CARB, some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.[10] Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists' understanding of the complex global climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale.

Substantial work has been done at the international and national level to evaluate climatic impacts, but far less information is available on regional and local impacts. In addition, projecting regional impacts of climate change and variability relies on large-scale scenarios of changing climate parameters, using information that is typically at too general a scale to make accurate regional assessments.[11]

Below is a summary of some of the potential effects reported in an array of studies that could be experienced in California as a result of global warming and climate change:

- Air Quality – Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. For other pollutants, the effects of climate change and/or weather are less well studied, and even less well understood.[12] If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat related deaths, illnesses, and asthma attacks throughout the State.[13]

- Water Supply – Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. For example, models that predict drier conditions (i.e., parallel climate model [PCM]) suggest decreased reservoir inflows and storage and decreased river flows, relative to current conditions. By comparison, models that

[10] California Air Resources Board, December 2006, Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions.

[11] Kiparsky, M. and P.H. Gleick, July 2003, Climate Change and California Water Resources: A Survey and Summary of the Literature.

[12] U.S. EPA, 2010, Climate Change Indicators in the United States.

[13] California Climate Change Center (CCCC), July 2006, Our Changing Climate: Assessing the Risks to California, CEC- 500-2006-077.

predict wetter conditions (i.e., HadCM2) project increased reservoir inflows and storage, and increased river flows.[14]

- Hydrology – As discussed above, climate change could potentially affect the amount of snowfall, rainfall and snow pack, the intensity and frequency of storms, flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events), sea level rise and coastal flooding, coastal erosion, and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could also jeopardize California's water supply. In particular, saltwater intrusion would threaten the quality and reliability of the state's major fresh water supply that is pumped from the southern portion of the Sacramento/San Joaquin River Delta. Increased storm intensity and frequency could affect the ability of flood-control facilities (including levees) to handle storm events.

- Agriculture – California has a $30 billion agricultural industry that produces half the country's fruits and vegetables. The California Climate Change Center (CCCC) notes that higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.[15]

- Ecosystems and Wildlife – Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. In 2004, the Pew Center on Global Climate Change released a report examining the possible impacts of climate change on ecosystems and wildlife.[16] The report outlines four major ways in which it is thought that climate change could affect plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.

REGULATORY SETTING

INTERNATIONAL AND FEDERAL

Kyoto Protocol

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been

[14] Brekke, L.D., et al, 2004, "Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin, California." *Journal of the American Water Resources Association*. 40(2): 149–164.

[15] CCCC, July 2006, *Our Changing Climate: Assessing the Risks to California,* CEC- 500-2006-077.

[16] Parmesan, C. and H. Galbraith, November 2004, *Observed Impacts of Global Climate Change in the U.S.*

estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008–2012. It should be noted that although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments.

Climate Change Technology Program

The United States has opted for a voluntary and incentive-based approach toward emissions reductions in-lieu of the Kyoto Protocol's mandatory framework. The Climate Change Technology Program (CCTP) is a multi-agency research and development coordination effort (which is led by the Secretaries of Energy and Commerce) that is charged with carrying out the President's National Climate Change Technology Initiative.[17]

U.S. Environmental Protection Agency (U.S. EPA)

To date, the U.S. EPA has not regulated GHGs under the Clean Air Act based on its assertion in *Massachusetts et al. v. EPA et al*[18] that the "Clean Air Act does not authorize it to issue mandatory regulations to address global climate change and that it would be unwise to regulate GHG emissions because a causal link between GHGs and the increase in global surface air temperatures has not been unequivocally established." However, in the same case (*Massachusetts v. EPA*), the U.S. Supreme Court held that the U.S. EPA can, and should, consider regulating motor-vehicle GHG emissions.

STATE OF CALIFORNIA

Senate Bill 97—Modification to the Public Resources Code

Pursuant to Senate Bill 97, the California Natural Resources Agency reviewed and adopted the amendments to the CEQA Guidelines on December 30, 2010 prepared and forwarded by the Governor's Office of Planning and Research (OPR). The Amendments became effective on March 18, 2010, including the addition of the GHG emissions environmental topic and checklist items.

AB 32 and the Air Resource Board's Climate Change Scoping Plan

In 2006, the Governor of California signed AB 32, the Global Warming Solutions Act, into legislation. The Act requires that California cap its GHG emissions at 1990 levels by 2020.

In December 2008, ARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 169 million metric tons of CO_2e, or approximately 30% from the state's projected 2020 emission level of 596

[17] Climate Change Technology Program (CCTP), About the U.S. Climate Change Technology Program (web page), Washington, D.C., last updated April 2006, http://www.climatetechnology.gov/about/index.htm, accessed July 24, 2007.

[18] U.S. Supreme Court, *Massachusetts et. al. v. EPA et. al* (No. 05-1120, 415F 3d 50), April 2, 2007.

million metric tons of CO_2e under a business-as-usual scenario (this is a reduction of 42 million metric tons CO_2e, or almost 10%, from 2002-2004 average emissions). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 million metric tons CO_2e);
- the Low-Carbon Fuel Standard (15.0 million metric tons CO_2e);
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 million metric tons CO_2e); and
- a renewable portfolio standard for electricity production (21.3 million metric tons CO_2e).

ARB has not yet determined what amount of GHG reductions it recommends from local government operations. However, the Scoping Plan does state that land use planning and urban growth decisions will play an important role in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions (meanwhile, ARB is also developing an additional protocol for community emissions). ARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined (ARB 2008). With regard to land use planning, the Scoping Plan expects approximately 5.0 million metric tons CO2e will be achieved associated with implementation of SB 375, which is discussed further below.[19]

California Green Building Standards Code

The Green Building Standards Code (CALGreen), requiring all new buildings in the state to be more energy efficient and environmentally responsible, took effect on January 1, 2011. These mandatory regulations are targeted to achieve major reductions in greenhouse gas emissions, energy consumption and water use to create a greener California.

CALGreen will require that every new building constructed in California:

- Reduce water consumption by 20%;
- Divert 50% of construction waste from landfills;
- Install low pollutant-emitting materials;

[19] Bay Area Air Quality Management District, May 2012, *California Environmental Quality Act Air Quality Guidelines,* Appendix C: Sample Air Quality Setting.

- Requires separate water meters for nonresidential buildings' indoor and outdoor water use;
- Requires moisture-sensing irrigation systems for larger landscape projects; and
- Requires mandatory inspections of energy systems (e.g., heat furnace, air conditioner and mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity and according to their design efficiencies.

REGIONAL AND LOCAL

Bay Area Air Quality Management District

The Project site falls within the San Francisco Bay Area Air Basin and therefore under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). BAAQMD provides a document titled *California Environmental Quality Act Air Quality Guidelines* ("Guidelines"), which provides guidance for consideration by lead agencies, consultants, and other parties evaluating air quality impacts in the San Francisco Bay Area Air Basin conducted pursuant to CEQA. The document includes guidance on evaluating and mitigating greenhouse gas emissions impacts.

BAAQMD has recently updated these Guidelines in coordination with adoption of new thresholds of significance on June 2, 2010.[20] The most recent version of the Guidelines is dated May 2012. The updated CEQA Guidelines revised significance thresholds, assessment methodologies, and mitigation strategies for criteria pollutants, air toxics, odors, and greenhouse gas emissions.

City of Hayward Climate Action Plan

The City of Hayward and its citizens recognize that climate change poses a potential threat to the community and to the larger environment. Hayward made this intention clear in 2005, when the Mayor of Hayward signed the U.S. Conference of Mayors Climate Protection Agreement. In June 2006, the City joined ten (10) other local governments in Alameda County participating in the Alameda County Climate Protection Project (ACCPP). By joining ACCPP, Hayward embarked on an ongoing coordinated effort to reduce the emission of gasses that cause global warming.

In June 2009, Hayward adopted a Climate Action Plan (Hayward CAP) which provides a roadmap for achieving a measurable reduction in GHG emissions. The Hayward CAP includes GHG emissions reduction targets that align with those of the State of California and presents a number of strategies that will make it possible for the City to meet the recommended targets. The Hayward CAP also suggests best practices for implementing the Plan and makes recommendations for measuring progress.

[20] Bay Area Air Quality Management District. June 2, 2010. News Release http://www.baaqmd.gov/~/media/Files/Communications%20and%20Outreach/Publications/News%20Releases/2010/ceqa_100602.ashx .

IMPACT ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of air quality effects that may be considered significant. Implementation of the Project would have a significant effect on the environment if it were to:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The CEQA Guidelines state that, where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. BAAQMD updated their thresholds on June 2, 2010 and the BAAQMD Guidelines in May 2011. Those thresholds and guidelines have been used for this greenhouse gas emissions analysis, as detailed under each item below. (Note that the newer May 2011 version was not used because it omits the thresholds, per the discussion below.)

On March 5, 2012 the Alameda County Superior Court issued a judgment finding that BAAQMD had failed to comply with CEQA when it adopted its 2010 Thresholds. The court did not determine whether the Thresholds were valid on the merits, but found that the adoption of the Thresholds was a project under CEQA. The court issued a writ of mandate ordering BAAQMD to set aside the Thresholds and cease dissemination of them until BAAQMD had complied with CEQA.

This analysis is based upon these BAAQMD 2010 Thresholds. While it is possible to instead analyze the Project under BAAQMD's previous 1999 Thresholds, BAAQMD did not include GHG emissions thresholds in its 1999 Thresholds. No federal or state thresholds exist for GHG emissions yet the California Office of Planning and Research, in the updated CEQA Guidelines and a technical advisory, requires quantification of GHG emissions and a determination of significance.[21]

In the absence of other recommended thresholds, BAAQMD's 2010 GHG emissions thresholds are utilized in this analysis and the best available thresholds to provide a conservative analysis of potential impacts from GHG emissions. These thresholds are based upon current regulations, scientific understanding and methodologies and conform to the goals of AB32 and are therefore considered the most appropriate thresholds for a conservative CEQA analysis.

[21] OPR, Technical Advisory; CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review, June 19, 2008, available at: http://opr.ca.gov/docs/june08-ceqa.pdf.

According to the BAAQMD, the Project would be considered to have a significant impact for this topic if:

- The GHG efficiency would be greater than 6.6 MT CO2e per year per service population; or
- Conflict with a Qualified GHG Reduction Strategy.

GHG EMISSIONS

Impact GHG-1: **Generation of Long-Term Operational GHG Emissions.** The Project would generate long-term operational GHG emissions over its lifetime. However, the Project's GHG efficiency, which accounts for the population and employment of the Project area, would be below the BAAQMD's GHG efficiency-based threshold. Therefore, the Project would not generate a level of GHG emissions that would have a significant impact on global climate change. As a result, this impact would be less than cumulatively considerable and ***Less Than Significant***.

Methodology

BAAQMD developed a GHG model referred to as the BAAQMD GHG Model or BGM. BGM is an Excel workbook tool that uses the URBEMIS2007 file to provide GHG emissions in the form of equivalent CO2 emissions (CO2e) in metric tons per year. Model defaults for the San Francisco Bay Area were used for this analysis.

An URBEMIS2007 modeling file providing estimated emissions resulting from build-out of new land use and development pursuant to implementation of the Project was used as an input to the BGM model. BGM provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport. The resulting annual emissions of greenhouse gases (expressed as CO2e equivalents) resulting from build-out of the Project in term of metric tons per year are shown in **Table 10-1** (Annual Operation GHG Emission Attributable to the Project Build-Out).

Model Year

The modeling year 2012 was used for the existing condition. Build-out is assumed to be approximately 2035. The models assume lower emissions levels for years farther in the future due to the implementation and fulfillment of many regulations measures (e.g., improved fuel efficiency in passenger vehicles, cap-and-trade for refineries, power plants, industrial facilities, etc.). To present a conservative analysis, a mid-term year of 2025 was used for the future year modeling.

Traffic

Trip generation rates developed for the traffic study were used along with the default trip lengths in URBEMIS2007.

TABLE 10-1: ANNUAL OPERATIONAL GHG EMISSIONS ATTRIBUTABLE TO THE PROJECT BUILD-OUT

Emissions Source	Net Increase from Project in CO_2e (metric tons/year)
Transportation	1,270.57
Area Source	981.68
Electricity	6,564.25
Natural Gas	3,915.68
Water & Wastewater	298.33
Solid Waste	3,701.91
Total	16,732.42

Source: Lamphier-Gregory results from BAAQMD's Greenhouse Gas Calculator v. 1.1.9 Beta available at http://www.urbemis.com/software/download.html.

Projected Service Population

The BAAQMD CEQA Guidelines identify an efficiency-based threshold to evaluate emissions associated with projects and plans. This metric is based on the "service population" (SP), which is a combination of projected population and employment associated with the growth projections assumed.

The Project would result in an increase of 663 jobs and 1,884 households over the amount of growth and development as analyzed under the General Plan EIR. The average persons per household in Hayward in 2012 is estimated to be 3.153.[22] This would result in 5,940 new residents and a total service population (residents and employees) of 6,603.

Conclusion

The annual net increase in emissions attributable to build-out of the Project is 16,732.42 metric tons CO_2e (see **Table 10-1**). Dividing these emissions by the service population of 6,603 results in an average of 2.53 metric tons CO_2e/SP/yr. The applied significance threshold is 6.6 MT CO2e per year per service population. Therefore, the Project's impact related to GHG emissions would not exceed the applied efficiency-based threshold and the Project would result in a ***Less Than Significant***.

This conclusion was reached using model defaults without taking into account the mitigating factors of a transit-accessible site or regulations that would reduce energy usage, waste, and vehicle emission rates, all of which would further reduce GHG emissions. The City of Hayward

[22] State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, January 2011 and 2012, with 2010 Benchmark. Sacramento, California, May 2012.

also has a variety of other policies, programs and actions to address global climate change that will apply to the Project area, including:

- Construction Waste. Any project built in Hayward must comply with the City's Construction and Demolition Debris Waste Reduction and Recycling Ordinance, of which requires the submittal, review and approval of a plan for compliance. As a result, construction-related truck traffic (which primarily relies on diesel-fueled engines) would be reduced since some demolition debris hauled off site would be reused on site. In addition, reuse of concrete, asphalt, and other debris will reduce the amount of material introduced to area landfills.

- City Standards. Any development project is also subject to all the regulatory requirements including the City's standard conditions of approval, which would reduce GHG emissions of the project. These include conditions to address adherence to best management construction practices and equipment use. It must also minimize post construction stormwater runoff that could affect the ability to accommodate potentially increased storms and flooding within existing floodplains and infrastructure systems.

- Green Building Ordinance. Hayward's Private Development Green Building Ordinance applies to new construction, additions or remodels over 500 square feet for residential projects, or new construction, additions or remodels entailing 1,000 square feet or more for commercial space. Compliance with this program, as summarized below, helps to improve energy efficiency, indoor air quality, resource conservation and water conservation.

  Prior to obtaining a certificate of occupancy, single-family and multiple-family developers must submit documentation demonstrating the building(s) has been GreenPoint Rated as well as all required documentation to demonstrate full compliance with the California Building Energy Efficiency Standard (Title 24, part 6) at the time of permitting.

  Covered additions or alterations to existing commercial projects must meet the following requirements: (1) The lighting load for such fixtures shall be reduced by at least 15% below the requirements of the 2008 Building Energy Efficiency Standards (Title 24, Part 6) of the California Building Code, or (2) Comply with the requirements of Title 24, Part 6 and meet the California Green Building Standards Section A5.211.1 requirements by providing at least 1% or 1kw (whichever is greater) of the electrical power from a renewable source, or (3) Demonstrate an overall energy budget reduction of at least 5% below the requirements of Title 24, Part 6 using the performance method.

  All newly constructed commercial covered projects are required to exceed the 2008 Building Energy Efficiency Standards (Title 24, Part 6) of the California Building Code requirements by at least 15% using the performance method.

BAAQMD does not require separate analysis of construction-period GHG emissions for assessment of plans.

GHG REDUCTION PLAN CONSISTENCY

Impact GHG-2: GHG reductions are addressed statewide by the AB 32 Scoping Plan, regionally by the Bay Area 2010 CAP, and locally through the Hayward Climate Action Plan (CAP).[23] The Project is consistent with the reduction strategies presented in these documents and therefore would result in ***No Impact*** related to GHG reduction plan consistency.

The amended State CEQA Guidelines Appendix G and BAAQMD Guidelines recommend that a GHG analysis evaluate a project's consistency with applicable plans, policies, or regulations adopted for the purposes of reducing GHG emissions.

AB 32 Scoping Plan

The AB 32 Scoping Plan was developed to guide California to achieve the GHG emission reduction goal established by AB 32 (i.e., reduce state-wide GHG emissions to 1990 levels by 2020). With respect to land use development projects, the AB 32 Scoping Plan cites mixed-use and transit-oriented developments as a method to reduce GHG emissions. The Scoping Plan states, "Buildings that are sited close to public transportation or near mixed-use areas can work in tandem with transportation-related strategies to decrease GHG emissions that result from that sector. Growing more sustainably has the potential to provide additional GHG and energy savings by encouraging more compact, mixed-use development resulting in reduced demand for electricity and heating and cooling energy."

In addition, the Scoping Plan aims to achieve the goals of AB 32 without impeding the economic conditions of California. The Scoping Plan states that "Enhanced public transit service combined with incentives for land use development that provides a better market for public transit will play an important role in helping to reach regional [GHG] target." The Project accommodates office, retail, and commercial services, as well as residential development in proximate to each other and transit opportunities. Providing these land uses within proximity of transit opportunities provides opportunities for reduced vehicle trips and reduced VMT in the region associated with commute, shopping, and recreational activities. Additionally, the Project accommodates and promotes bicycle, pedestrian, and transit travel throughout the Project area.

The Project is consistent with planning principles (i.e., mixed-use, high density, transit-oriented) identified in the AB 32 Scoping Plan needed to achieve the state's GHG emissions target.

Bay Area 2010 Climate Action Plan

The Bay Area 2010 CAP includes four Energy and Climate Measures (ECMs) intended to reduce GHG emissions beyond the level of emissions that would already result from implementation of other strategies including Transportation Control Measures (TCMs) as discussed in the Air Quality chapter. **Table 10-2** (BAAQMD EMCS and Project Applicability) lists these ECMs and includes a description of how the Project is consistent with their measures.

[23] The City of Hayward Climate Action Plan does not constitute a "Qualified GHG Reduction Strategy" since no CEQA Document was prepared prior to its adoption.

TABLE 10-2: BAAQMD ECMS AND PROJECT APPLICABILITY

ECM or TCM#	Name/Source Category	Description	Project Applicability
ECM-1	Energy Efficiency	This control measure consists of three components: 1) provide education and outreach to increase energy efficiency in residential and commercial buildings and industrial facilities, 2) provide technical assistance to local governments to adopt and enforce energy efficiency building codes, and 3) provide incentives for increasing energy efficiency at schools.	The City of Hayward website provides links to educational resources concerning energy efficiency. Also, the City has an adopted green building ordinance applicable to residential and commercial projects.
ECM-2	Renewable Energy	Promote distributed renewable energy generation (solar, micro wind turbines, cogeneration, etc.) on commercial and residential buildings, and at industrial facilities.	The Project includes standards for wind and solar power generation at private properties and the City has a Green Building Ordinance. Both of which promote the installation of renewable energy facilities.
ECM-3	Urban Heat Island Mitigation	This control measure includes regulatory and educational approaches to reduce the "urban heat island" phenomenon by increasing the application of "cool roofing" and "cool paving" technologies.	While the Project does not include specific urban heat island measures, it does include a number of civic spaces that would generally exclude buildings and large pavement areas.
ECM-4	Shade Tree Planting	The control measure includes voluntary approaches to reduce the “urban heat island” phenomenon by increasing shading in urban and suburban communities through planting of (low VOC - emitting) trees and preservation of natural vegetation and ground cover.	The Project includes standards for landscaping both within private properties and within existing and new thoroughfares.

Hayward Climate Action Plan

The Hayward CAP includes “Actions” to implement strategies for GHG reduction. Many of these Actions involve developing and implementing future City-wide regulations and/or programs and, thus, would not be directly applicable to the Project. However, the Project is consistent with the goals and actions of the Hayward CAP, which are applicable to plans and policies regarding new land use and development. The Actions most applicable to the Project include those under the header, “Utilize Zoning & Land-use Mechanisms to Minimize Need for Auto Transportation” as listed below.

> Action 1.9: In order to encourage non-automotive modes of travel, continue to implement and update the General Plan Circulation and Land Use Elements pertaining to smart growth principles that support higher-density, mixed-use, and well-designed development in areas within ½ mile of transit stations and ¼ mile of major bus routes. Amend the Municipal Code

Zoning, Subdivision, and Off-Street Parking Standards to incorporate smart growth principles, policies, and development standards consistent with recommendations provided in the Appendix H and I of the CAP.

The Project would implement General Plan policies promoting the Smart Growth principles including those addressing higher density in mixed-use and well-designed development along the Mission Boulevard transportation corridors near the Hayward BART station. The Project also amends the existing zoning standards to incorporate Smart Growth principles consistent with the recommendations provided in Appendix H of the Hayward CAP, including:

(1) In order to allow a wider range of housing, permit narrow lots for single-family detached homes that are alley-loaded, including reduced lot size widths of 30 feet for detached housing and 18 feet for vertically attached housing. Attached town homes or condos are allowed to have narrow lots (no min. specified in Code).

(3) In order to reduce the amount of impervious and low albedo surfaces, limit driveway widths to 18 feet for impervious paving, with exceptions for greater width only for pervious paving materials approved by the City Building Official, aesthetics notwithstanding.

(6) Provide incentives for alley-loaded lots in order to reduce the predominance of front-loaded lots with driveways that constrain the placement of trees and the consistency and safety of the sidewalk.

(8) Continue to allow mixed-use development such as allowing office buildings with first floor commercial in commercially zoned areas with permitted heights scaled to surrounding, desired conditions.

(10) Locate light manufacturing and research and development uses in commercial/mixed use areas.

(18) Consider Parking Requirements Strategies: Adopt a single blended parking requirement, for example 1.7 spaces per 1,000 square feet. This simplifies changes of use, for example from offices to restaurants.

(19) Allow on-street parking along the property‘s frontage to count towards satisfying parking requirements.

(21) Parking Maximums: Set parking maximums instead of parking minimums. With parking maximums, developers have a cap on the amount of parking that they may build on site.

(24) Permit and encourage the use of alleys in both new and existing development where feasible, in order to improve the quality of sidewalks and landscape along the street.

(25) Reduce the maximum length of blocks to 600 feet in new development, and encourage the installation of mid-block pedestrian walkways in longer, existing blocks to increase the degree of 'walkability' by making destinations more convenient.

Action 1.10: Explore the development of zoning and development standards that consider both the land uses and the urban design and form of buildings and public space, where the new standards will result in reduced GHG emissions.

The Project represents development of zoning and development standards that specifically achieve this objective.

Action 1.11: Explore potential strategies related to the creation of additional affordable housing to sell to buyers employed in Hayward, but who currently reside in other areas and commute to work in Hayward. For example, consider implementing a community land trust to purchase and resell foreclosed properties. The program could potentially be coordinated with local businesses.

The Project represents an opportunity to increase the supply of affordable housing within the City, based on the density of development encourage by the Project, although no specific affordable housing project is currently proposed as a part of the Project.

Action 1.12: Develop an incentive plan to maximize the number of residents that work within the City, and encourage filling local jobs first with local residents, to eliminate commutes.

The Project represents a plan to increase both the number of residents and the number of jobs within the Project area over existing conditions, with new job sites located in close proximity to housing.

The Project is consistent with the AB 32 Scoping Plan, Bay Area 2010 CAP and Hayward CAP. There would be ***No Impact*** related to conflict with a GHG reduction strategy.

11

HAZARDS & HAZARDOUS MATERIALS

INTRODUCTION

This chapter addresses the potential for hazards and hazardous materials within the Project area to result in hazards to persons residing and working therein. Information contained in this chapter is derived from a number of sources including: an environmental database search dated August 2011 (for both Project area segments), the Hayward General Plan, the Hayward General Plan Update EIR, a hazards and hazardous materials records search, once each for the north/south Project area segments, dated, August 22, 2011, as well as multiple publications from relevant regulatory agencies (e.g., Alameda County Airport Land Use Commission).

Hazardous Materials Overview

Hazardous material and waste is generated in a multitude of manners, including manufacturing and service industries, small businesses, agriculture, hospitals, schools and households. A hazardous material is defined by the California Department of Toxic Substances Control (DTSC) as a material that poses a significant present or potential hazard to human health and safety, or the environment, if released because of its quantity, concentration, or physical or chemical characteristics.[1]

The primary concerns associated with a hazardous material release are the short- and long-term effects on the local population and environment. To minimize potential impacts, hazardous materials are governed by regulations that require proper storage and handling, business/environmental management plans, spill contingency plans, employee and public noticing, and other emergency preventative and response measures necessary to minimize the risk of accidental releases and associated environmental impacts.

Hazardous Materials Use, Storage and Disposal

All sites using, storing, or disposing of hazardous materialidentified under Hayward Municipal Code §3-8.06are required to submit a Hazardous Materials Business Plan to the Certified Unified Program Agency (CUPA). The Hayward Fire Department is the CUPA for the City of Hayward and handles the Hazardous Materials Business Program. The responsibilities of the CUPA are discussed further in the Regulatory Setting section, below.

Many common household items used regularly contain hazardous materials and cannot be collected with regular garbage destined for a landfill. These items include, but are not limited to:

[1] 26 California Code of Regulations (CCR) 25501.

batteries, fluorescent light bulbs, televisions and electronic waste such as computers. Household hazardous waste disposal in the City of Hayward is through the Alameda County Department of Environmental Health. The County Board of Supervisors established the household and small business hazardous waste collection program in 1989.

The nearest Alameda County disposal facility to the Project area is located at 2091 West Winton Avenue in Hayward. That location provides for hazardous waste disposal to residents and Conditionally Exempt Small Quantity Generators (CESQG).[2] CESQG businesses are those that generate less than 220 pounds or twenty-seven (27) gallons of hazardous waste of any kind, and less than 2.2 pounds of extremely hazardous waste per month. Small businesses that qualify as CESQG must register as such by filling out a CESQG self-certification form and returning to the Alameda County Household Hazardous Waste CESQG department.

PHYSICAL SETTING

The Project area contains a diverse mixture of land uses, including residential, commercial, industrial, and a large number of auto service-oriented uses. Based on the general topography and drainage of the Project area, local groundwater is anticipated to flow in a generally northeast to southwest direction.

Hazardous Sites

According to an environmental database search of federal, state and local regulatory agencies, numerous hazardous materials sites are located within a ¼-mile radius of the Project area. Since the Project area is bifurcated into two segments (i.e., North, South), the following **Figure 11-1** (Hazardous Materials Sites – North Segment) and **Figure 11-2** (Hazardous Materials Sites – South Segment) identify the location of those sites.[3]

Sensitive Receptors

Though many properties fronting Mission Boulevard include commercial-oriented land uses, many single-family and multiple-family residences are also present both within and adjacent to the Project area.

There are no schools providing primary or secondary education within the Project area. However, there are a number of private and public schools providing primary and secondary education at sites within ¼ to ½-mile of the Project area, including:

- Brenkwitz High School (22100 Princeton Street, Hayward)

[2] As defined in California Health and Safety Code §25218.1 and the Code of Federal Regulations 40 Section 261.5.

[3] The specific address, regulatory list, hazardous material description, affected media (e.g., soil, groundwater), and site status are identified in the EDR Radius Map Report with GeoCheck (Inquiry Nos. 03346175.1r, 03152629.1r).

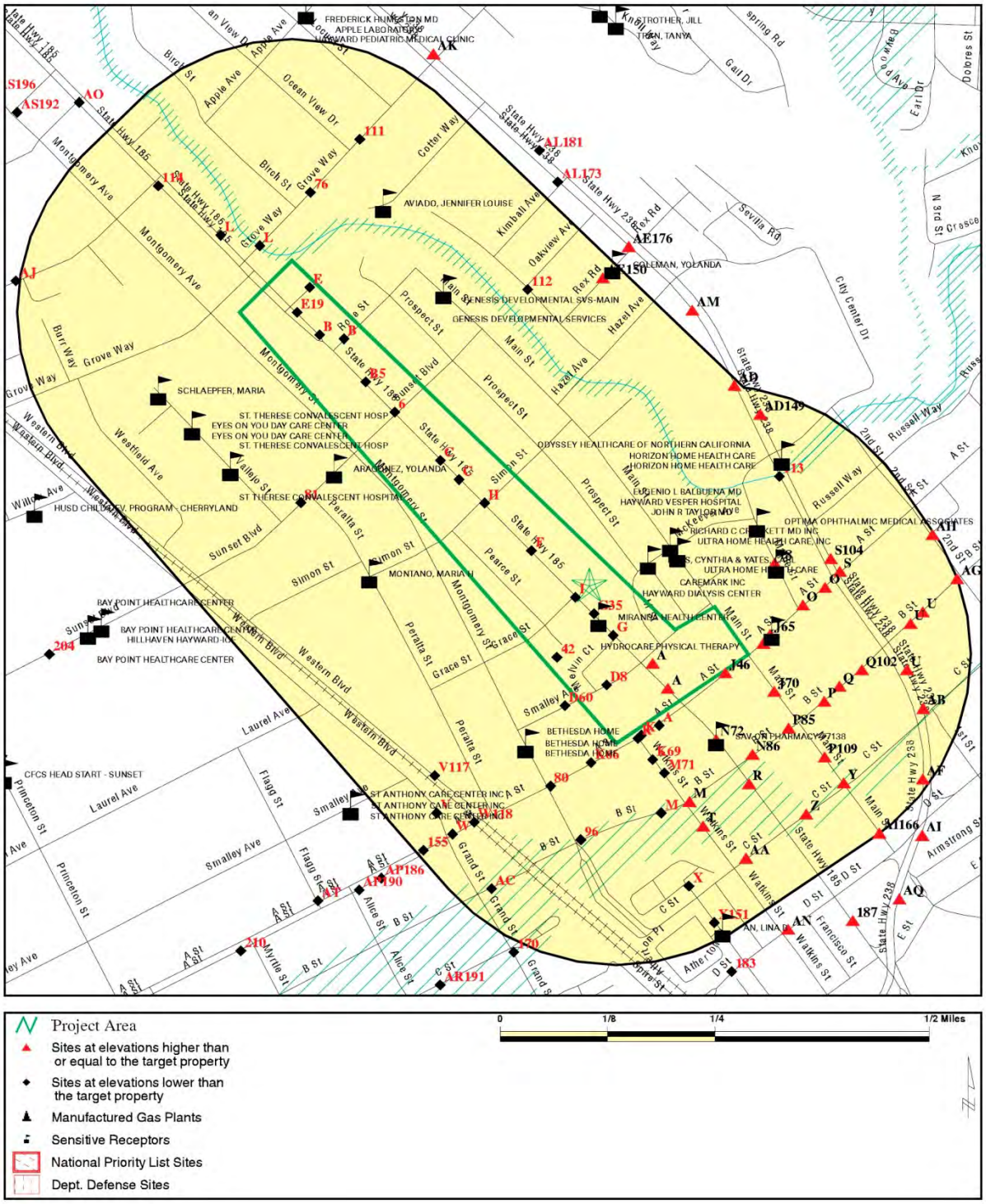

Figure 11-1: Hazardous Materials Sites – North Segment.

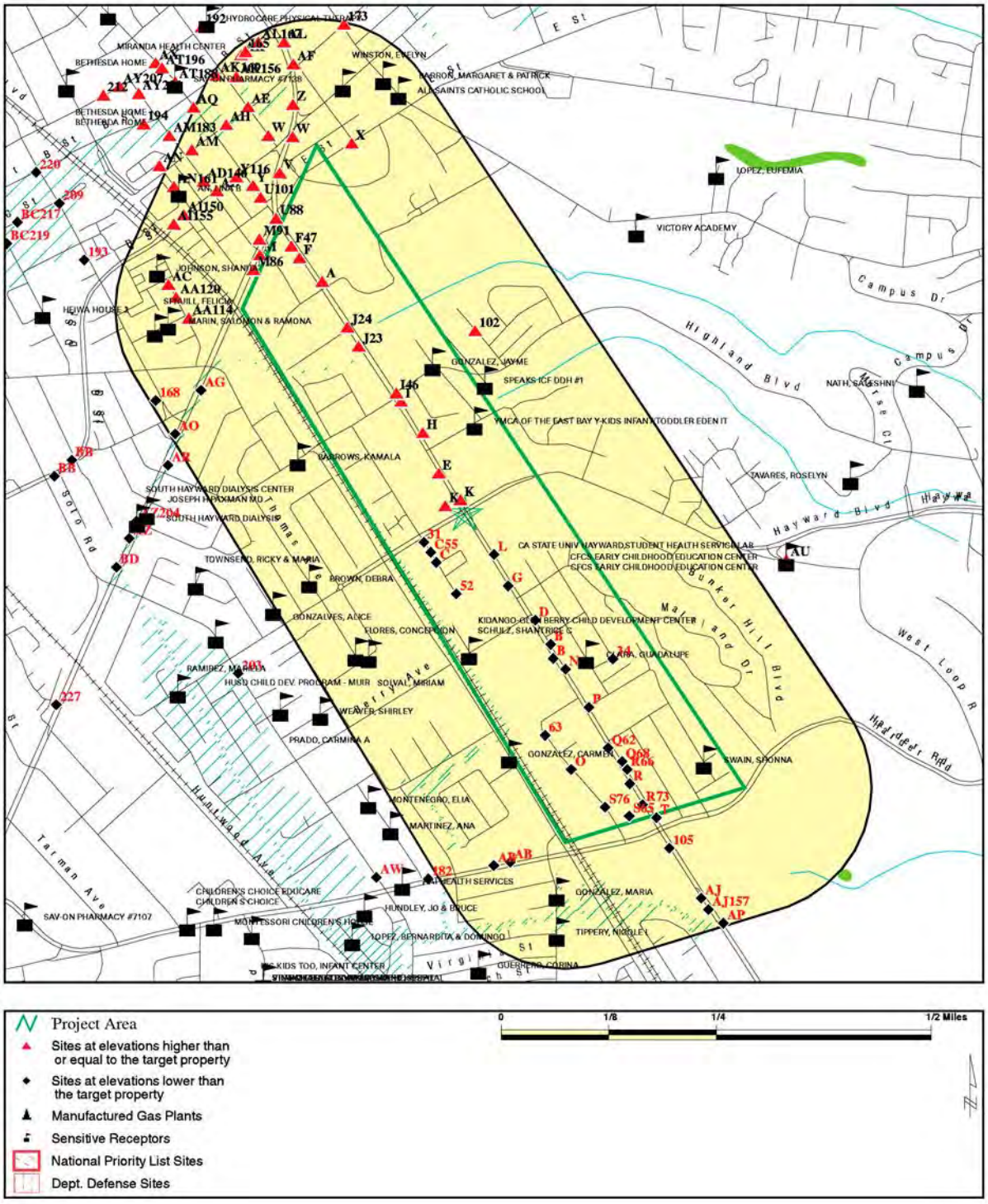

Figure 11-2: Hazardous Materials Sites – South Segment.

- Winton Middle School (119 West Winton Avenue, Hayward)
- Harder Elementary School (495 Wyeth Road, Hayward)
- Fairview Elementary School (24823 Soto Road, Hayward)
- Tennyson High School (27035 Whiteman Street, Hayward)
- Bowman Elementary School (520 Jefferson Street, Hayward)
- Moreau Catholic High School (27170 Mission Boulevard, Hayward)
- California State University at Hayward (25800 Carlos Bee Boulevard, Hayward)
- Hayward High School (1633 East Avenue, Hayward)
- All Saints Catholic School (22870 Second Street, Hayward)

There are no full service hospitals within the Project area. However, there is one private out-patient care facility providing clinical and social services at 22331 Mission Boulevard, Hayward.

Numerous daycare facilities licensed by the California Department of Social Services are located within and adjacent to the Project area, as shown in **Figures 11-1** and **11-2**, under the icon labeled "sensitive receptors."

Airports

There are no private airstrips within two (2) miles of the Project area. The Hayward Executive Airport is located approximately two (2) miles west of the Project area (at intersection of Hesperian Boulevard and West Winton Avenue).

Wildland Fire Hazard

The Hayward Fire Department is the primary fire protection agency in the Project area. Though the City of Hayward has no State designated wildland/urban interface area, it does have one locally designated area that is considered vulnerable to wildland fire.[4] That locally designated wildland fire hazard area is particular to the southern segment of the Project area and includes properties in the Hayward Hills; south of Jackson Street, east of Mission Boulevard. Many properties within the both Project area and that wildland fire hazard area are urbanized and contiguous to urban development but situated in proximity to undulating topography, grasslands and riparian corridors what may present fire risks and challenges to fire protection.

[4] See Ordinance No. 10-14 establishing a Fire Prevention Code for the City of Hayward and the Hillside Design and Urban/Wildland Interface Guidelines, City of Hayward, Adopted February 16, 1993 via Resolution No. 93-037(http://www.hayward-ca.gov/CITY-GOVERNMENT/DEPARTMENTS/DEVELOPMENT-SERVICES/documents/planning/RES%2093-037.pdf).

Emergency Evacuation Plan

The City's Emergency Services Office is supervised by the Hayward Fire Department. The City's "Emergency Communications and Operations Manual" is the guide for emergency operations and communications in the event of a disaster in the City. Mission Boulevard is the major north/south thoroughfare in the Project area, and it could be an important route for evacuation in the event of a disaster within the Project area, City of Hayward, or surrounding cities.

REGULATORY SETTING

The storage, use and transport of hazardous materials within the Project area are subject to numerous federal, state and local policies and regulations. This section summarizes those policies and regulations.

Federal Policies and Regulations

The U.S. Environmental Protection Agency (EPA) is the principal federal regulatory agency responsible for the safe use and handling of hazardous materials. Key federal regulations pertaining to hazardous wastes are described below. Other additional federal regulations can be found primarily in Sections 29, 40, and 49 of the Code of Federal Regulations (CFR).

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) enables the EPA to administer a regulatory program that extends from the manufacture of hazardous materials to their disposal, thereby regulating the generation, transport, treatment, storage, and disposal of hazardous waste at all facilities and sites in the nation.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund, was passed to facilitate the clean-up of the nation's toxic waste sites. In 1986, Superfund was amended by the Superfund Amendment and Reauthorization Act Title III (community right-to-know laws), also called the Emergency Planning and Community Right-to-Know Act, which states that past and present owners of land contaminated with hazardous substances can be held liable for the entire cost of the cleanup even if the material was dumped illegally when the property was under different ownership. These regulations also establish reporting requirements that provide the public with important information on hazardous chemicals in their communities to enhance community awareness of chemical hazards and to facilitate the development of state and local emergency response plans.

Hazardous Materials Transportation

The U.S. Department of Transportation (DOT) has promulgated regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. The U.S. Postal Service has additional regulations for the transport of hazardous materials by mail. DOT regulations specify packaging requirements for different types of materials. The EPA has

developed regulations for the transport of hazardous wastes. These more stringent requirements include tracking shipments with manifests to ensure that wastes are delivered to intended destinations. In California, the California Highway Patrol, DOT, and Department of Toxic Substances Control (DTSC) play key roles in enforcing hazardous materials transportation requirements. Hazardous materials transportation could occur during project construction to and from the project corridor and could include general construction materials, such as solvents, fuels, or lubricants.

State Policies and Regulations

California regulations are equal to or more stringent than federal regulations. The EPA has granted the state primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment. Several key state laws pertaining to hazardous wastes are discussed below.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires that businesses using hazardous materials prepare a hazardous materials business plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the state hazardous waste management program, which is similar to, but more stringent than the federal RCRA program. The act is implemented by regulations contained in section 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transport; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements.

These regulations list more than eight hundred (800) materials that may be hazardous and establish criteria for identifying, packaging, and disposing of them. Under this act and 26 CCR, a generator of hazardous waste must complete a manifest that accompanies the waste from the generator to the transporter to the ultimate disposal location. Copies of the manifest must be filed with DTSC.

Emergency Services Act

Under the Emergency Services Act, the state has developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an important part of the plan, which is administered by the California Office of Emergency Services. The office coordinates the responses of other agencies, including EPA, California Highway Patrol, Regional Water

Quality Control Boards (RWQCBs), air quality management districts, and county disaster response offices.

California Occupational Safety and Health Administration Standards

Worker exposure to contaminated soils, vapors that could be inhaled, or groundwater containing hazardous constituents are subject to monitoring and personal safety equipment requirements established in Title 8 of the California Occupational Safety and Health Administration (Cal-OSHA) regulations. The primary intent of the Title 8 requirements is to protect workers, but compliance with some of these regulations would also reduce potential hazards to non-construction workers and project area occupants because required controls related to site monitoring, reporting, and other activities would be in place.

Other Laws, Regulations and Programs

Various other state regulations have been enacted that affect hazardous waste management, including the following.

- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), which requires labeling of substances known or suspected by the state to cause cancer.
- California Government Code Section 65962.5, which requires the Office of Permit Assistance to compile a list of possible contaminated sites in the state.

State and federal regulations also require that hazardous materials sites be identified and listed in public records. These lists include sites that have been identified through the following regulatory processes.

- Comprehensive Environmental Response, Compensation, and Liability Information System.
- National Priorities List for Uncontrolled Hazardous Waste Sites.
- Resource Conservation and Recovery Act
- California Superfund List of Active Annual Workplan Sites
- List of state-registered underground and leaking storage tanks.

An example of the listing requirements of those regulations is illustrated in **Figures 11-1** and **11-2** which show the location of listed sites within the Project area.

<u>Local Policies and Regulations</u>

Unified Program

The California EPA (Cal/EPA) oversees the Unified Program, which consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six (6) environmental and emergency response programs. The California Unified Program Agencies (CUPAs) comprise eighty-five (85) government agencies certified by

Cal/EPA to enforce implementation of hazardous materials laws and regulations at the local level. The City has its own CUPA. The Hayward Fire Department's Hazardous Materials Office administers the City's entire Unified Program.

City of Hayward General Plan

The City of Hayward General Plan Conservation and Environmental Protection Element contains the following polices and strategies relevant to the Project and issue of hazards and hazardous materials:

- Work with other agencies to minimize risks associated with the use, storage and transport of hazardous materials. (Policy 9)
- Continue implementation of the Hazardous Materials Program and enforcement of ordinances on use and storage of hazardous materials. (Strategy 9.1)
- Maintain a suitable buffer zone between industrial firms involved with hazardous materials and residential uses (Strategy 9.2)
- Coordinate with state and federal agencies to provide appropriate labeling on vehicles transporting hazardous materials through the city and to encourage utilization of designated routes. (Strategy 9.3)
- Continue collection programs for household hazardous toxic wastes and small business generators. (Strategy 9.4)
- Provide educational materials concerning hazardous materials to the general public and enforcement agencies. (Strategy 9.5)

City of Hayward Municipal Code

Chapter 3, Article 8 (Hazardous Materials Storage)

Municipal Code §3-8.02(a) states that no person, firm, or corporation will cause, suffer, or permit the storage or handling of hazardous materials: (1) in a manner which violates a provision of this Article or any other local, federal, or state statute, code, rule, or regulation relating to hazardous materials; or (2) in a manner which causes an unauthorized release of hazardous materials or poses a significant risk of such unauthorized release.

Chapter 3, Article 9 (Hazardous Materials Recovery Costs)

Municipal Code §3-9.01(a) authorizes the Hayward Fire Department to clean-up or abate the effects of any hazardous substance or material unlawfully released, discharged, or deposited upon or into property or facilities within the City. Specified parties will be jointly and severally liable to the City for the payment of all costs incurred by the City as a result of such clean-up or abatement activity.

Chapter 5, Article 8 (Hazardous Waste Reduction Requirements)

Municipal Code §5-8.01 states the City requirement for certain businesses that routinely generate more than 26,460 pounds of hazardous waste or 26.4 pounds of extremely hazardous waste to implement source reduction of hazardous wastes. Where hazardous waste reduction is not feasible or practicable, the City encourages recycling.

Hillside Design and Urban/Wildland Interface Guidelines

The Hayward Hillside Design and Urban/Wildland Interface Guidelines apply to the Project area's southern segment; south of Jackson Street, east of Mission Boulevard. Part II of these guidelines includes provisions to mitigate wildland fire risk through planning, design and management actions that address building construction for fire protection, fuel modification and management, and fire resistant landscaping. Application of the guidelines is mandatory upon new development, including that under the Project, subject to the authority of Hayward Fire Marshall.

Hayward Fire Department

The Hayward Fire Department is responsible for administration of the City's Hazardous Materials Program and is the local implementing agency for hazardous materials regulations for sites within the City. The HFD issues permits for the operation and removal of underground and aboveground storage tanks (USTs and ASTs), and conducts annual inspections to ensure compliance with hazardous materials management and UST operation regulations within the City.

East Bay Municipal Utilities District

The East Bay Municipal Utilities District (EBMUD) and HFD manage groundwater throughout Alameda County and works in conjunction with the Alameda County Water District and the San Francisco RWQCB to oversee and provide guidelines for investigation and remediation of sites affected by the release of petroleum hydrocarbon fuels from USTs.

Hayward Fire Prevention Code

The Hayward Fire Prevention Code, adopted under Ordinance 10-14, prescribes regulations governing conditions deemed potentially hazardous to life and property from fire or explosion. The code incorporates standards of the 2010 California Fire Code (and based on the 2009 International Fire Code) except for portions deleted, modified, or amended to reflect local conditions, as provided in Government Code §5002.2 et seq. All proposed building construction, alteration, repairs, demolition and improvements, including that under the Project, must be reviewed for conformance with the Hayward Fire Prevention Code.

IMPACT ANALYSIS

THRESHOLD OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of hazards and hazardous materials, implementation of the Project would have a significant effect on the environment if it were to:

- 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.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

TRANSPORT, USE AND DISPOSAL OF HAZARDOUS MATERIALS

Impact Haz-1 **(Transport, Use and Disposal of Hazardous Materials).** The Project would increase the intensity land use within the Project area and, in doing so, increase the number of businesses that routinely transport, use, or dispose of hazardous materials. However, through the application of existing federal, state and local policies and regulations, those businesses would not create a significant hazard to the public. A ***Less Than Significant Impact*** would result under this criterion.

The Project would intensify land use over time by increasing the amount of residents and workers in the Project area.[5] Implementation of the Project would also likely result in an increase

[5] See Table 3-1 (Build-Out Assumptions) of this EIR.

in the number of businesses storing, using, transporting, and/or disposing of hazardous material within the Project area. However, the Hayward General Plan identifies goals, policies and actions designed to reduce the impact of businesses routinely using, storing, and transporting hazardous material. These actions, along with provisions of the Hayward Municipal Code, all identified above in the regulatory setting section, in combination with California Department of Transportation, California Department of Toxic Substance Control, and California State Water Resource Control Board regulations, would reduce the impact of the routine use, transport, or disposal of hazardous material to a level considered ***Less Than Significant***.

UPSET OR ACCIDENT HAZARDS

Impact Haz-2 **(Upset or Accident Hazards).** With increased population and construction activity anticipated in the Project area under the Project, the number of residents and workers who could potentially be exposed to hazardous materials which may already be present at some sites would increase. However, requiring pre-development site assessments would ensure the Project results in a ***Less Than Significant Impact with Mitigation***.

No reasonably foreseeable hazardous material release would likely happen as a result of implementation of the Project. However, implementation of the Project would result in an increase in the number of people exposed to any potential release of hazardous materials. Some sites within the Project area have a history of hazardous material use and, as illustrated in Figures **11-1** and **11-2** above, potential health and safety hazards may be present. Construction activities could expose any potential hazardous materials and release them to the environment. Therefore, implementation of Mitigation Measure Haz-2 is necessary to reduce this potentially significant impact to a ***Less Than Significant*** level.

Mitigation Measure

Haz-2 **(Require Phase 1 Environmental Site Assessments for Development Projects).** Prior to development/re-development of properties located within the Project area, a Phase I Environmental Site Assessment shall be performed to assess any potential risks of hazardous material release to the property or the environment due to any previous land uses. This Phase I environmental site assessment will determine the likelihood of the presence of hazards and/or hazardous materials and determine whether construction activities on the building site will lead to a release of hazardous material.

The Hayward General Plan and Municipal Code identify objectives and policies designed to reduce the hazard to the population due to a hazardous material release. These actions, identified above, in combination with Mitigation Haz-2, would reduce the impact of a reasonably foreseeable hazardous material release to a level considered ***Less Than Significant***.

HAZARDS NEAR SCHOOLS

Impact Haz-3 **(Hazards Near Schools).** The Project does not include a proposed land use classification that would explicitly emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. Existing state regulations on the siting of potential future land uses transporting or using hazardous materials would ensure a ***Less Than Significant Impact*** would result under this criterion

Future development activities under the Project would occur within ¼-mile of existing schools. That future development or redevelopment may or may not include the transport, use and/or handling of hazardous materials. However, state regulations on siting of hazardous materials facilities and schools limit the facilities' proximity to schools. Additionally, the Project does not include a proposed land use classification that explicitly accommodates hazardous materials handling and/or disposal. For these reasons, the Project would result in a ***Less Than Significant*** for this criterion.

PUBLIC AIRPORT SAFETY HAZARD

Impact Haz-4 **(Public Airport Safety Hazard).** The Project area is located within approximately 1.75-miles of the Hayward Executive Airport which has an adopted airport land use plan. However, the Project is situated outside the boundaries of that airport land use plan. Therefore, the Project would not result in a safety hazard relative to activities at the Hayward Executive Airport and, consequently, ***No Impact*** would result.

The City of Hayward has one (1) public airport – the Hayward Executive Airport located approximately 1.75-miles west of the Project area; at the intersection of Hesperian Boulevard and West Winton Avenue.[6]

The Hayward Executive Airport is subject to an approved Airport Land Use Compatibility Plan (Hayward Executive Airport ALUCP) approved by the Alameda County Airport Land Use Commission in accordance with the State Aeronautics Act.[7] The Hayward Executive ALUCP is presently undergoing revision. The December 2011 draft of the Hayward Executive Airport ALUCP depicts the Project area as situated outside the Airport Influence Area.[8] The Airport Influence Area is defined by the Hayward Executive ALUCP as,

> *The area in which current or future airport-related noise, overflight, safety, and/or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses.*

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[6] The next nearest public airport is the Oakland International Airport; located over six (6) miles northwest of the Project area. The Project area is located outside the boundaries of the Oakland Airport Land Use Compatibility Plan (see Figure 3-2 (HWD and OAK Influence Area Overlap) of Hayward Executive ALUCP).

[7] Public Utilities Code §§21670 *et seq*.

[8] Figure 3-1 (Airport Influence Area), Hayward Executive Airport Land Use Compatibility Plan, draft dated December 2011.

In most circumstances, the airport influence area is designated by the ALUC as its planning area boundary for the airport and the two terms can be considered synonymous.

Therefore, since the Project area is situated outside of the Hayward Executive ALUCP's depicted Airport Influence Area, the Project is considered to have ***No Impact*** under this criterion. The Project has no potential safety hazard resulting from activities at the Hayward Executive Airport upon persons residing or working in the Project area.

PRIVATE AIRSTRIP HAZARD

Impact Haz-5 (**Private Airstrip Hazard**) The Project is not located within the vicinity of a private airstrip and, therefore, would not present a safety hazard for people residing or working in the Project area. Therefore, the Project would result in ***No Impact*** under this criterion.

There are no private airstrips within two (2) miles of the Project area. Consequently, there is no potential for the Project to result in a safety hazard for people residing or working in the Project area due to the use of and activities associated with a private airstrip. Therefore, the Project would result in ***No Impact*** under this criterion.

EMERGENCY RESPONSE OR EVACUATION PLAN

Impact Haz-6 **(Emergency Response or Evacuation Plan).** The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, ***No Impact*** would result.

The Project would not interfere with the City's Emergency Communications and Operations Manual. The Project would also not modify the primary local and regional evacuation thoroughfare (i.e., Mission Boulevard). Over time, the Project could improve emergency response and evacuation routes through the construction of new thoroughfares.[9] Future development activities implemented in accordance with the Project could temporarily impede traffic flows and affect the accessibility of evacuation routes or emergency response. However, the Hayward Municipal Code requires the Public Works Director to evaluate construction activities affecting the public right-of-way and, thereby, ensure emergency response and evacuation needs are accommodated.[10] Given the above, the Project would result in ***No Impact*** under this criterion.

[9] Figure 3-2 (Thoroughfare Plan) and Figure 3-3 (New Thoroughfare Plan) of proposed Mission Boulevard Corridor Specific Plan.

[10] Hayward Municipal Code, Chapter 7 (Public Works), Article 2 (Streets).

WILDLAND FIRE HAZARDS

Impact Haz-7 **(Wildland Fire Hazards).** The Project would result in additional people and/or structures being placed in a locally designated wildland fire hazard area. However, continued application of the Hayward Hillside Design and Urban/Wildland Interface Guidelines, including provisions of the Hayward Prevention Code, ensures the Project would not result in significant risk of loss, injury or death involving wildland fires. A ***Less Than Significant Impact*** would result.

On September 20, 2005, the California Building Standards Commission approved the Office of the State Fire Marshal's emergency regulations amending the California Code of Regulations (CCR), Title 24, Part 2, known as the 2007 California Building Code (CBC). CBC Section 701A.3.2 (New Buildings Located in Any Fire Hazard Severity Zone) states,

> *New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, any Local Agency Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter. New buildings located in any Fire Hazard Severity Zone shall comply with one of the following: (1) State Responsibility Areas - New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter; (2) Local Agency Very-High Fire Hazard Severity Zone - New buildings located in any Local Agency Very High Fire Hazard Severity Zone for which an application for a building permit is submitted on or after July 1, 2008, shall comply with all sections of this chapter; or (3) Wildland-Urban Interface Fire Area designated by the enforcing agency - New buildings located in any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter.*

The Project area is not located within or adjacent to a fire hazard severity zone subject to state responsibility.[11] However, the Project area is situated within and adjacent to a Wildland-Urban Interface Fire Area designated by the Hayward Fire Department. Future development and redevelopment activities under the Project would result in the placement of additional and/or different structures within the wildland fire hazard area, including additional persons.

CBC Section 701A.3.2 would apply to construction activities under the Project, including both the Hayward Fire Prevention Code and Hillside Design and Urban/Wildland Interface Guidelines. The mandatory requirements of these documents address how development proposals must address fire hazards associated with steep slopes, open grass/brush lands, woodland and riparian zones and which may be difficult for the Fire Department to control. Continued implementation of those requirements under the Project would ensure no significant

[11] Alameda County, Fire Hazard Severity Zones in SRA, Adopted by CAL FIRE on November 7, 2007; Alameda County, Very High Fire Severity Zones in LRA, as recommended by CAL FIRE, dated September 3, 2008.

risk of loss, injury or death involving wildland fires would result. Therefore, the Project would result in a ***Less Than Significant Impact*** under this criterion.

CUMULATIVE IMPACTS

Future development in the Project area could result in the demolition of existing structures that may contain hazardous materials. However, the individual workers potentially affected would vary from project to project. For example, if demolition of existing buildings is necessary, short-term increases in hazardous materials generation, caused by the presence of lead-based materials and asbestos-containing materials in existing structures could occur. Such projects would be required to comply with applicable federal, state, and local regulations related to lead and asbestos removal. Adherence to applicable regulations and guidelines pertaining to abatement of, and protection from, exposure to oil, pesticides, asbestos, lead, and other hazardous materials would ensure that cumulative impacts from those activities would be less than significant.

Under Mitigation Measure Haz-2, site-specific investigations would be conducted at sites where contaminated soils could occur to minimize the exposure of workers to hazardous substances. Additionally, because the Project would be required to comply with applicable statutes and regulations, which would ensure that the Project would not result in significant public hazards as a result of a construction-related accidental release of hazardous materials, the project's contribution would not be cumulatively considerable and the cumulative impact of the project would be ***Less Than Significant***.

Implementation of the Project could potentially involve the operation of future uses that could release hazardous materials into the environment. Similar to potential construction impacts discussed above, the transportation, storage, and use of hazardous materials is regulated by existing statutes. It is anticipated that future projects would also adhere to the applicable federal, state, and local requirements that regulate the release of hazardous materials into the environment that result from operational activities. As a result, cumulative impacts would be ***Less Than Significant***. Additionally, because the Project would be required to comply with applicable statutes and regulations, which would ensure that the Project would not result in significant public hazards as a result of an operational accidental release of hazardous materials, the Project's contribution would not be cumulatively considerable and the cumulative impact of the Project would be ***Less Than Significant***.

12

HYDROLOGY & WATER QUALITY

INTRODUCTION

This chapter addresses the potential for the Project to result in environmental impacts relative to the topics of hydrology and water quality. Included herein is a review of existing conditions based upon available literature and field surveys; a summary of federal, state and local policies and regulations related to hydrology and water quality; and an analysis of direct, indirect, and cumulative environmental impacts of the Project.

PHYSICAL SETTING

Climate

The City of Hayward lies at the base of the California coastal mountain ranges. Topographic elevation ranges from sea level at Hayward's border with the San Francisco Bay, to over 1,000 feet in areas east within the Hayward Hills.

The Project area experiences a typical Mediterranean climate with hot/dry summers and cool/wet winters. Average temperatures in the area peak during July and August, with temperatures around 80F. Coldest temperatures occur in December and January, with temperatures around 40F. Most precipitation in the City of Hayward occurs between November and March.

Average rainfall ranges from 17 inches to more than 25 inches in areas east of the City.[1]

Surface Water Hydrology

The Project is located at a low-lying area on the southeast side of the San Francisco Bay drainage basin. Specifically, the Project is located within the San Lorenzo Creek and Alameda Creek watersheds.

The San Lorenzo Creek watershed includes several tributaries, creeks, and reservoirs, and consists of an area of approximately 48 square miles.[2] The Alameda Creek watershed is one of the largest in the East Bay and drains an area of almost 700 square miles. The San Lorenzo Creek is located immediately east of the northern Project segment. The Sulphur Creek flows through underground culverts (in Downtown Hayward) between the northern and southern Project segments. The Ward Creek crosses, in both naturalized and engineered channels, through

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[1] California Department of Water Resources (www.water.ca.gov/floodmgmt/hafoo/csc/climate_data/sfbay.cfm).

[2] Grossinger, Robin and Brewster, Elise, A Geographic History of San Lorenzo Creek Watershed, December 2003.

the southern segment of the Project area. All of the aforementioned creeks eventually deposit into the San Francisco Bay. **Figure 12-1** (Creek & Watershed Map) depicts these creeks in relation to the Project area; as well as the whether they are presently within naturalized or engineered channels.

Major stream flow within these watersheds is typical of the Central California Coast Ranges, occurring November through March, and little to no flow during the summer. The Project area is, as mentioned in earlier EIR chapters, predominately urbanized with buildings and pavement covering the land. Consequently, only a small, yet uncalculated, percentage of the Project area allows for natural infiltration to the underlying groundwater aquifer.

The headwaters of San Lorenzo Creek are located in the Oakland foothills, northeast of the project area. The creek flows from east to west, eventually flowing into the San Francisco Bay. Within the Project area, the reach of San Lorenzo Creek west of Foothill Boulevard is a concrete-lined channel modified by the U.S. Army Corps of Engineers in the 1960s.[3] The creek channel east of Foothill Boulevard is less modified compared to the reach further downstream. The creek flows above ground just to the east of the northern segment of the Project area.

Sulphur Creek is a tributary to San Lorenzo Creek and flows from the eastern foothills west through underground culverts and storm drains, ultimately discharging to San Lorenzo Creek. As shown in **Figure 12-1**, the majority of the creek has been modified for development and flows underground. Where the proposed project would intersect Sulphur Creek, flows have been relocated in an underground culvert.

The Ward Creek, which is a tributary to Alameda Creek, flows west from the Hayward Hills northeast of California State University at Hayward, then south through the City of Hayward. The creeks intermittently flow above ground, but the majority of flows are directed within underground culverts. Within the Project area, Ward Creek starts as a naturalized channel as it flows through Memorial Park but then the creek is directed into underground culverts underneath Mission Boulevard.

Flood Conditions

Floodplains are a naturally occurring feature near a river or creek. During large storm events, creeks will overtop their banks, thus flooding an extent of the surrounding area. As mentioned above, creeks within the Project area have been modified, with one purpose being to prevent property damage and loss of life from flooding of floodplain areas. To determine the risk of flooding, and thereby reduce flood damage, the Federal Emergency Management Agency (FEMA) produces Flood Insurance Rate Maps (FIRMs) that identify areas of flooding based on existing and planned development and existing flood control facilities. According to FEMA, areas with a 1 percent (1 in 100) chance, or more, of flooding in any one year are defined as the 100-year floodplain.

[3] Ibid.

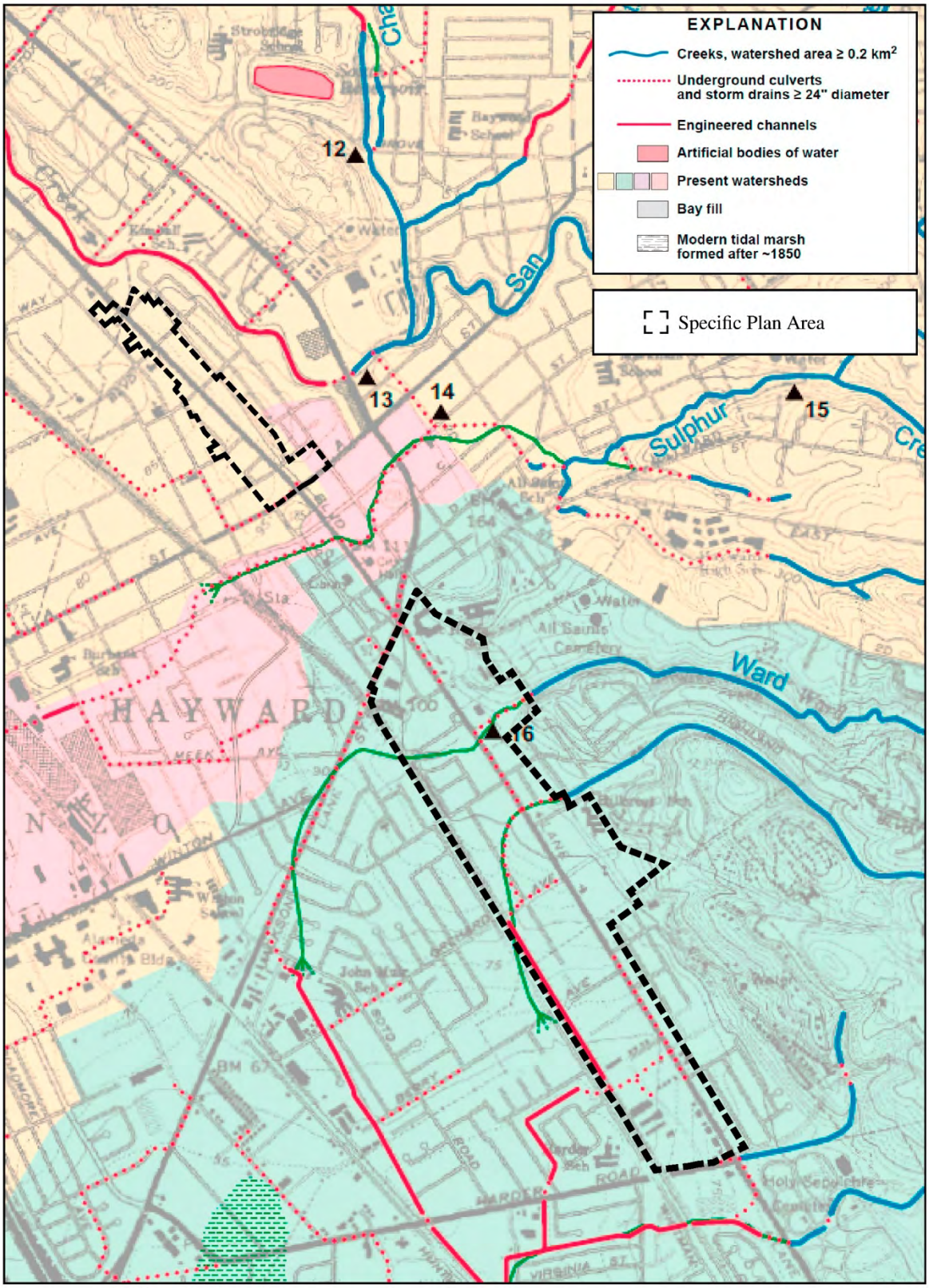

Figure 12-1: Creek and Watershed Map.

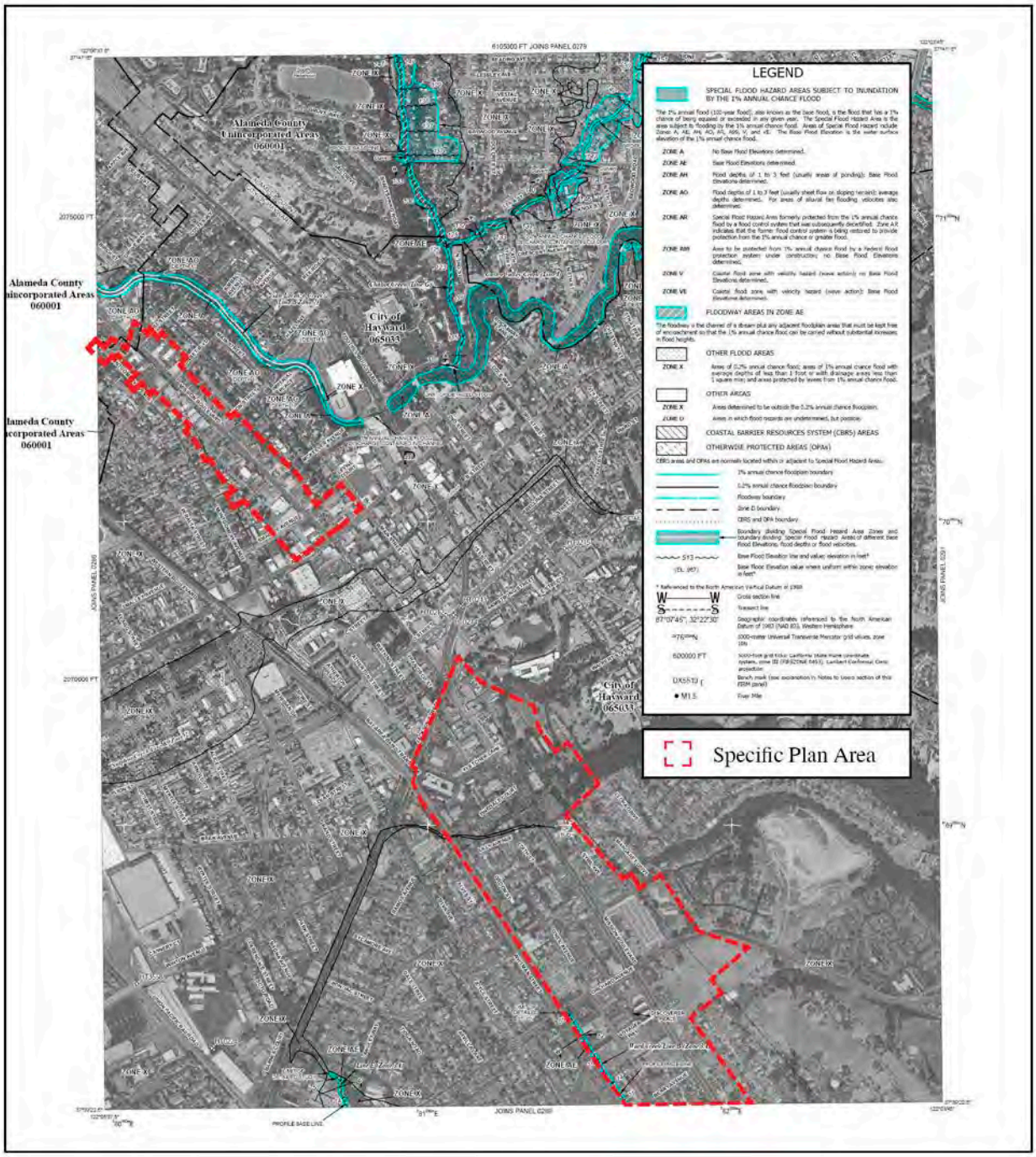

Figure 12-2: FEMA FIRM Map (Map No. 06001C0289G, dated August 3, 2012).

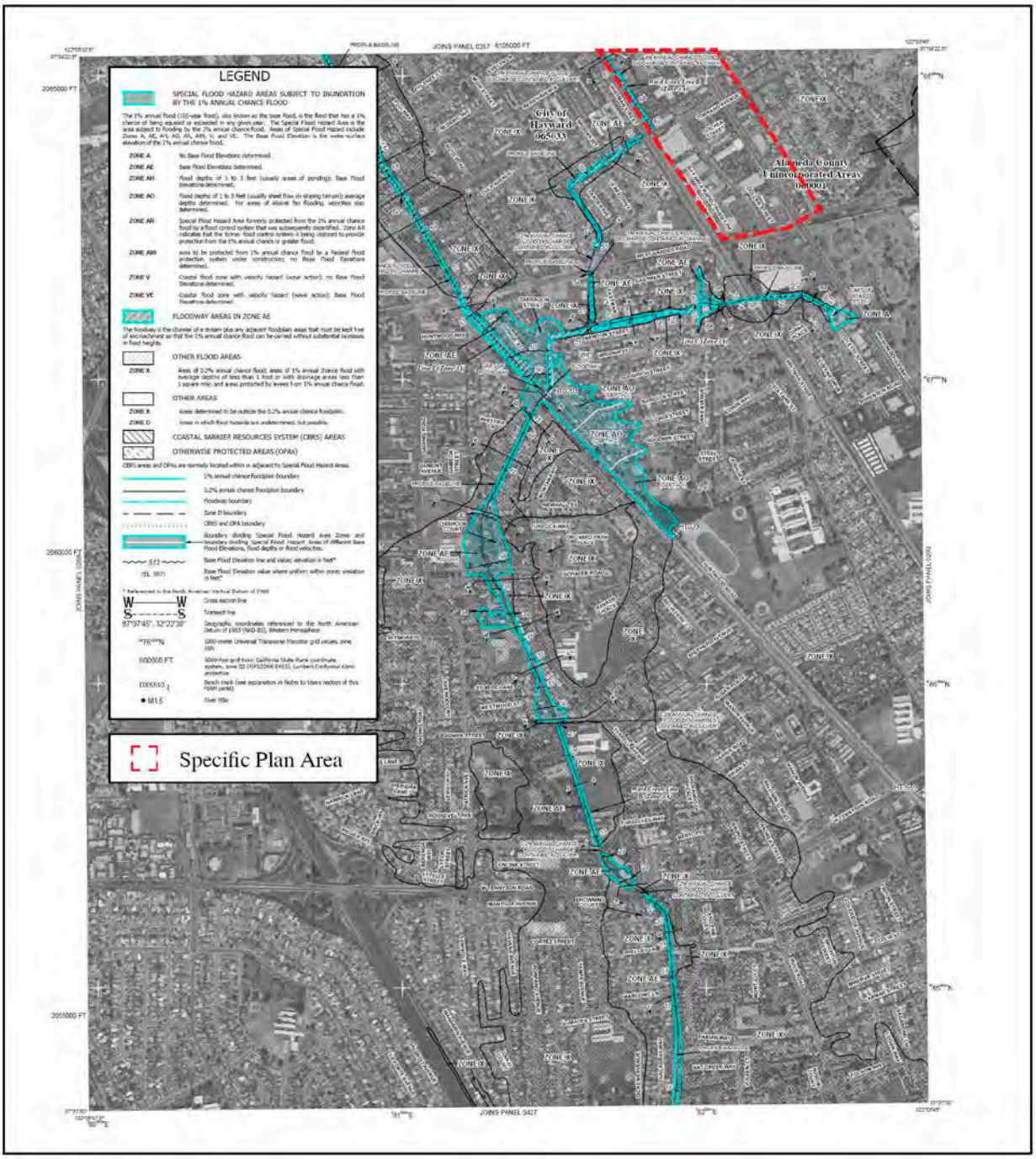

Figure 12-3: FEMA FIRM Map (Map No. 06001C0287G, dated August 3, 2012).

As shown in **Figures 12-2** (FEMA Flood Insurance Rate Map), 100-year flood flows in San Lorenzo Creek occur outside of the Project area and are contained within engineered channels and underground culverts. As shown in **Figures 12-2** and **12-3** (FEMA Flood Insurance Rate Map), there is an area where 100-year flows related to a channelized portion of Ward Creek abut but are not located within the Project area.

The Alameda County Flood Control and Water Conservation District provides flood protection for Alameda County residents and businesses. The Flood Control District plans, designs, constructs, and maintains flood control projects such as natural creeks, channels, levees, pump stations, dams, and reservoirs. Most of the City of Hayward (including the Project area) is located within Neighborhood Zone 3A f the Flood Control District. Zone 3A is also subject to a Flood Control District prepared Drainage Master Plan prepared in 2010. Ward Creek, an engineered channel in proximity to the Project area, is also a Flood Control District managed facility.

Surface Water Quality

Under the 2002 Clean Water Act Section 303(d), the San Lorenzo and Alameda Creeks are listed as impaired waterbodies due to the pesticide diazinon.[4] Sources for this impairment originate from urban runoff and storm sewers. A Total Maximum Daily Load (TMDL) was approved in 2005 for all Bay Area urban creeks, including San Lorenzo and Alameda Creeks.[5] Implementation of the TMDL plan is required as part of National Pollution Discharge Elimination System (NPDES) permits, as described below in the regulatory setting section.

Groundwater Hydrology

The Project area is located in the East Bay Plain Subbasin, which is part of the Santa Clara Valley Groundwater Basin.[6] The East Bay Plain Subbasin covers an area of 122 square miles, encompassing parts of Alameda and Contra Costa Counties.[7] Water-bearing formations in this subbasin consist of Quaternary-age unconsolidated sediments.[8] Deposits include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and Artificial Fill[9]. The unconsolidated sediments have a cumulative thickness of about 1,000 feet.[10]

Due to movement of the Hayward fault, groundwater levels in the vicinity of the Project are expected to be variable, with depths to groundwater occurring at ten (10) to fifteen (15) feet below ground surface east of the Mission Boulevard and twenty (20) to thirty (30) feet below

[4] California Regional Water Quality Control Board, Resolution R2-2005-0063.

[5] Ibid.

[6] U.S. Geological Survey, California Hydrologic Report 2010.

[7] Ibid.

[8] Ibid.

[9] Ibid.

[10] Ibid.

ground surface west of Mission Boulevard.[11] However, it's important to note that, within the Project area, groundwater depths can vary significantly within short distances surrounding the fault.[12]

The City of Hayward does not utilize groundwater as a source of domestic potable supply for its residents. Instead, the City primarily relies on water from the San Francisco Public Utilities Commission (SFPUC). However, the City operates five emergency wells that can service its residents for a short duration. However, these wells are not considered a source of day-to-day water supply for the City.[13]

Groundwater Quality

Within the East Bay Plain Subbasin, the groundwater is calcium bicarbonate-rich in the upper 200 feet of the subsurface, and sodium bicarbonate-rich at depths between 200 and 1,000 feet deep. Total dissolved solids in the shallow zone range from 360 to 1,020 mg/1, while total dissolved solids at deeper depths range from 310 to 1,420 mg/1.[14]

According to the Department of Toxic Substances Control's (DTSC) EnviroStar Database, there is one property within the northern Project area segment (at 21659 Mission Boulevard) that has an open evaluation case for potential soil and groundwater contamination due to past vehicle maintenance activities.[15] According to the State Water Resources Control Board's GeoTracker Database, there are a number of properties throughout the Project area with open Leaking Underground Tank (LUST) Cleanup Sites; each with soils or groundwater that may have been contaminated.[16]

REGULATORY SETTING

Federal Regulations

Clean Water Act

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit. In other words, permit review is the CWA's primary regulatory tool, as discussed below.

List of Impaired Waterbodies

Under CWA §303(d) and California's Porter-Cologne Water Quality Control Act of 1969, the

[11] Route 238 Improvement Project EIR, SCH #2005112116, Page 3.7-5.

[12] Ibid.

[13] City of Hayward, 2010 Urban Water Management Plan.

[14] U.S. Geological Survey, California Hydrologic Report 2010.

[15] EnviroStar ID: 60000807 (http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60000807).

[16] State Water Resources Control Board (http://geotracker.waterboards.ca.gov/default.asp).

State of California is required to establish beneficial uses of state waters and to adopt water quality standards to protect those beneficial uses. CWA §303(d) establishes the Total Maximum Daily Load (TMDL) process to assist in guiding the application of state water quality standards, requiring the states to identify streams whose water quality is "impaired" (affected by the presence of pollutants or contaminants) and to establish the TMDL or the maximum quantity of a particular contaminant that a waterbody can assimilate without adverse effect.

As mentioned, both San Lorenzo Creek and Alameda Creek are listed under CWA §303(d) as impaired by diazinon from urban runoff and storm sewers. The TMDL for all urban creeks in the San Francisco Bay was established in 2005.[17]

CWA Permits for Stormwater Discharge

CWA §402 regulates construction-related storm water discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, which is administered by the EPA. In California, the State Water Resources Control Board (SWRCB) is authorized by the EPA to oversee the NPDES program through the Regional Water Quality Control Boards. The Project area is under the jurisdiction of the San Francisco Bay RWQCB.

The SWRCB issues both general and individual permits for certain activities, including construction and municipal activities, as discussed below.

Construction Activities. Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff associated with Construction Activities (General Construction Permit), provided that the total amount of ground disturbance during construction exceeds one (1) acre. The San Francisco Bay RWQCB enforces the General Construction Permit. Coverage under a General Construction Permit requires preparation of a storm water pollution prevention plan (SWPPP) and submittal of a Notice of Intent (NOI). The SWPPP includes pollution prevention measures (erosion and sediment control measures and measures to control non-stormwater discharges, and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a best management practices monitoring and maintenance schedule. The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

Dewatering Activities. Small amounts of construction-related dewatering discharges are covered under the General Construction Permit. Flow diversions are not considered dewatering discharges. However, pumping of groundwater seepage from an excavation and subsequent discharge would be considered a dewatering discharge. For dewatering discharges that do not meet the criteria in the General Construction Permit, the San Francisco Bay RWQCB would need to be consulted and may require that an individual NPDES permit and Waste Discharge Requirement be obtained for dewatering activities. Under the Project, future development activities that involve excavating below subsurface groundwater elevations would be likely to require dewatering.

[17] California Regional Water Quality Control Board, Resolution R2-2005-0063.

Municipal Activities. Municipal discharges of storm water runoff are regulated under the NPDES General Permit for Municipal Small Storm Sewer Systems (MS4) (MS4 Permit). Coverage under this permit requires development and implementation of a storm water management plan with the goal of reducing the discharge of pollutants to the maximum extent practicable. MS4 permits are issued and enforced by the RWQCBs.

The RWQCB issued a joint municipal storm water permit to the seventeen (17) agencies and cities participating in the Alameda Countywide Clean Water Program (ACCWP).[18] The participating entities include Alameda County; the Alameda County Flood Control Department and its Zone 7; and the Cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City. The ACCWP is responsible for helping participant entities ensure that they are fulfilling their obligations under the permit and for preparing detailed reports that describe what each entity is doing to prevent stormwater pollution. The ACCWP coordinates its activities with other pollution prevention programs, such as wastewater treatment, hazardous waste disposal, and waste recycling.

The ACCWP has developed a Storm Water Quality Management Plan that describes its approach to reducing stormwater pollution. The Project area is located in the City of Hayward, a participating entity of the ACCWP, and future development activities would be within the boundaries addressed by the ACCWP.

In 2009, the RWQCB reissued the ACCWP joint municipal stormwater permit and included additional requirements (Provision C.3) specifically addressing control of stormwater impacts associated with new development and redevelopment projects. Provision C.3 states that permit holders must incorporate stormwater source control measures, site design principles, and treatment control measures in new development and significant redevelopment projects to reduce water quality effects of storm water runoff for the life of these projects.

Generally, new development and redevelopment projects must incorporate on-site treatment of storm water runoff into project designs. These requirements apply to project applications, submitted after December 1, 2012, creating or replacing more than5,000 square feet of impervious surface area. The ACCWP published a guidance manual, which directs member agencies on application and implementation of stormwater control measures. Provision C.3 requirements of the ACCWP permit are enforced according to this guidance manual. New development and redevelopment projects must also develop a hydro graph modification management plan (HMP) that includes analysis of the project's potential to modify the stormwater hydrograph. Specifically, projects must address potential increases in the frequency and duration of flow magnitude and runoff volume from increased impervious surfaces.

[18] California Regional Water Quality Control Board, Order R2-2009-0074.

Federal Flood Insurance Program

Alarmed by increasing costs of disaster relief, Congress passed the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The intent of these acts is to reduce the need for large publicly funded flood control structures and disaster relief by restricting development on floodplains.

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA issues FIRMs for communities participating in the NFIP. These maps delineate flood hazard zones in the community. FEMA-designated floodplains in the Project area are illustrated in **Figure 12-2** and **12-3** (FEMA Flood Insurance Rate Map).

State Regulations

The Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, passed in 1969, articulates with the federal CWA (see Clean Water Act above) to establish the SWRCB, dividing the state into nine (9) regions, each overseen by an RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, but much of its daily implementation authority is delegated to the nine RWQCBs.

The Porter-Cologne Act provides for the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters. Basin plans are primarily implemented by using the NPDES permitting system to regulate waste discharges so that water quality objectives are met (see discussion of the NPDES system in the "Clean Water Act" section above). Basin plans are updated every three (3) years and provide the technical basis for determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals.

The RWQCB has adopted the San Francisco Bay Area Basin Plan to implement plans, policies, and provisions for water quality management in the region.[19] Beneficial uses of surface waters are identified (for major surface waters and their tributaries) and described in the Basin Plan. In addition, the Basin Plan identifies water quality objectives for the protection of the beneficial uses of the basin. The Porter-Cologne Act also assigns responsibility for implementing CWA §§401-402 and 303(d) to the State Water Resources Control Board and RWQCBs.

The process of designating beneficial uses involves defining the resources, services, and qualities of the aquatic system. Beneficial uses are defined and designated by the RWQCB in their Basin Plan. Beneficial uses of San Lorenzo Creek include warm freshwater habitat (WARM), cold freshwater habitat (COLD), freshwater replenishment (FRSH), groundwater recharge (GWR),

[19] San Francisco Bay Basin (Region 2), Water Quality Control Plan, (Basin Plan), California Regional Water Quality Control Board, approval date of December 31, 2011.

fish migration habitat (MIGR), municipal and domestic water supply (MUN), contact (REC I) and non-contact (REC2) water recreation, fish spawning habitat (SPWN) and wildlife habitat (WILD). The RWQCBs have set water quality objectives for all surface waters in the basins concerning bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, sulfide, tastes and odors, temperature, toxicity, turbidity and un-ionized ammonia. In addition, specific objectives for concentrations of chemical constituents are applied to bodies of water based on their designated beneficial uses.

Groundwater Management Act of 1992 (AB 3030)

California's Groundwater Management Act (Water Code §§10750-10756) gave existing local agencies expanded authority over the management of groundwater resources in basins recognized by the California Department of Water Resources (DWR). Its intent was to promote the voluntary development of groundwater management plans in order to ensure stable groundwater supplies for the future. Under the Act, a groundwater management plan is defined as providing for "planned use of the groundwater basin yield, storage space, transmission capability, and water in storage."

The Act stipulates the technical components of a groundwater management plan as well as procedures for such a plan's adoption, including passage of a formal resolution of intent to adopt a groundwater management plan, and holding a public hearing on the proposed plan. The Act also requires agencies to adopt rules and regulations to implement an adopted plan, and empowers agencies to raise funds to pay for the facilities needed to manage the basin, such as extraction wells, conveyance infrastructure, recharge facilities, and testing and treatment facilities.

Local Regulations

Hayward General Plan

The City's General Plan conservation and environmental protection element contains the following policies and strategies to protect existing water courses and enhance water quality in surface water and groundwater sources.

- Protect existing watercourses and enhance water quality in surface water and groundwater sources. (Policy 3) (Page 7-22)
- Retain surface watercourses in their natural condition to the greatest extent possible. (Strategy 1) (Page 7-22)
- Explore opening (or daylighting) water channels in selected areas to increase visibility to the public, enhance the aesthetics of the creekside environment, and provide for limited public access as appropriate. (Strategy 2) (Page 7-22)
- Concentrate development in those areas least susceptible to erosion, and minimize grading and the introduction of impervious ground surfaces; where appropriate, consider including retention basins onsite. (Strategy 3) (Page 7-22)

- Maintain continuity of creekside vegetation, with sufficient setback of development from creek slopes, with sensitive flood control designs, and with maintenance or reestablishment of native trees. (Strategy 4) (Page 7-22)
- Protect riparian plant communities from direct encroachment of development and from the adverse effects of increased storm water runoff, sedimentation, or erosion that may occur from improper development in adjacent areas. (Strategy 5) (Page 7-22)
- Discourage groundwater withdrawal in areas where the activity could result in intrusion of saltwater into freshwater aquifers. (Strategy 6) (Page 7-22)
- Conduct inventory of private wells to assure the health and safety of citizens and to protect groundwater supplies. (Strategy 7) (Page 7-22)
- Take an active role in increasing the use of reclaimed water and educating the community about the benefits of such efforts. (Strategy 9) (Page 7-22)

Municipal Code

Stormwater Management and Urban Runoff Control Ordinance, Chapter 11, Article 5

The City of Hayward has developed a Storm Water Management and Urban Runoff Control Ordinance to ensure the future health, safety and general welfare of the residents of the City. The intent of this ordinance is to protect and enhance the water quality of water bodies, wetlands and watercourses in a manner pursuant to and consistent with the CWA. Under the Ordinance, no person shall commit or cause to be committed any of the following acts, unless a written permit has first been obtained from the Director of Public Works:

- Discharge into or connect any pipe or channel to a watercourse.
- Modify the natural flow of water in a watercourse.
- Carry out development within a watercourse setback.
- Deposit in, plant in, or remove any material from a watercourse including its banks, except as required for necessary maintenance.
- Construct, alter, enlarge, connect to, change, or remove any structure in a watercourse.
- Place any loose or unconsolidated material along the side of or within a watercourse or so close to the side as to cause a diversion of the flow, or to cause a probability of such material being carried away by storm water passing through such watercourses.

Flood Plain Management Ordinance, Chapter 9, Article 4

The City of Hayward has adopted a Flood Plain Management Ordinance to implement the Cobey-Alquist Flood Plain Management Act (Water Code sections 8400 set seq.) and comply with the eligibility requirements of the National Flood Insurance Program established pursuant to federal law (42 U.S.C. section 4001 et seq.). The Flood Plain Management Ordinance does this

through methods and provisions that:

- Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
- Require that properties vulnerable to floods, including facilities on such properties, be protected against flood damage at the time of initial construction;
- Control the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- Control filling, grading, dredging, and other development which may increase flood damage; and
- Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

IMPACT ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of hydrology and water quality, implementation of the Project would have a significant effect on the environment if it were to:

- 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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.

- Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other approved flood hazard delineation map.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Inundation by seiches, tsunami, or mudflow.

WATER QUAILTY STANDARD VIOLATION

Impact Hyd-1 **(Short-term, Construction-Related Water Quality Impacts).** Future construction activities in the Project area could lead to exceedance of water quality objectives or criteria. However, adherence to local and state water quality control requirements would ensure no significant impact results. (***Less Than Significant Impact with Mitigation)***

Development associated with implementation of the Project would include construction activities, such as building demolition, clearing and grubbing, pavement removal and replacement, excavation and trenching for foundations and utilities, soil compaction, cut and fill activities, and grading, all of which would temporarily disturb soils.

Disturbed soils are susceptible to high rates of erosion from wind and rain which could result in sediment transport from the Project area. Erosion and sedimentation affect water quality through interference with photosynthesis, oxygen exchange, and the respiration, growth, and reproduction of aquatic species. Other pollutants, such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported with sediment to downstream locations. Sediment-associated pollutants could also cause or contribute to degradation of water quality.

The delivery, handling, and storage of construction materials and wastes, as well as the use of construction equipment, could also introduce a risk for stormwater contamination that could impact water quality. Spills or leaks from heavy equipment and machinery can result in oil and grease contamination, and some hydrocarbon compound pollution associated with oil and grease can be toxic to aquatic organisms at low concentrations. Staging areas or building sites can be sources of pollution because of the use of paints, solvents, cleaning agents, and metals during construction. Impacts associated with metals in stormwater include toxicity to aquatic organisms, such as bioaccumulation, and the potential contamination of drinking supplies.

Pesticide use (including herbicides, fungicides) associated with site preparation work (as opposed to pesticide use for landscaping) is another potential construction activities source of stormwater contamination. Pesticide impacts to water quality include toxicity to aquatic species and bioaccumulation in larger species. Larger pollutants, such as trash, debris, and organic matter, are additional pollutants that could be associated with construction activities. Impacts include health hazards and aquatic ecosystem damage associated with bacteria, viruses, and vectors and physical changes to the aquatic ecosystem.

Mitigation Measure

Hyd-1 **Compliance with City Water Quality Requirements and State NPDES Construction General Permit.** All construction activities, including installation and realignment of utilities, would be subject to existing regulatory requirements, including the SWRCB statewide NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit) (Order No. 2009 0009-DWQ, NPDES No. CAR000002). The NPDES Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list BMPs that the discharger will use to protect stormwater runoff, including the placement and timing of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; and a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs.

Implementation of Mitigation Measure Hyd-1 would reduce potential short-term construction-related water quality impacts to a level of ***Less Than Significant***. Therefore, the construction activities associated with development projects implemented under the Project would not violate water quality standards.

Impact Hyd-2 **(Long-term, Post-Construction Water Quality Impacts).** Operational impacts associated with increased development under the Project could adversely affect water quality and lead to a violation of an applicable standard. However, adherence to local and state water quality control requirements would ensure no significant impact results. (***Less Than Significant Impact with Mitigation)***

Currently, the Project area is predominately developed with residential, commercial and industrial uses. Most of those uses are accompanied by surface parking lots. Development anticipated under the Project would generally increase the intensity of development. However, a substantial increase in impervious surface area is not anticipated to result since the majority of the Project area is already covered by buildings and pavement. The Project would, over time, include the construction of new roads to improve vehicular and pedestrian connectivity. Overall, an increased intensity of land use and associated traffic contain the potential to increase contributions in the discharge of polluted runoff.

Stormwater runoff from the long-term development of the Project area would be typical of urban watersheds with similar land uses and may contain constituents such as landscaping chemicals (e.g., nitrates, phosphates, herbicides, and pesticides), automobile and traffic pollutants (e.g., oil, grease, metal brake dust, metal wear), trash and debris, pathogens (e.g., wildlife and pet waste), sediment with associated attached pollutants from soil erosion or aerial deposition of dust, and chemicals leaching from structures (e.g., metals from metal roofs and architectural features,

calcium from limestone). These materials could contaminate surface water through direct contact with water in a stream channel or through runoff to local streams.

Stormwater runoff in the public right of way will be treated with approved tree well filters sized and spaced to accommodate the impervious area within the right of way. Grass medians and other planted areas in the public right of way may also be used to provide storm water treatment of the public streets. Stormwater on private lots will be treated in conformance with Regional Water Quality Control Boards (RWQCB) requirements. Treatment measures may include infiltration, vegetated swales, bio-retention, rain water gardens, green roofs, or other treatment measures that provide the required level of treatment.

Mitigation Measure

Hyd-2 **Compliance with NPDES Permit Requirements, City Ordinances and ACCWP Guidelines.** All development must comply with the California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MS4 Permit), City of Hayward Storm Water Management and Urban Runoff Control Ordinance, and Alameda County Clean Water Program(ACCWP) Guidelines.

Implementation of Mitigation Measure Hyd-2 would reduce potential long-term water quality impacts to a level of ***less than significant***. Therefore, the operational activities associated with development projects implemented under the Project would not violate water quality standards.

GROUNDWATER SUPPLY AND RECHARGE

Impact Hyd-2 **(Groundwater Recharge).** The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. (***Less Than Significant Impact***)

As shown in Figure 9-6 in Chapter 9 (Geology & Soils), groundwater has been measured at depths of up to 10 feet from ground surface. Alterations to groundwater movement patterns or to the water table elevation could affect groundwater withdraw activities (i.e., well pumping) and, thus, affect local water supply services. However, the underlying groundwater basin is not utilized as a water supply and no pumping activities currently occur within the City of Hayward. Therefore, the Project would result in a ***less than significant*** impact on groundwater supply.

DRAINAGE PATTERN ALTERATION

Impact Hyd-3 **(Drainage Pattern Alteration).** The Project would not substantially alter the existing drainage pattern of the area, would not alteration of the course of a stream or river and, consequently, would not result in substantial erosion, siltation or flooding on- or off-site. (***Less Than Significant Impact***)

As mentioned, the Project area is already urbanized. Stormwater from the Project area is accommodated by existing stormwater infrastructure consisting of curb/gutter within existing

roadways, buried stormwater lines, and engineered channels. The Project would not substantially alter the drainage pattern established by those existing facilities. Though the southern segment of the Project area would, incrementally over time, include the construction of new roadways (with corresponding stormwater infrastructure), stormwater flows from those new roadways would connect to existing streets and, thereby maintain a substantially similar drainage pattern.

Though some stormwater flows from the Project area would eventually reach San Lorenzo and Ward Creeks, the Project would not alter those water features. Similarly, though the Project contains the potential for short-term and long-term impacts related to erosion and siltation, compliance with the mandatory stormwater permit requirements identified in Mitigation Measures Hyd-2 and Hyd-3, would ensure no substantial erosion or siltation would result.

Therefore, for these reasons, the Project would result in a ***less than significant*** impact with regard to drainage pattern alteration.

STORMWATER SYSTEM CAPACITY

Impact Hyd-4 **(Stormwater System Capacity).** Future development within the Project area may create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems but would not provide substantial additional sources of polluted runoff. However, through the submittal of site-specific drainage plans and, where necessary, modifications to the existing stormwater facilities or construction of new facilities would ensure no significant impact would result under this criterion. (***Less Than Significant Impact with Mitigation)***

Major stormwater facilities in the Project area are owned and maintained by the Alameda County Flood Control and Water Conservation District (ACFC&WCD), and local storm drain systems are owned and maintained by the City of Hayward. In general, the storm drain system consists of gravity pipe lines, predominantly made of reinforced concrete, which discharge to underground storm drain lines or manmade open channels owned by the ACFC&WCD. Flows eventually drain into to the San Francisco Bay.

Collected stormwater from the north segment of the Project area is routed to the west through a twenty-four (24) inch main along Sunset Boulevard or a twenty-one (21) inch main along Grace Street, which both drain into ACFC&WCD-owned mains varying between thirty-six (36) to forty-two (42) inches. Stormwater from the southern segment of the Project area also flows to the west through several mains of various sizes, ranging from fifteen (15) inch to seventy-two (72) inch, and discharge into ACFC&WCD-owned lines. It is assumed that collected Project-related stormwater would not, with implementation of mitigation measures Hyd-1 and Hyd-2, result in substantial increase in polluted runoff.

Each development implemented under the Project has potential to generate additional stormwater runoff to the existing stormwater system. The ability of downstream drainage facilities to accommodate increased flows from developments in the Project area, especially during storm events when the rate of stormwater flows would be the greatest, has not been determined and could result in localized flooding. The Route 238 Corridor Improvements Project has added

1,000 feet of eighteen (18) inch storm drain to Mission Boulevard adjacent to Carlos Bee Boulevard (i.e., within Project area). While that improvement is intended to improve the stormwater system, developments in the Project area could contribute increased flows resulting in localized flooding.

Mitigation Measure

Hyd-4 **(Site-specific Drainage Plans).** Site-specific drainage plans shall be prepared for all future construction within the Project area prior to approval of a grading permit, or a building permit in the event a grading permit is not required. Each report shall include a summary of existing (pre-project) drainage flows from the project site, anticipated increases in the amount and rate of stormwater flows from the site and an analysis of the ability of downstream facilities to accommodate peak flow increases. The analysis shall also include a summary of new or improved drainage facilities needed to accommodate stormwater increases. Each drainage plan shall be reviewed and approved by the City Public Works Director prior to approval of a grading or building permit.

Implementation of Mitigation Measure Hyd-4 would reduce potential stormwater system impacts to a level of ***less than significant***. With implementation of that mitigation measure, incremental changes or increases contributions of flows to the stormwater system would not result in deficiencies and/or localized flooding.

OTHERWISE DEGRADE WATER QUALITY

The Project would not degrade water quality for reasons other than those addressed in the prior stormwater discussion topics. Any future developments within the Project area containing unique or different aspects which could not be anticipated at the time of preparing this document and with the potential to result in water quality degradation would be expected to undergo additional environmental review in accordance with CEQA Guidelines §15168(c). Therefore, under this criterion, the Project would result in ***no impact***.

FLOOD WATER HAZARDS, 100-YEAR FLOOD

Impact Hyd-5 **(100-Year Flood Hazard).** Construction of buildings or other improvements adjacent to the channelized portion of Ward Creek (south of Orchard Avenue; north of Torrance Avenue) would be placed in proximity to but not within a mapped 100-year flood hazard area. However, site-specific studies would ensure flood hazards are identified and addressed to prevent damage to persons and property. (***Less Than Significant Impact with Mitigation)***

As depicted in Figures 12-2 and 12-3 above, a portion of the Project area includes a mapped 100-year flood hazard area. Though that mapped flood hazard area is depicted at contained within the engineered channel of Ward Creek, the FEMA FIRM map does not necessarily identify all areas subject to flooding, particularly those from local drainage sources of small size. Therefore, this

EIR conservatively assumes that the Project could result in the placement of housing within a flood hazard area and, consequently, subject the buildings and inhabitants to harm.

Mitigation Measure

Hyd-5 **(100-Year Flood Hazard).** Development proposals adjacent to the channelized portion of Ward Creek (south of Orchard Avenue; north of Torrano Avenue) shall include a hydrology and hydraulic study, prepared by a California-Registered Civil Engineer, and which addresses whether the subject site would be subject to a flood hazard and whether flood waters would not be increased on any surrounding sites. If that study confirms the proposed development would be subject to a flood hazard, all proposed development shall be removed from the flood hazard area through measures including, but not limited to, increasing the topographic elevation of the site or similar steps to minimize flood hazards. The study shall be reviewed and approved by the Public Works Director, shall comply with Municipal Code Chapter 9, Article 4, and shall include, at minimum, a Conditional Letter of Map Revision (CLOMR) to remove the site from the FEMA Flood Insurance Rate Map 100-year flood hazard area.

Implementation of Mitigation Measure Hyd-5 would reduce potential flood hazard impacts to a level of ***less than significant***. With implementation of that mitigation measure, flood hazards would be identified and, where present, development proposals would be designed to avoid such hazards including measures to ensure flood waters do not affect off-site properties.

FLOOD WATER HAZARDS, DAM, LEVEE, TSUNAMI, SEICHE

Impact Hyd-6 **(Flood Hazard, Dam or Levee).** The northern portion of the Project area has the potential to be exposed to a flood hazard from dam or levee failure. No tsunami or seiche hazard is present. Mandatory compliance with standard building and safety codes would ensure flood hazards from dam or levee inundation are not significant. (***Less Than Significant Impact)***

According to Hayward General Plan's Tsunami and Dam Failure Inundation Hazard Map, dam failure at the Don Castro Reservoir would flood areas to the north of the northern Project area segment (i.e., near San Lorenzo Creek). The dam failure of Don Castro Reservoir would occur under the most severe conditions, such as extreme seismic activity. Due to the relatively flat topography and its distant location from the ocean and San Francisco Bay, inundation by a tsunami or seiche event is not expected to affect the Project area.

Future development projects evaluated under the Project would be constructed according to standard building and safety codes and consistent with the recommendations of a site-specific

geotechnical investigation. This is expected to ensure general structural integrity, and provide adequate protection against failure related to geologic conditions (landslide, earthquake, etc.), as discussed in Chapter 9 (Geology & Soils) of this EIR. Therefore, the Project would result in a ***less than significant*** impact relative to flood hazards resulting from a dam failure, seiche, tsunami, or mudflow.

CUMULATIVE IMPACTS

Continued development pursuant to the Hayward General Plan would result in impacts on water quality, particularly due to increased concentrations of urban contaminants and altered surface hydrology. However, the General Plan also includes plans to improve and protect hydrologic features within the City limits, as stated in the Regulatory Setting above. Additionally, the City, through participation in the Alameda Countywide Clean Water Program and compliance with the municipal NPDES stormwater permit requirements, provides regional protection of water resources within the City limits. As discussed above, after implementation of mitigation measures, the Project would not significantly alter hydrology or water quality at the project-scale compared to existing conditions. Thus, in consideration of the City's existing and planned measures to protect hydrologic features, including water quality, the Project would result in a ***less than significant*** cumulative impact.

13

LAND USE & PLANNING

INTRODUCTION

This chapter addresses the potential for the Project to divide an established community as well as the potential for any conflicts with applicable land use plans, policies or regulations; including habitat conservation plans.

PHYSICAL SETTING

The City of Hayward is known as the "Heart of the Bay," thanks to its central and convenient location in Alameda County along the east side of the San Francisco Bay, twenty-five (25) miles southeast of San Francisco, fourteen (14) miles south of Oakland, twenty-six (26) miles north of San Jose, and ten (10) miles west of the valley communities of San Ramon, Dublin and Pleasanton.

The modern City of Hayward had its origins in the 1850s during the Gold Rush. The city's site lay within the boundaries of Rancho San Lorenzo, a 17,000-acre estate granted in 1821 to the Mexican colonist Guillermo Castro. In 1854, Castro had a map surveyed for a town covering 28 blocks in the vicinity of his adobe (a site now occupied by Hayward's Historic City Hall) and began selling land to settlers. Castro also sold a large tract to William Hayward, who built a general store and lodging house at present-day A and Main Streets, near the intersection of the principal road from Oakland to San Jose (i.e., current-day Mission Boulevard) and the road from the bayshore landings to the Castro and Livermore Valleys. The settlement that grew up around Hayward's Hotel became known as Haywards, later shortened to Hayward.

The Project area generally straddles Mission Boulevard in the City of Hayward (See **Figure 1-1**). The Hayward General Plan identifies the northern Project segment as within the North Hayward neighborhood; the southern segment is shown within the Mission/Foothill neighborhood.[1] The downtown area of Hayward lies in between either Project area segment. Established residential neighborhoods and various commercial buildings flank both sides of the Mission Boulevard in the Project area. These established areas are presently connected by a series of public roads. One connectivity barrier is present at the southern portion of the Project area and consists of rail tracks for the BART.

The Project area's existing development and land use characteristics are comprehensively documented in the April 7, 2010 "Existing Conditions Analysis and Synoptic Survey for the

[1] Page 2-8, Hayward General Plan.

Mission Boulevard Corridor Specific Plan Form-Based Code."

REGULATORY SETTING

Hayward General Plan

The City of Hayward General Plan Land Use Element designates the Project area as a "Focus Area" (i.e., Mission Boulevard Corridor) where the implementation of smart growth principles is considered appropriate. The General Plan contemplates the undertaking of planning processes for Focus Areas, like the current Project, and which are envisioned to revitalize residential and commercial areas. The General Plan provides the following text narrative for the Mission Boulevard Corridor:

> *Hayward's quintessential commercial strip is soon to become the focus of renewed attention. With expansion of the redevelopment area, new tools will be available to help property owners and businesses and the city make long-desired improvements. Streetscape improvements and undergrounding utilities are high on the list. Locating auto dealers closer together and providing adequate sites for their operations is also a high priority. New housing is also envisioned in selected locations. Well-designed high density housing clusters along Mission Boulevard would help to revitalize the area by providing needed ownership and rental housing, upgrading the appearance of the street frontage, providing a population base to support resident-serving commercial activities, and locating housing near public transit to encourage its use.*
>
> *The Mission Boulevard corridor is comprised primarily of disjointed commercial clutter, in part due to annexation of developed land and the long-held conviction that major arterials are undesirable for housing and should be limited to commercial development. However, well-designed high-density housing nodes along this major thoroughfare would help to revitalize the area by providing needed ownership and rental housing, upgrading the appearance of the street frontage, providing a population base to support resident serving commercial activities, and by locating housing near public transit to encourage its use. This type of development might provide sufficient incentive to invest in upgrading public transit systems sufficiently that there would be negligible impact on automobile trip generation. Instituting a requirement that such housing be required to include a neighborhood-serving commercial component if such services were not in walking distance could assure that cars were not essential to living there. It would also allow the City to reduce parking requirements so that more efficient use could be made of the development site. One of the greatest challenges along Mission Boulevard is to create a healthy balance between high-density housing and commercial endeavors so as to assure a high quality of life for both the residents and the businesses.*[2]

The General Plan provides the following land use polices and strategies relevant to the Project and issue of land use planning, policy, and regulation:

[2] Page 2-11 to 2-12, Hayward General Plan.

Balance of Land Uses

- Employ sound planning principles to promote a balance of land uses and achieve a vibrant urban development pattern that enhances the character of the city. (Policy 1)
- Seek to achieve an improved balance between jobs and housing in the Hayward planning area. (Strategy 1)
- Assure adequate infrastructure capacities to accommodate planned growth. (Strategy 2)
- Maintain an adequate supply of land designated and zoned for residential use at appropriate densities to meet housing needs, consistent with the objective of maintaining a balance of land uses. (Strategy 3)
- Promote mixed-use development where appropriate to ensure a pedestrian-friendly environment that has opportunities such as housing, jobs, child care, shopping, entertainment, parks and recreation in close proximity. (Strategy 4)

Transit-Oriented Development

- Support higher-intensity and well-designed quality development in areas within ½ mile of transit stations and ¼ mile of major bus routes in order to encourage nonautomotive modes of travel. (Policy 2)
- Encourage mixed-use zoning that supports integrated commercial and residential uses, including live-work spaces, in activity centers and along major transit corridors. (Strategy 1)
- Encourage high-density residential development along major arterials and near major activity or transit centers, and explore the establishment of minimum densities in these areas. (Strategy 2)
- Consider shared parking arrangements for mixed-use developments within the Downtown area and along major arterials. (Strategy 3)
- Encourage design that orients development to the transit station and facilitates the use of transit. (Strategy 4)

Mission/Foothill Corridor

- Promote transit-oriented development in the Mission/Foothill Corridor in order to help relieve regional congestion and create a distinctively attractive commercial boulevard. (Policy 5)
- Create a more transit-oriented environment by encouraging a balance of land uses, including a mix of commercial and residential uses. (Strategy 1)
- Seek to concentrate new car dealerships within Auto Row and buffer surrounding uses as

appropriate. (Strategy 2)

- Encourage the location of university-oriented retail and entertainment uses within the community. (Strategy 3)
- Work to develop enhanced transit opportunities along Mission Boulevard that serve the two Hayward BART stations and California State University-Hayward. (Strategy 4)

Infill Development

- Promote infill development that is compatible with the overall character of the surrounding neighborhood. (Policy 1)
- Encourage visual integration of projects of differing types or densities through the use of building setbacks, landscaped buffers, or other design features. (Strategy 1)
- Consider modifications to design guidelines and regulations that provide for flexibility in the review of residential additions while maintaining the integrity of the neighborhood. (Strategy 2)
- Ensure that design guidelines reflect concerns about the preservation of viewsheds. (Strategy 3)
- Promote walkable neighborhoods by encouraging neighborhood-serving commercial activities within residential areas. (Strategy 4)
- Encourage development that is designed to provide direct pedestrian connections between housing and supporting activities. (Strategy 5)

The General Plan currently provides a number of land use designations to properties within the Project area, as depicted in **Figure 3-15** (Existing General Plan Designations). The Project would replace many of those existing designations with a Sustainable Mixed Use designation as depicted in **Figure 3-16** (Proposed General Plan Designations).

Mission-Foothills Neighborhood Plan

The Mission-Foothills Neighborhood Plan applies to the southern segment of the Project area (i.e., south of Jackson Street). Concerning the topic of land use, the Mission-Foothills Neighborhood Plan contains a series of summary policies which are followed by numerous detailed strategies. Summary policies include:

- Respect environmental limitations (Policy A)
- Preserve and enhance environmental features (Policy B)
- Shape residential development for long-term livability (Policy C)
- Provide adequate schools, parks and recreation (Policy D)

- Foster neighborly commercial development (Policy E)
- Design appropriate local streets (Policy G)
- Provide for pedestrian, bike and transit travel (Policy H)
- Build community (Policy I)

The Mission-Foothills Neighborhood Plan was adopted in March 1992. At that time, the City of Hayward was faced with the prospect of the California Department of Public Transportation's proposal to construct a Route 238 Bypass (freeway) through the Hayward Hills. That proposal has since been abandoned.

North Hayward Neighborhood Plan

The North Hayward Neighborhood Plan applies only to the northern segment of the Project area (i.e., north of A Street). Concerning the topic of land use, the North Hayward Neighborhood Plan contains a series of summary policies which are followed by numerous detailed strategies. Summary policies include:

- Request city-wide policies for neighborhood safety and stability (Policy A)
- Support neighborhood character in land use policies (Policy B)
- Support neighborhood standards and public safety (Policy C)
- Seek more logical boundary for city limits (Policy D)
- Provide public facilities and amenities in north Hayward (Policy E)
- Design circulation and transportation to respect needs of residents (Policy F)

The North Hayward Neighborhood Plan was adopted in July 1994. The City of Hayward was also faced with the prospect of the California Department of Public Transportation's proposal to construct a Route 238 Bypass through the Hayward Hills during the preparation of this neighborhood plan. As mentioned, that proposal has since been abandoned.

Zoning and Subdivision Regulations

Properties within the Project area are presently subject to a variety of zoning designations. As shown in **Figure 3-3** (Existing Zoning Designations), a range of residential zoning for low-density, medium-density, high-density housing apply, as well as commercial zoning for differing ranges of office, retail and service businesses. The Project would replace all of those existing zoning designations with either a Transect or Civic Zone designation (see **Figure 3-16** (Proposed Regulating Plan).

Many development types proposed for location in the Project area presently may require Site Plan Review (Zoning Ordinance §10-1.3000). Under the Project, Site Plan Review would be required for all new proposed development. In order to authorize Site Plan Review approval, the

City decision-making authority must make all the findings under Municipal Code §10-1.3025.

IMPACT ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of land use and planning, implementation of the Project would have a significant effect on the environment if it were to:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY

The Project would be located within an existing urban environment and would not divide an existing community. In fact, components of the Project (e.g., Thoroughfare Plan, Figure 1-2) will help facilitate enhanced vehicular, pedestrian and bicycle access in the area through the provision of new public streets. As such, the Project would result in ***No Impact*** relative to the issue of physically dividing an established community.

PLAN, POLICY OR REGULATION CONFLICT

There are no Hayward General Plan EIR mitigation measures, related to land use policy or regulation, with which the Project would conflict. The Project would serve to implement many policies of the Hayward General Plan including, but not limited to,

- Promote mixed-use development where appropriate to ensure a pedestrian-friendly environment that has opportunities such as housing, jobs, child care, shopping, entertainment, parks and recreation in close proximity.
- Support higher-intensity and well-designed quality development in areas within ½ mile of transit stations and ¼ mile of major bus routes in order to encourage non-automotive modes of travel.
- Encourage design that orients development to the transit station and facilitates the use of transit.
- Encourage the location of university-oriented retail and entertainment uses within the community.

- Promote walkable neighborhoods by encouraging neighborhood-serving commercial activities within residential areas.
- Encourage development that is designed to provide direct pedestrian connections between housing and supporting activities.

Additionally, as mentioned, the Project consists one of the contemplated planning efforts within a Focus Area (i.e., Mission Boulevard Corridor) delineated by the General Plan and intended to undergo substantial change through revitalization activities. As such, the Project would result in ***No Impact*** relative to conflicts with applicable plans, policies or regulations.

CONSERVATION PLAN CONFLICT

The Project site is not subject to a Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, the Project would result in ***No Impact*** relative to conflicts with applicable conservation plans.

CUMULATIVE IMPACTS

The Project is an implementation of the Hayward General Plan and would result in ***No Impact*** under the topic of land use. All future projects under the Project's build-out would be required to be first reviewed for conformance with this Program EIR and, if new or changed circumstances or potentially significant impacts not identified in the Program EIR were discovered, subsequent analysis of their respective land use impacts would be required under CEQA. Therefore, the incremental impact of the proposed Plan, when considered in combination with build-out under the Hayward General Plan, would not result in cumulatively significant impacts related to land use.

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14

MINERAL RESOURCES

SETTING

PHYSICAL SETTING

The Project area consists of an urban environment which has not historically been utilized for mineral extraction and nor is it used for such purposes today. No oil, gas, or geothermal resources are located in the City of Hayward, including the Project area.[1] There are no exploratory core holes or completed/abandoned oil wells on or near the Project area.[2] There are also no mapped areas of aggregate resource within the City of Hayward.[3]

REGULATORY SETTING

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act (SMARA) intends "to create and maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations to assure that adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses; the production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and residual hazards to the public health and safety are eliminated."

SMARA calls for land use decisions that may affect mineral-bearing lands to be made with the knowledge of these resources. To facilitate this informed decision-making, SMARA requires the State Geologist to classify areas with potential for significant mineral resources and local agencies to incorporate the information into their General Plans. Aggregate materials are classified as either reserves or resources. Neither of these aggregate classifications have been mapped in the Hayward's incorporated boundaries.

The State Geologist prepared 1982 Aggregate Resource Sectors: South San Francisco Bay P-C Region map identifies one aggregate resource sector of regional significance, in the City of

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[1] California Department of Conservation (http://www.conservation.ca.gov/dog/maps/Pages/index_map.aspx).

[2] California Department of Conservation (http://maps.conservation.ca.gov/doms/doms-app.html).

[3] California Department of Conservation, Designation of Regionally Significant Construction Aggregate Resources Areas in the South San Francisco Bay, North San Francisco Bay, Monterey Bay: Production-Consumption Regions, January 1987.

Hayward. That sector is the former La Vista Quarry which ceased operation on or about the year 2008. The Alameda County issued Surface Mining and Reclamation Permit No. 37 (SMP-37) has expired, and the City of Hayward has since approved a development project for the site consisting of residential and open space land uses.

General Plan

The Hayward General Plan contains no goals, objectives or policies relative to mineral resources.

IMPACT ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of aesthetics and this Program EIR, implementation of the Project would have a significant effect on the environment if it were to:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

MINERAL LOSS

There are no mining activities on or near the Project area. No mining operation is proposed as part of the Project. The Project area is not located within a mapped mineral resource zone and no mineral resources of State or regional significance are present. Additionally, the Project area is not designated for mining activities in the City's General Plan. Rather, the Project area is currently designated for a range of urban development and associates land uses by the Hayward General Plan and Zoning Map. As such, the Project will result in ***No Impact*** relative to the loss of any mineral resources of local, regional or statewide importance.

15

NOISE

INTRODUCTION

This chapter addresses the potential for the Project to expose persons to excessive noise levels on a permanent basis or temporary/periodic basis, the potential for the Project to permanently increase existing ambient noise levels, or the potential for the Project to expose persons to excessive aircraft-related noise from public airports or a private airstrip. Information contained in this chapter is derived from a number of sources including: the Hayward General Plan, the Hayward General Plan Update EIR, and a Noise & Vibration Study by Illingworth & Rodkn Noise Study dated, November 30, 2012.

PHYSICAL SETTING

Environmental Noise Fundamentals

Noise can generally be defined, in a qualitative sense, as unwanted sound. It is commonly measured with an instrument called a sound level meter. The sound level meter captures the sound with a microphone and converts it into a number called a sound level. Sound levels are expressed in units of decibels (dB). To correlate the microphone signal to a level that corresponds to the way humans perceive noise, the A-weighting filter is used. A-weighting de-emphasizes low-frequency and very high-frequency sound in a manner similar to human hearing. The use of A-weighting is required by most local General Plans in California (including the City of Hayward's) as well as federal and state noise regulations (e.g. Caltrans, EPA, OSHA and HUD). The abbreviation dBA is sometimes used when the A-weighted sound level is reported. Technical terms used in this study are defined in **Table 15-1** (Definitions of Acoustical Terms).

Because of the time-varying nature of environmental sound, there are many descriptors that are used to quantify the sound level. Although one individual descriptor alone does not fully describe a particular noise environment, taken together, they can more accurately represent the noise environment. The maximum instantaneous noise level (Lmax) is often used to identify the loudness of a single event such as a car passing by or airplane flyover. To express the average noise level the Leq (equivalent noise level) is used. The Leq can be measured over any length of time but is typically reported for periods of 15 minutes to 1 hour. The background noise level (or residual noise level) is the sound level during the quietest moments. It is usually generated by steady sources such as distant freeway traffic. It can be quantified with a descriptor called the L90 which is the sound level exceeded 90 percent of the time. Typical noise levels encountered in the environment are summarized in **Table 15-2** (Typical Noise Levels in the Environment).

TABLE 15-1: DEFNITIONS OF ACOUSTICAL TERMS	
Term	**Definition**
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

To quantify the noise level over a 24-hour period, the Day/Night Average Sound Level (DNL or Ldn) or Community Noise Equivalent Level (CNEL) is used. These descriptors are averages like the Leq except they include a 10 dB penalty during nighttime hours (and a 5 dB penalty during

evening hours in the CNEL) to account for peoples increased sensitivity during these hours. The CNEL and Ldn are typically less than one (1) decibel from each other. In environmental noise, a change in noise level of 3 dB is considered a just noticeable difference. A 5 dB change is clearly noticeable, but not dramatic. A 10 dB change is perceived as a halving or doubling in loudness.

TABLE 15-2: TYPICAL NOISE LEVELS IN THE ENVIRONMENT

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), Caltrans, November 2009.

Generalized Effects of Noise

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise. The Occupational Safety and Health Administration's (OSHA) noise exposure standard is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight (8) hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Sleep and Speech Interference

The thresholds for speech interference indoors are about forty-five (45) dBA if the noise is steady and above fifty-five (55) dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about forty-five (45) dBA have been shown to affect sleep. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn} and nighttime levels are 10 dBA lower. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA L_{dn}.

Typical structural attenuation is twelve (12) to seventeen (17) dBA with open windows. With closed windows in good condition, the noise attenuation factor is around twenty (20) dBA for an older structure and twenty-five (25) dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about fifty-seven (57) to sixty-two (62) dBA L_{dn} with open windows and sixty-five (65) to seventy (70) dBA L_{dn} if the windows are closed.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources.

When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 55 dBA L_{dn}. At an L_{dn} of about 60 dBA, approximately two (2) percent of the population is highly annoyed. When the L_{dn} increases to seventy (70) dBA, the percentage of the population highly annoyed increases to about twelve (12) percent of the population. There is, therefore, an increase of about one (1) percent per dBA between an L_{dn} of sixty (60) to seventy (70) dBA. Between an L_{dn} of seventy (70) to eighty (80) dBA, each decibel increase increases by about two (2) percent the percentage of the population highly annoyed.

People appear to respond more adversely to aircraft noise. When the L_{dn} is sixty (60) dBA,

approximately ten (10) percent of the population is believed to be highly annoyed. Each decibel increase to seventy (70) dBA adds about two (2) percentage points to the number of people highly annoyed. Above seventy (70) dBA, each decibel increase results in about a three (3) percent increase in the percentage of the population highly annoyed.

Sensitive Receptors

Some land uses are more sensitive to environmental noise than others due to the types of activities that occur and the degree of insulation from the noise. Typically residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks for passive use are more sensitive than offices, retail, and industrial uses. Consequently, the noise standards for sensitive land uses are more stringent than those at less sensitive uses.

Environmental Vibration Fundamentals

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several methods are typically used to quantify the amplitude of vibration including Peak Particle Velocity (PPV) and Root Mean Square (RMS) velocity. PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. RMS velocity is defined as the average of the squared amplitude of the signal, usually measured in decibels referenced to 1micro-in/sec and reported in VdB. PPV and VdB vibration velocity amplitudes are used to evaluate human response to vibration.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where ground-borne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows. In urban environments sources of ground-borne vibration include construction activities, light and heavy rail transit, and heavy trucks and buses.

Construction

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related ground-borne vibration levels. Because of the impulsive nature of such activities, the use of the peak particle velocity descriptor (PPV) has been routinely used to measure and assess ground-borne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of .008 to 0.012 in/sec, PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to a building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity (e.g., impact pile driving) occurs immediately adjacent to the structure.

Table 3 (Reaction of People and Damage to Buildings from Continuous or Frequent/Intermiitent Vibration Levels) displays continuous vibration impacts on human annoyance and on buildings. As discussed previously, annoyance is a subjective measure and vibrations may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying.

TABLE 15-3: REACTION OF PEOPLE AND DAMAGE TO BUILDINGS FROM CONTINUOUS OR FREQUENT INTERMITTENT VIBRATION LEVELS

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Virtually no risk of damage to normal buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

Source: Transportation- and Construction-Induced Vibration Guidance Manual, California Department of Transportation, June 2004.

Railroads and BART

Rail operations are potential sources of substantial ground-borne vibration depending on distance, the type and the speed of trains, and the type of railroad track. People's response to ground-borne vibration has been correlated best with the velocity of the ground. The velocity of the ground is expressed on the decibel scale. The reference velocity is 1 x 10-6 in. /sec. RMS, which equals 0 VdB, and 1 in. /sec. equals 120 VdB. Although not a universally accepted notation, the abbreviation "VdB" is used in this document for vibration decibels to reduce the potential for confusion with sound decibels.

One of the problems with developing suitable criteria for ground-borne vibration is the limited research into human response to vibration and more importantly human annoyance inside buildings. The U.S. Department of Transportation, Federal Transit Administration has developed rational vibration limits that can be used to evaluate human annoyance to ground-borne vibration. These criteria are primarily based on experience with passenger train operations, such as rapid transit and commuter rail systems. The main difference between passenger and freight operations is the time duration of individual events; a passenger train lasts a few seconds whereas a long freight train may last several minutes, depending on speed and length.

Vibration levels below 65 VdB are below the threshold for human perception. Typical background vibration levels in residential areas are usually 50 VdB or lower, well below the threshold of perception for most humans. Perceptible vibration levels inside residences are attributed to the operation of heating and air conditioning systems, door slams and foot traffic. Construction activities, train operations, and street traffic are some of the most common external sources of vibration that can be perceptible inside residences. Table 4 illustrates some common sources of vibration and the association to human perception or the potential for structural damage.

TABLE 15-4: TYPICAL LEVELS OF GROUNDBORNE VIBRATION

Human/Structural Response	Velocity Level, VdB	Typical Events (50-foot setback)
Threshold, minor cosmetic damage	100	Blasting, pile driving, vibratory compaction equipment
		Heavy tracked vehicles (Bulldozers, cranes, drill rigs)
Difficulty with tasks such as reading a video or computer screen	90	
		Commuter rail, upper range
Residential annoyance, infrequent events	80	Rapid transit, upper range
Residential annoyance, occasional events		Commuter rail, typical Bus or truck over bump or on rough roads
Residential annoyance, frequent events	70	Rapid transit, typical
Approximate human threshold of perception to vibration		Buses, trucks and heavy street traffic
	60	
		Background vibration in residential settings in the absence of activity
Lower limit for equipment ultra-sensitive to vibration	50	

Source: Transit Noise and Vibration Impact Assessment, US Department of Transportation Federal Transit Administration, May 2006.

Noise Sources and Exposure

The most pervasive and significant noise source in the project area is vehicular traffic noise on the streets and highways. Interstate 880 and State Route 238 (Foothill Boulevard and Mission Boulevard) carry the highest volumes of traffic and are the noisiest roadway corridors. Interstate 580 touches the northern edge of Hayward and does generate significant noise levels at sensitive receptors at the northern edge of the community overlooking the roadway.

The Union Pacific Railroad (UPRR) tracks run through central Hayward and along the west side. The Bay Area Rapid Transit system (BART) runs generally parallel to the central Hayward UPRR track and also is a significant source of wheeled rail noise through central Hayward. There are two sources of aviation-related noise in Hayward - aircraft originating or landing at the Hayward Executive Airport and flight operations at Oakland International Airport. However, aviation-related noise from those sources would not be excessive upon the Project area.[1]

Levels of fifty-five (55) to sixty (60) dBA are common along collector streets and secondary arterials, while sixty-five (65) to seventy (70) dBA is a typical value for a primary/major arterial. Levels of seventy-five (75) to eighty (80) dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, those facing major roadways and freeways typically need special glass windows.

Existing Noise Levels in Project Area

A noise monitoring survey was completed to establish existing baseline noise levels within the Specific Plan Areas and surrounding neighborhoods. Noise measurements were made between Thursday, August 16, 2012 and Monday, August 20, 2012. Long-term measurements were made at six locations designated LT-1 through LT-6. These measurements were made over a period of several days. Short-term measurements were made at eight additional locations designated ST-1 through ST-8. These short-term (10 minute) duration measurements were made on August 16 and August 17. The measurement locations are shown on **Figure 15-1** (Noise Monitoring Locations).

Long-term noise measurement locations were selected to establish baseline conditions along the major transportation corridors within the Project Area, including Mission Boulevard, Jackson Street, Carlos Bee Boulevard, BART, and Harder Road. The measured 24-hour day/night average noise levels (Ldn) are summarized in **Table 15-5** (Measured Noise Levels at Long-term (LT) Locations). The noise measurement results show that existing noise levels along the major transportation corridors range from about 65-74 dBA Ldn. It should be noted that the measured noise level along Harder Road was about 5 dBA lower because the measurement was made at about twice the distance from the roadway as the other measurements.

[1] See Figure 15-1 which illustrates absence of excessive airport-related noise exposure to the Project area.

TABLE 15-5: MEASURED NOISE LEVELS AT LONG-TERM (LT) LOCATIONS

Location	Date	L_{dn}
LT-1 50 feet from the center of Mission Blvd at Hotel Ave.	Saturday 8/18/12 Sunday 8/19/12	69 68
LT-2 70 Feet from the center of Jackson St at Watkins St.	Friday 8/17/12 Saturday 8/18/12 Sunday 8/19/12	74 74 72
LT-3 75 feet from the center of Mission Blvd. at Sorenson Rd.	Friday 8/17/12 Saturday 8/18/12 Sunday 8/19/12	72 72 69*
LT-4 50 feet from the center of Carlos Bee Blvd. at Overlook Ave	Friday 8/17/12 Saturday 8/18/12 Sunday 8/19/12	66 66 65
LT-5 West End of Berry Ave adjacent to BART	Friday 8/17/12 Saturday 8/18/12 Sunday 8/19/12	69 66 64
LT-6 120 Feet from the center of Harder Road at Bel Aire Drive	Friday 8/17/12 Saturday 8/18/12 Sunday 8/19/12	60 60 59

*Based on 23 hour measurement.

TABLE 15-6: MEASURED NOISE LEVELS AT SHORT-TERM (ST) LOCATIONS

Location	Date/Time	L_{eq}	L_{max}	L_1	L_{10}	L_{50}	L_{90}
ST-1 Front of 22146 Prospect St.	8/17/12/11:00 am	51	64	61	53	48	46
ST-2 Mission Blvd. at Simon St	8/17/12/11:10 am	70	90	81	71	65	57
ST-3 East A St. at Watkins St	8/17/12/11:30 am	66	80	77	69	62	58
ST-4 24410 Leona Dr.	8/16/12/11:50 am	49	62	58	51	47	45
ST-5 Front of 24292 Alves St.	8/16/12/12:10 pm	47	63	61	47	41	38
ST-6 Mission Blvd. north of Harder Rd	8/16/12/12:30 pm	63	73	72	68	60	54
ST-7 25562 Del mar near Belmont Ave.	8/16/12/11:50 am	57	66	64	58	56	56
ST-8 Del Mar St. north of Harder Rd.	8/16/12/12:10 pm	60	73	68	63	59	57

The short-term measurement locations were selected to characterize variations in the noise environment throughout the study area. Of particular interest were the residential areas away from major transportation corridors. The results of the measurements are shown in **Table 15-6** (Measured Noise Levels at Short-term Locations). It can be seen that measured noise levels,

represented by the Leq energy average noise level, were sometimes as low as 47-51 dBA during the daytime in the quiet areas, while a noise measurement during the corresponding time period reached 70 dBA Leq along Mission Boulevard. These measurements demonstrate that there is a wide range of noise levels that exist within the Project Areas.

Figure 15-1: Noise Monitoring Locations.

REGULATORY SETTING

Federal Regulations

Department of Housing and Urban Development (HUD)

HUD environmental criteria and standards are presented in 24 CFR Part 51. New residential construction qualifying for HUD financing proposed in high noise areas (exceeding 65 dBA Ldn) must incorporate noise attenuation features to maintain acceptable interior noise levels. A goal of 45 dBA Ldn is set forth for interior noise levels and attenuation requirements are geared toward achieving that goal. It is assumed that, with standard construction, any building will provide sufficient attenuation to achieve an interior level of 45 dBA LDN or less if the exterior level is 65 dBA Ldn or less. Approvals in a "normally unacceptable noise zone" (exceeding 65 decibels but not exceeding 75 decibels) require a minimum of 5 decibels additional noise

attenuation for buildings if the day-night average is greater than 65 decibels but does not exceed 70 decibels, or minimum of 10 decibels of additional noise attenuation if the day-night average is greater than 70 decibels but does not exceed 75 decibels.

Federal Highway Administration

Proposed federal or federal-aid highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes requires an assessment of noise and consideration of noise abatement per Title 23 of the Code of Federal Regulations, Part 772 (23 CFR Part 772), "Procedures for Abatement of Highway Traffic Noise and Construction Noise." Mission Boulevard north of A Street is State Route 238 and is subject to these regulations that are implemented by Caltrans. FHWA has adopted noise abatement criteria (NAC) for sensitive receivers such as picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals when "worst-hour" noise levels approach or exceed 67 dBA Leq. Caltrans has further defined approaching the NAC to be 1 dBA below the NAC for noise sensitive receivers identified as Category B activity areas (e.g., 66 dBA Leq is considered approaching the NAC).

Federal Transit Administration

The Federal Transit Administration (FTA) has identified vibration impact criteria for sensitive buildings, residences, and institutional land uses near rail transit and railroads. The thresholds for residences and buildings where people normally sleep (e.g., nearby residences) are 72 VdB for frequent events (more than 70 events of the same source per day), 75 VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (less than 30 vibration events of the same source per day). The criteria are shown in **Table 15-7** (Groundborne Vibration Impact Criteria).

State Regulations

California Noise Insulation Standards

California establishes minimum noise insulation performance standards for hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings as set forth in the 2010 California Building Code (Chapter 12, Appendix Section 1207.11). The noise limit is a maximum interior noise level of 45 dBA Ldn. Where exterior noise levels exceed 60 dBA Ldn, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the noise limit. The General Plan facilitates the implementation of the Building Code noise insulation standards.

TABLE 15-7: GROUNDBORNE VIBRATION IMPACT CRITERIA

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 µinch/sec, RMS)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
CATEGORY 1 Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]
CATEGORY 2 Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
CATEGORY 3 Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006, FTA-VA-90-1003-06.

Notes: (1) "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category; (2) "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations; (3) "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines; (4) This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research should always require detailed evaluation to define the acceptable vibration levels. Ensuring low vibration levels in a building requires special design of HVAC systems and stiffened floors.

Division of Aeronautic Noise Standards

Title 21 of the California Code of Regulations sets forth the State's airport noise standards. In the findings described in Section 5006, the standard states the following: "A level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep, and community reaction." Based on this finding, the airport noise standard as defined in Section 5012 is set at a CNEL of 65 dB.

California Department of Transportation – Construction Vibration

There are no applicable state plans, policies, regulations or laws related to ground-borne vibration from construction activities, but guidance developed by the California Department of Transportation (Caltrans) has been used in past construction vibration impact assessments of projects developed in Hayward. Caltrans uses a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards. A conservative vibration limit of 0.30 in/sec PPV has been used for older buildings that are found to be structurally sound but cosmetic damage to plaster ceilings or walls is a major concern. For historic buildings or buildings that are documented to be structurally weakened, a conservative limit of 0.08 in/sec PPV is often used to provide the highest level of protection. All of these limits have been used successfully and compliance to these limits has not been known to result in appreciable structural damage. All vibration limits referred to herein apply on the ground level and take into account the response of structural elements (i.e. walls and floors) to ground-borne excitation.

Local Regulations

Hayward General Plan

The City of Hayward General Plan includes a State-mandated Noise Element which sets forth land use compatibility standards for community noise environments, outlines adjustments to the measured day/night average noise levels to obtain the normalized L_{dn} for comparison to the proposed compatibility standards, and sets forth design objectives for maximum interior noise levels at different land uses. The Noise Element also contains a policy and series of strategies relative to the topic, as described below.

- The City will seek to protect the public health, safety and welfare against the adverse effects of excessive noise. (Policy 13)
    - Provide educational material and assistance to the community regarding noise mitigation, and promote the full disclosure of potential noise impacts within new infill development. (Strategy 1)
    - Continue to review new development to assure compatibility with surrounding land uses and compliance with accepted noise standards. (Strategy 2)
    - Encourage mitigation of noise through appropriate site planning, building orientation, and building materials. (Strategy 3)
    - Cooperate with adjacent jurisdictions and other agencies involved in noise mitigation, and work with transportation companies and/or agencies to mitigate noise impacts. (Strategy 4)
    - Continue to consider potential noise impacts in evaluating proposals for new transportation facilities, including streets and highways. (Strategy 5)

- Encourage the California Department of Transportation (Caltrans) to construct attractive noise barriers along State highways adjacent to noise-sensitive uses. (Strategy 6)

- Investigate methods for decreasing local street noise, such as modification of paving materials, removal of surface irregularities, and synchronization of signals to facilitate smooth traffic flow. (Strategy 7)

- Continue to monitor the effectiveness of noise control programs at the Hayward Executive Airport. (Strategy 8)

- Enact a community noise control ordinance. (Strategy 9) [2]

Appendix N to the General Plan includes guidelines that describe the process to be used in evaluating development proposals with respect to noise levels as well as the standards to be used in the evaluation process. Those guidelines and standards are as follows:

Guidelines for the Review of New Development

A. *New development projects shall meet acceptable noise level standards. The "acceptable" noise standards for new land uses as established in Land Use Compatibility for Community Exterior Noise Environments (see Figure 1) shall be used with further consideration of the following:*

   1. *The maximum acceptable exterior noise level in residential areas is an L_{dn} of 55 dB for single-family development and an L_{dn} of 60 dB for multi-family development. These levels shall guide the design and location of future development, and are the goals for the reduction of noise in existing development. These goals will be applied where outdoor use is a major consideration (e.g., backyards in single-family housing developments and recreation areas in multi-family housing projects). The outdoor standard will normally be applied to any area considered to be "useable open space", including decks and balconies associated with apartments and condominiums.*

   2. *Indoor noise level shall not exceed an L_{dn} of 45 dB in new housing units.*

   3. *If the primary noise source is aircraft or a railroad, noise levels in new residential development exposed to an exterior L_{dn} of 60 dB or greater should be limited to a maximum instantaneous noise level in bedrooms at night of 50 dB(A). Maximum instantaneous noise levels in bedrooms during the daytime and in other rooms should not exceed 55 dB(A).*

   4. *If the primary noise source is a commercial or industrial land use, new residential development shall not be allowed where the ambient noise level due to commercial or industrial noise sources will exceed the noise level standards as set forth in Table 1.*

[2] This strategy has been fulfilled, as discussed below.

Each of the noise level standards specified in Table 1, "Noise and Land Use Compatibility Standards for Industrial and Commercial Noise", shall be reduced by 5 dB(A) for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

5. *Appropriate interior noise levels in commercial, industrial, and office buildings are a function of the use of space and shall be evaluated on a case-by-case basis. Interior noise levels in offices generally should be maintained at 52 Leq (hourly average) or less. The noise guidelines and contours will be used to determine if additional noise studies are needed for proposed new development. Noise studies shall follow a standard format and guidelines.*

B. *Protect the noise environment in existing residential areas. The guidelines are not intended to be applied reciprocally. In other words, if an area currently is below the desired noise standards, an increase in noise up to the maximum should not necessarily be allowed. The impact of a proposed project on an existing land use should be evaluated in terms of the potential for adverse community response based on a significant increase in existing noise levels, regardless of the compatibility guidelines. Specific examples of these situations are described below:*

1. *The project has the potential to generate significant adverse community response due to the increased character of the noise it would generate.*

2. *Noise created by commercial or industrial sources associated with new project or developments shall be controlled so as not to exceed the noise level standards set forth in Table 1 as measured at any affected residential land use. The allowable noise level shall be adjusted up to the ambient noise level.*

In general, the City will require the evaluation of mitigation measures for projects that would cause the L_{dn} to increase by 3 dB(A) or more at an existing residential area.

C. *Locate noise sensitive uses away from noise sources unless mitigation measures are included in development plans. Protect schools, hospitals, libraries, churches, convalescent homes, and other noise sensitive uses from noise levels exceeding those allowed in residential areas.*

D. *Design city streets to reduce noise levels in adjacent areas. Continue to require soundwalls, earth berms, and other noise reduction techniques (e.g., "open grade" or "rubberized" asphalt) as conditions of development approval.*

TABLE 15-8: NOISE ELEMENT - NOISE AND LAND USE COMPATIBILITY STANDARDS

Adjustments to Ambient Noise Levels for Periodic Noise Events

Maximum Cumulative Duration of Noise Event in Any One-Hour Period	Residential Exterior Noise Level Standards dB(A)	
	Daytime (7AM – 10PM)	Nighttime (10PM – 7AM)
30 Minutes +	+ 5	0
15 Minutes +	+ 10	+ 5
5 Minutes +	+ 15	+ 10
1 Minute +	+ 20	+ 15
0-1 Minute	+ 25	+ 20

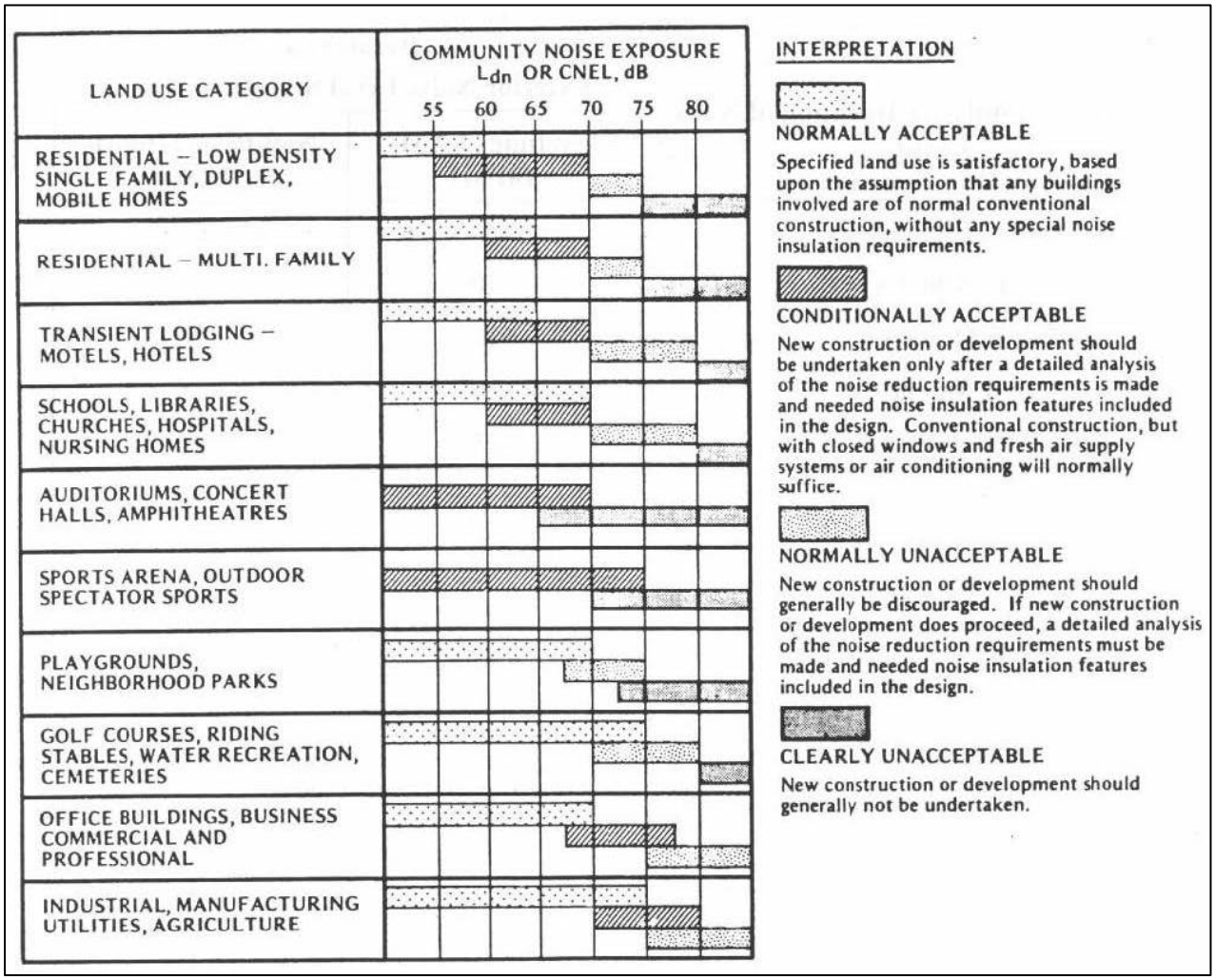

Figure 15-2: Noise Element - Land Use Standards for Community Noise Environments.

Municipal Code – Noise Ordinance

Chapter 4, Article 1 of the Hayward Municipal Code ("Noise Ordinance") regulates community noise levels. Noise Ordinance §4-1.03.1(A) sets residential property noise limits, as follows:

> *(1) No person shall produce or allow to be produced by human voice, machine, device, or any combination of same, on residential property a noise level at any point outside of the property plane that exceeds 70 dBA between the hours of 7:00 AM and 9:00 PM or 60 dBA between the hours of 9:00 PM and 7:00 AM.*
>
> *(2) No person shall produce or allow to be produced by human voice, machine, device, or any combinations of same, on residential property, a noise level more than sixty (60) dBA three feet or from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.*

Noise Ordinance §4-1.03(B) sets commercial and industrial property noise limits, as follows,

> *Except for commercial and industrial property abutting residential property, no person shall produce or allow to be produced by human voice, machine, device, or any other combination of same, on commercial or industrial property, the noise level at any point outside of the property plane that exceeds 70 dBA. Commercial and industrial property that abuts residential property shall be subject to the residential property noise limits set forth in subsections A(1)and (2) above.*

Noise Ordinance §4-1.03.4 regulates noise related to construction and alteration of structures and landscaping activities, as follows:

> *Unless otherwise provided pursuant to a duly-issued permit or a condition of approval of a land use entitlement, the construction, alteration, or repair of structures and any landscaping activities, occurring between the hours of 10:00 AM to 6:00 PM on Sundays and holidays, and 7:00 AM and 7:00 PM on other days, shall be subject to the following:*
>
> *(a) No individual device or piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25 feet from the source. If the device or equipment is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close as possible to 25 feet from the equipment.*
>
> *(b) The noise level at any point outside of the property plane shall not exceed 86 dBA.*
>
> *(c) During all other times, the decibel levels set forth in Section 4-1.03.1 shall control.*

In addition to providing a number of categorical exemptions for certain activities (i.e., Noise Ordinance §4-1.035), the Noise Ordinance also provides that alternate noise standards for construction activities may be established under a duly issued land use entitlement (i.e., Noise Ordinance §4-1.03.4) or Conditional Noise Permit (i.e., Noise Ordinance §4-1.04).

Municipal Code – Site Plan Review

Many development types proposed for location in the Project area presently require Site Plan Review (Zoning Ordinance §10-1.3000). Under the Project, Site Plan Review would continue to be required for many new proposed development projects. In order to authorize Site Plan Review approval, the City decision-making authority must make all the following findings:

- The development is compatible with on-site and surrounding structures and uses and is an attractive addition to the City;
- The development takes into consideration physical and environmental constraints;
- The development complies with the intent of City development policies and regulations; and
- The development will be operated in a manner determined to be acceptable and compatible with surrounding development.

As the findings indicate, the visual quality of future development proposed under the Project would be assessed. Similarly, compatibility with the surroundings would also be examined. It is assumed that conformance with the Project's evaluation standards will serve as a principle guide for determining whether the above-listed findings can be made.

IMPACT ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of noise and this EIR, implementation of the Project would have a significant effect on the environment if it were to:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

NOISE EXPOSURE IN EXCESS OF LOCAL STANDARD

Impact

Noise-1 **(Noise Exposure or Levels in Excess of Local Standards)** Development under the Project could expose future land uses to noise levels exceeding those considered acceptable for such uses. Residential land uses can be expected to be exposed to noise level in excess of 60 dBA throughout the Project area. However, even greater noise levels can be expected at locations immediately adjacent to Mission Boulevard, Jackson Street and railroad tracks. (***Less Than Significant Impact with Mitigation***)

As mentioned in the setting section above, existing noise levels in the Project area were measured for this EIR. Additionally, projected future noise levels were calculated for the year 2035, consistent with the cumulative analysis in Chapter 19 (Transportation). Those existing and project future noise levels are shown in **Table 15-9** (Existing and Future Noise Levels (Ldn)).

Where exterior noise levels exceed 60 dBA Ldn in new residential development areas, interior levels may exceed 45 dBA Ldn. Interior noise levels are about 15 dBA lower than exterior levels within residential units with the windows partially open and approximately 20 to 25 decibels lower than exterior noise levels with the windows closed, assuming typical California construction methods. Single event noise levels resulting from BART and rail trains would similarly exceed the City's residential interior single event noise guidelines of 50 dBA Lmax in bedrooms and 55 dBA Lmax in other rooms. Interior noise levels in commercial and office uses are a function of the space but should generally be limited to 45 dBA Ldn or less.

As shown in **Table 15-9** (Existing and Future Noise Levels (Ldn)), noise along Project-area roadways, rail and the BART corridors could expose residential land uses to levels above the 45 dBA Ldn interior and 60 dBA Ldn exterior compatibility level thresholds. Exterior noise levels in these areas would range from 60 to 75 dBA Ldn, a "conditionally acceptable" or "conditionally unacceptable" noise environment according to the Hayward Noise Element.

City, state, and federal (HUD) guidelines and regulations establish a framework to evaluate and implement noise control measures for future development within the Project Area. The Hayward Noise Element and Noise Ordinance require that noise exposure be reduced to acceptable levels. In accordance with Appendix N of the Noise Element, an acoustical analysis is required for subsequent developments located in "conditionally acceptable" or "normally unacceptable" exterior noise exposure areas and mitigation measures are required to reduce noise impacts to acceptable levels. Therefore, to implement these existing policies and regulations within the Project Area, the following Mitigation Measures Noise-1a, 1b and 1c are recommended:

TABLE 15-9: EXISTING AND FUTURE NOISE LEVELS (LDN)				
Location	**Existing**	**Existing Plus Project**	**Cumulative 2035**	**Cumulative 2035 Plus Project**
LT-1 50 feet from the center of Mission Blvd at Hotel Ave.	69	69	72	72
LT-2 70 Feet from the center of Jackson St at Watkins St.	69	74	74	74
LT-3 75 feet from the center of Mission Blvd. at Sorenson Rd.	72	72	73	73
LT-4 50 feet from the center of Carlos Bee Blvd. at Overlook Ave	66	66	66	66
LT-5 West End of Berry Ave adjacent to BART	69	69	69	69
LT-6 120 Feet from the center of Harder Rd. at Bel Aire Dr.	60	61	63	63

Mitigation Measures

Noise-1a: For subsequent residential projects proposed in the Project area, an acoustic analysis shall be prepared by a qualified acoustical specialist. to demonstrate that interior noise levels can be maintained below 45 dBA Ldn.(Qualifications shall include the following: Bachelor of Science or higher degree from a qualified program in engineering, physics, or architecture offered by an accredited university or college, and five years of experience in noise control engineering). This can typically be accomplished with the incorporation of an adequate forced air mechanical ventilation system in the residential units to allow residents the option of controlling noise by keeping the windows closed.

Noise-1b: For subsequent commercial, industrial and institutional projects proposed in areas where exterior day-night average noise levels are, or are projected to be 60 to 70 dBA Ldn, the need for noise attenuation measures shall be determined by a qualified acoustical specialist on a project by project basis at the time development is proposed. Standard office construction methods typically provide about 25 to 30 decibels of noise reduction in interior spaces.

Noise -1c: Noise levels exceed, or are projected to exceed 70 dBA Ldn, within 200 feet of the railroad tracks, within 150 feet of the centerline of Mission Boulevard, and within 175 feet of the centerline of Jackson Street. At these locations with increased noise levels, an acoustic analysis shall be prepared by a qualified acoustical specialist to demonstrate how interior noise levels can be maintained below 45 dBA Ldn and the adopted single event residential limits set forth in the Noise Element. Potential strategies are expected to be more robust than measures required by Mitigation Measure Noise 1-a and may include, but are not limited to, the inclusion of windows and doors with high

Sound Transmission Class (STC) ratings, and the incorporation of forced-air mechanical ventilation systems necessary to meet 45 dBA Ldn and the Lmax noise limits. Noise barriers may be necessary to shield outdoor activity areas at multi-family residential uses facilitated by the Plan.

GROUNDBOURNE NOISE OR VIBRATION EXPOSURE

Impact

Noise-2a **(Ground Vibration from Rail Operations)** Future development under the Project could expose persons to excessive vibration from rail operations. (***Less Than Significant Impact with Mitigation***)

Ground vibration from conventional railroad trains or BART trains passing in proximity to the southern segment of the Project area could exceed the guidelines set forth by the FTA if new buildings housing sensitive uses (e.g., residences) are constructed within approximately one-hundred (100) feet of the tracks.[3] Employment areas such as offices and research and development facilities may also be subject to excessive ground-borne vibration. However, implementation of Mitigation Measure Noise-2a would reduce groundborne vibration impacts to a ***Less Than Significant Level***.

Mitigation Measure

Noise-2a: New development that is within one-hundred (100) feet of the centerline of existing railroad and BART tracks or other sources of ground-borne vibration shall have a vibration analysis prepared by a qualified vibration specialist that specifies the vibration control measures including, but not limited to, setbacks and structural design features to reduce vibration levels at or below the guidelines of the Federal Transit Administration criteria, consistent with the receiving land use categories of Category 1, Category 2 or Category 3 as shown in **Table 15-7** (Groundborne Vibration Impact Criteria). (Qualifications shall include: Bachelor of Science or higher degree from a qualified program in engineering or physics, offered by an accredited university or college, and five years or experience in vibration control engineering).

Impact

Noise-2b **(Ground Vibration from Construction Vibration)** Future development under the Project could expose persons to excessive vibration from construction activities. (***Less Than Significant Impact with Mitigation***)

Future Project-related construction activities involving the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity. **Table 15-10** (Vibration Source

[3] Groundborne *noise* is not normally an issue with at-grade rail systems and above ground structures.

Levels for Construction Equipment) presents typical vibration levels that could be expected from construction equipment at a distance of twenty-five (25) feet. As noted in that table, the highest levels of ground vibration would typically result from pile driving.

Future Project-related construction activities may extend over several construction seasons, but construction vibration would not be substantial for most of this time except during vibration generating activities. Vibration levels would vary depending on soil conditions, construction methods, and equipment used.

For structural damage, this EIR applies that California Department of Transportation's vibration limits as significance thresholds, as follows:

- 0.5 inches/second, peak particle velocity (in/sec, PPV) for buildings structurally sound and designed to modern engineering standards;
- 0.3 in/sec, PPV for buildings that are found to be structurally sound but where structural damage is a major concern; and
- a conservative limit of 0.08 in/sec, PPV for historic buildings or buildings that are documented to be structurally weakened.

TABLE 15-10: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment		PPV at 25 ft. (in/sec)	Approximate L_v at 25 ft. (VdB)
Pile Driver (Impact)	upper range	1.158	112
	typical	0.644	104
Pile Driver (Sonic)	upper range	0.734	105
	typical	0.170	93
Clam shovel drop		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office 87of Planning and Environment, Federal Transit Administration, May 2006.87

The use of pile drivers, in particular, as well as other vibration causing construction equipment in future Project-related construction activities may exceed building damage thresholds within

twenty-five (25) feet of any building, within one-hundred (100) to two-hundred (200) feet of a historical building, or buildings in poor condition. However, implementation of Mitigation Measure Noise-2b would reduce groundborne vibration impacts to a ***Less Than Significant Level***.

Mitigation Measure

Noise-2b: New development shall minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction. For activities involving the use of a pile driver, a Vibration Control Plan shall be prepared and approved by the Development Services Director or Designee. The Vibration Control Plan shall be prepared by a qualified professional, identify the proximity and sensitivity of nearby structures, and include measures sufficient to reduce vibration below levels before the aforementioned limits.

SUBSTANTIAL PERMANENT NOISE INCREASE

Impact

Noise-3 **(Substantial Permanent Noise Increase - Traffic)** Increased vehicular traffic resulting from the Project would not contribute to a significant or cumulatively considerable increase in ambient noise levels on local roadways. (***Less Than Significant Impact***)

Increases in traffic noise gradually degrade the environment in areas sensitive to noise. According to the Noise element, "In general, the City will require the evaluation of mitigation measures for projects that would cause the Ldn to increase by 3 dB(A) or more at an existing residential area." Vehicular traffic on roadways increases as development occurs and population increases in Hayward and surrounding areas. These projected increases resulting from development over time increase noise levels throughout the community. Proposed roadway modifications could increase or decrease traffic noise levels depending on the circumstances of each project.

Traffic noise levels shown in **Table 15-9** (Existing and Future Noise Levels (LDN)) were projected for future development under the Project as well as other background development (outside of the Project area) for the year 2035. Traffic noise increases above existing levels resulting from the Project would be 0-1 dBA Ldn, an insignificant change. While cumulative development at year 2035 would cause noise levels to increase by up to 3 dBA, that increase would be the same with or without the Project. As such, the Project would not a make a cumulatively considerable contribution to the increased traffic noise. Therefore, the Project would result in a ***Less Than Significant Impact*** relative to a substantial permanent noise increase due to traffic.

Impact

Noise-4 **(Substantial Permanent Noise Increase – Mixed-Use Development)** New mixed-use development projects may include noise generating activities that result in excessive noise at nearby noise sensitive land uses. (***Less Than Significant Impact With Mitigation***)

Mixed use developments, as intended under the Project will likely include residential uses located above or in proximity to commercial uses, and in areas located in proximity to and served by rail (e.g., BART) and bus (e.g., AC Transit) This could expose future land uses to noise levels exceeding those considered acceptable for such uses. Office, commercial, retail, or other noise-generating uses included with mixed-use developments could substantially increase noise levels at nearby or adjacent noise-sensitive land uses (e.g., residential) or could expose receivers to noise levels that exceed the City's Noise Compatibility standards (see Table 6).

Future noise levels resulting from operations at existing and proposed future mixed-use developments and other potential noise-producing land uses are dependent on many variables and information currently unavailable. However, it is reasonable to assume that future mixed-use developments as intended under the Project could introduce new land uses and activities that generate a substantial increase in ambient in noise levels caused by sources such as outdoor dining areas or bars, mechanical equipment, outdoor maintenance areas, truck loading docks and delivery activities, public address systems, and parking lots (e.g., opening and closing of vehicle doors, people talking, car alarms). It is also reasonable to assume that future mixed-use developments may introduce new noise-sensitive land uses into areas where existing land uses and activities already generate substantial ambient noise conditions.

However, with implementation of Mitigation Measure Noise-4, compatible noise levels would be maintained in accordance with Noise Element policies and Noise Ordinance requirements.

Mitigation Measures

Noise-4 Mixed-use developments shall be evaluated on a case-by-case basis to identify and avoid the generation of potentially significant noise levels on on existing and potential future sensitive land uses. Where avoidance is not feasible, noise impacts shall be mitigated by measures including, but not limited to, operation limitations on noise generation activities (e.g., time of day, volume), relocation of noise generating source(s), and/or use of noise attenuation measures such as acoustical enclosures and sound barriers.

With implementation of General Plan policies and the mitigation measure recommended above, potential impacts associated with substantial permanent increases in ambient noise within mixed-use developments will be mitigated to a less than significant level.

SUBSTANTIAL TEMPORARY OR PERIODIC NOISE INCREASE

Impact

Noise-5 **(Substantial Temporary or Periodic Noise Increase)** Future Project-related construction activities may involve construction activities that exceed noise levels established by the Noise Ordinance. (***Less Than Significant Impact with Mitigation***)

Construction activities would occur intermittently at different sites in the Project Area throughout the year 2035. Although the related noise impacts at any one location would be temporary, construction of individual projects could cause adverse localized effects on the ambient noise environment.

Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise sensitive receptors. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), when construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction durations last over extended periods of time.

Major noise-generating construction activities associated with new projects would include removal of existing pavement and structures, site grading and excavation, installation of utilities, the construction of building foundations, cores, and shells, paving, and landscaping. The highest noise levels would be generated during the demolition of existing structures when impact tools are used (e.g., jackhammers, hoe rams) and during the construction of building foundations if impact pile driving is required to support the structure. Site grading and excavation activities would also generate high noise levels as these phases often require the simultaneous use of multiple pieces of heavy equipment such as dozers, excavators, scrapers, and loaders. Lower noise levels result from building construction activities when these activities move indoors and less heavy equipment is required to complete the tasks.

Construction equipment would typically include, but would not be limited to, earth-moving equipment and trucks, pile driving rigs, mobile cranes, compressors, pumps, generators, paving equipment, and pneumatic, hydraulic, and electric tools. **Table 15-11** (Typical Ranges of Noised Levels at 50 feet from Construction Sites (dBA Leq)) presents the typical range of hourly average noise levels generated by different phases of construction measured at a distance of fifty (50) feet from a busy construction site. Typical hourly average construction-generated noise levels are about seventy-seven (77) to eighty-nine (89) dBA Leq measured at a distance of fifty (50) feet from the site during busy construction periods. Large pieces of earth-moving equipment, such as graders, scrapers, and dozers, generate maximum noise levels of eighty-five (85) to ninety (90) dBA Lmax at a distance of fifty (50) feet.

TABLE 15-11: TYPICAL RANGES OF NOISE LEVELS AT 50 FEET FROM CONSTRUCTION SITES (dBA Leq)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

Notes: (I) All pertinent equipment present at site; (II) Minimum required equipment present at site.

Source: United States Environmental Protection Agency, 1973, Legal Compilation on Noise, Vol. 1, p. 2-104.

During each stage of construction, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment on site and the location of the activity. Construction noise levels drop off at a rate of about six (6) dBA per doubling of distance between the noise source and receptor. Intervening structures or terrain would result in lower noise levels at distant receivers.

Temporary increases in noise resulting from Project-related construction activities would typically be mitigated through compliance with the noise levels and construction-period hours of the Noise Ordinance. However, implementation with Mitigation Measure Noise-5 is recommended to ensure all construction activities remain compliant.

Mitigation Measure

Noise-5 In order to maintain compliance with Hayward Noise Ordinance §4-1.03.4, development that includes demolition and/or construction activity exceeding 86 dBA outside of the property plane shall be carried out in accordance with a Construction Noise Logistics Plan approved by the Development Services Director or Designee pursuant to a Conditional Noise Permit authorized in accordance with Hayward Noise Ordinance §4-1.04.

A Construction Noise Logistics Plan shall specify the hours of construction, noise and vibration minimization measures, posting or notification of the

method of construction and schedules, and designation of a noise disturbance coordinator who would respond to neighborhood complaints. Additionally, a Construction Noise Logistics Plan shall include measures required to be in place prior to the start of construction, and implemented during construction to reduce noise impacts on neighboring residents and other uses. A typical construction noise logistics plan would include, but not be limited to, the following measures to reduce construction noise levels as low as practical:

- Utilize 'quiet' models of air compressors and other stationary noise sources where technology exists;
- Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment;
- Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses;
- Locate staging areas and construction material areas as far away as possible from adjacent land uses;
- Prohibit all unnecessary idling of internal combustion engines;
- If impact pile driving is proposed, multiple-pile drivers shall be considered to expedite construction. Although noise levels generated by multiple pile drivers would be higher than the noise generated by a single pile driver, the total duration of pile driving activities would be reduced.
- If impact pile driving is proposed, temporary noise control blanket barriers shall shroud pile drivers or be erected in a manner to shield the adjacent land uses. Such noise control blanket barriers can be rented and quickly erected.
- If impact pile driving is proposed, foundation pile holes shall be pre-drilled to minimize the number of impacts required to seat the pile Pre-drilling foundation pile holes is a standard construction noise control technique. Pre-drilling reduces the number of blows required to seat the pile. Notify all adjacent land uses of the construction schedule in writing;
- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

The potential short-term noise impacts associated with construction would be mitigated through implementation of existing City General Plan policy and regulations which provide reasonable noise standards for construction periods and acceptable noise levels. Mitigation Measure Noise-4 provides a listing of supplemental measures likely to be necessary for larger construction projects, to be incorporated into construction plans and implemented during all phases of construction activity to minimize the exposure of neighboring properties. In combination with the limitations on hours as set forth in the Municipal Code, these measures would reduce construction period noise impacts to a less-than-significant level.

PUBLIC AIRPORT NOISE

Impact Noise-6 **(Public Airport Noise)** The Project is located outside the boundary of an approved airport land use plan but within two miles of a public airport. However, excessive noise exposure to people residing or working in the Project area would not result. ***No Impact*** would result under this criterion.

The City of Hayward has one (1) public airport – the Hayward Executive Airport located approximately 1.75-miles west of the Project area; at the intersection of Hesperian Boulevard and West Winton Avenue.[4] The Hayward Executive Airport is subject to an approved Airport Land Use Compatibility Plan (Hayward Executive Airport ALUCP) approved by the Alameda County Airport Land Use Commission in accordance with the State Aeronautics Act.[5] The Hayward Executive ALUCP, updated in July 2012, depicts the Project area as situated outside the Airport Influence Area.[6] The Airport Influence Area is defined by the Hayward Executive ALUCP as,

> *The area in which current or future airport-related noise, overflight, safety, and/or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses. In most circumstances, the airport influence area is designated by the ALUC as its planning area boundary for the airport and the two terms can be considered synonymous.*

Additionally, as shown on **Figure 15-1** (Noise Compatibility Zones), the Project is situated outside an area that would be considered subject to excessive airport-related noise by the Hayward Executive Airport ALUCP. Therefore, the Project is considered to have ***No Impact*** under this criterion.

PRIVATE AIRSTRIP NOISE

Impact Noise-6 **(Private Airstrip Noise)** The Project is not located within the vicinity of a private airstrip. Hence, the Project would not expose people residing or

[4] The next nearest public airport is the Oakland International Airport; located over six (6) miles northwest of the Project area. The Project area is located outside the boundaries of the Oakland Airport Land Use Compatibility Plan (see Figure 3-2 (HWD and OAK Influence Area Overlap) of Hayward Executive ALUCP).

[5] Public Utilities Code §§21670 *et seq*.

[6] Figure 3-1 (Airport Influence Area), Hayward Executive Airport Land Use Compatibility Plan, draft dated December 2011.

working in the Project area to excessive noise levels. ***No Impact*** would result under this criterion.

There are no private airstrips within two (2) miles of the Project area. Consequently, there is no potential for the Project to people residing or working in the Project area due to be exposed to excessive private airstrip-related noise. The Project would result in ***No Impact*** under this criterion.

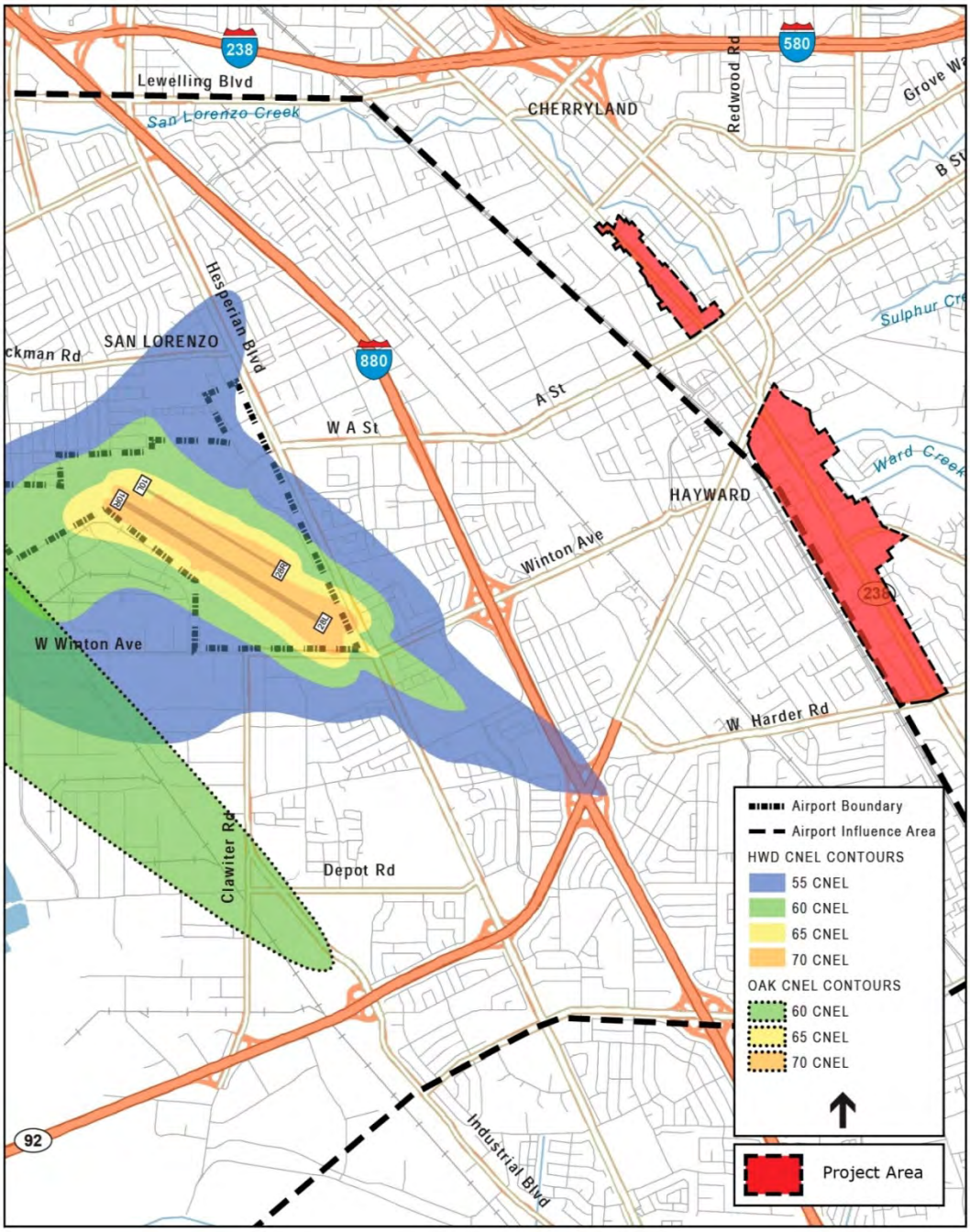

Figure 15-3: Airport Noise Compatibility Zones.

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POPULATION & HOUSING

INTRODUCTION

This chapter addresses the potential for the Project to result in growth inducing impacts or the displacement of housing or persons. Included herein is a review of existing conditions for the physical environment based upon available literature from pertinent government sources (i.e., City of Hayward Housing Element, California Department of Finance, U.S. Census), and a summary of the regulatory setting.

PHYSICAL SETTING

Historic Population Trends

The following text is excerpted from the 2010 Hayward Housing Element:[1]

> *Located in southern Alameda County on the east shore of San Francisco Bay, Hayward was incorporated in 1876 and essentially remained a small town with an agrarian economy on the urban fringe of San Francisco and Oakland until the end of World War II.*
>
> *Since that time, Hayward has undergone substantial changes. Between 1950 and 1960, and typical of many cities throughout the nation, Hayward's population increased over 400 percent. This post-World War II population boom created a demand for single-family detached housing. More than 70 percent (approximately 15,000 units) of Hayward's single-family detached homes were built between 1950 and 1960. From 1960 to 1990, only 3,411 units of single-family housing were developed. Between 1990 and 2000, an increase in the rate of development occurred, where approximately 2,930 units of single-family housing were developed – only 500 fewer than the total number of units developed in the preceding 30 years. Prior to 1960, there were relatively few (approximately 1,400) multi-family housing units in Hayward. To accommodate the substantial population increase and minimize the costs to extend City water, storm drain, and sewer throughout Hayward, developers began to focus on creating multi-family housing. Between 1960 and 1970, approximately 7,000 units of multi-family housing were built. In the next two decades, approximately 10,000 units of multi-family housing were developed. As a result of the post-war housing construction boom, Hayward was transformed into suburban bedroom community.*

[1] Page 5-7, 2010 Hayward Housing Element.

During the late 1960s and 1970s, Hayward experienced a surge in industrial development that created numerous employment opportunities, balancing to some extent the housing that was developed earlier.

Table 16-1 (Population Trends) identifies population growth in Hayward, as determined through the U.S. Census of 1980, 1990, 2000 and 2010.

TABLE 16-1: CITY OF HAYWARD POPULATION TRENDS

Population	Estimated Population Counts				Percent Change		
	1980	1990	2000	2010	1980-90	1990-00	2000-10
Hayward	93,058	111,498	140,030	144,186	19.8%	25.6%	2.9%

Existing Estimated Population

Today, since completion of the 2010 Census, Hayward has grown slightly to a population of approximately 147,113 people.[2]

REGULATORY SETTING

Regional Housing Needs Allocation

State Housing Element law requires that a local jurisdiction accommodate a share of the region's projected housing needs for the planning period. This share, called the Regional Housing Needs Allocation (RHNA), is important because State law mandates that jurisdictions provide sufficient land to accommodate a variety of housing opportunities for all economic segments of the community. Compliance with this requirement is measured by the jurisdiction's ability in providing adequate land to accommodate the RHNA. The Association of Bay Area Governments (ABAG), as the regional planning agency, is responsible for allocating the RHNA to individual jurisdictions within the region.

The RHNA is distributed by income category. The income allocation method gives jurisdictions that have a relatively higher proportion of households in a certain income category a smaller allocation of housing units in that same category. Conversely, jurisdictions that have a lower proportion of households in an income category would receive a larger allocation of housing units in that same category. Under this formula, the income distribution within each jurisdiction moves closer into alignment with the region-wide distribution of household income. Under the current Housing Element, which covers the period from 2007 through 2014, the City of Hayward

[2] California Department of Finance (E-1: City/County Population Estimates with Annual Percent Change, January 1, 2011 and 2012) http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/view.php

is allocated a RHNA of 3,393 units.[3]

City of Hayward: Housing Element

California State Housing Element Law requires that local jurisdictions present community housing needs, constraints to meeting those needs, and actions proposed to address those needs over a five-year period. This is accomplished in the Hayward General Plan which includes a Housing Element last updated in June 2010 and which intends to make adequate provision for the housing needs of all economic segments of the community through programs that:

- Conserve and improve the condition of the existing affordable housing stock;
- Assist in the development of housing for low and moderate income households;
- Identify adequate sites to encourage the development of a variety of types of housing for all income levels;
- Address and, where appropriate and legally possible, remove governmental constraints to the maintenance, improvement, and development of housing; and
- Promote housing opportunities for all persons.

Furthermore, the Housing Element furthers programs through a series of goals and policies that are intended, relative to the environmental topic of this EIR chapter, to *accommodate* population growth, as reflected, in part, by the aforementioned RHNA allocation and adopted General Plan.

IMPACT ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of population and housing, implementation of the Project would have a significant effect on the environment if it were to:

- 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 housing, necessitating the construction of replacement housing elsewhere?
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

[3] Page 5-72, Hayward Housing Element.

INDUCE SUBSTANTIAL POPULATION GROWTH

Impact Pop-1 **(Population Growth).** The Project would accommodate planned population growth in an area already urbanized and would not induce growth in a locale that is presently undeveloped. ***No Impact*** would result.

The Project area consists of an urbanized locale with existing supporting infrastructure (i.e., roadways, water, sewer, stormwater, schools, etc.). The Project includes no component that might induce development into a currently undeveloped locale.

The Project has been developed, in part, to enable the City of Hayward to accommodate the City's share of regional population growth between 2010 and 2035. Under the Project, this will be accomplished by directing much of the future residential and mixed-use development within the City toward those areas best served by public transit (e.g., Downtown Hayward BART Station, South Hayward BART Station, AC Transit regional and local bus routes) and existing infrastructure (i.e., roadways, water, sewer, stormwater, schools, etc.).

During the Project's implementation, 1,883 new residential units are estimated to be built within the Mission Boulevard Corridor area. This could result in a population increase of up to approximately 5,931 people.[4] Implementation of the Project would not induce population growth, because new residential development under the Project would instead be intended to accommodate the City's portion of the region's anticipated population growth, and would not involve the extension of new infrastructure or public services to undeveloped areas to support new residential development

Under this topic, the Project would have ***No Impact***.

DISPLACE SUBSTANTIAL EXISTING HOUSING, PEOPLE

Impact Pop-2 **(Displace Housing).** The Project would not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere. A ***Less Than Significant Impact*** would result.

Since the Project consists of a regulatory document (i.e., Specific Plan), it would not result in direct the removal of any people or housing. Generally, the Project would put into place policies and regulations that intend to encourage the development and redevelopment of various land uses, including residential dwellings. The Project would, throughout the Project area, generally increase allowable residential densities. In doing so, the Project would provide replacement housing within the Project area over time and as the result of individual development projects.

The Project does, however, include proposed new thoroughfares that can be expected to result in the removal of persons in existing dwellings at five (5) properties located west of Mission

[4] Assuming continuation of average of 3.15 persons per household per California Department of Finance E-5 Population Estimate dated January 1, 2012 (see http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php).

Boulevard, north of Orchard Avenue, and south of Jackson Street.[5] Removal of those existing housing units is, however, voluntary and dependent upon the property owner submitting a development application to the City. Also, the Project includes an automatic by-right density bonus for any such development proposal resulting in construction of a proposed new thoroughfare. Regardless, within the meaning of this impact category, the Project's limited removal of housing at these locations is not considered substantial and, if such housing is removed, the Project intends for the construction of replacement housing which may be in an increased amount above existing conditions due to the density bonus provision.

As indicated above, any existing housing units in the Project area that might be displaced by development under the Project would be replaced by residential development at higher densities, and would not necessitate the development of replacement housing elsewhere. With replacement housing available within the Project area, there would be no displacement of existing residents within the Project area, and the Project would be considered to result in a ***Less Than Significant Impact***.

[5] Assessor Parcel Nos. 444-30-50-3, 444-30-42-5, 444-36-4-4, 444-36-83, and 444-36-51.

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PUBLIC SERVICES

INTRODUCTION

This chapter describes existing public services related to the Project area and addresses whether implementation of the Project would, with regard to fire, police, schools, parks, or other public facilities, result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; or (b) need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Data used to prepare this chapter was obtained from existing sources in adopted City of Hayward documents, as noted in source citations below.

PHYSICAL SETTING

Police Services

Department Overview

Police protection service to the Project area is provided by the City of Hayward Police Department (Police Department). The Police Department provides law enforcement services to the City of Hayward through nine (9) geographically defined police beats. All Police Department services are provided out of a headquarters facility located at 300 West Winton Avenue, Hayward.

The Department currently maintains a ratio of 1.29 sworn officers per 1,000 population.[1] The City of Hayward has a goal of providing 1.5 sworn police officers per 1,000 population. Current normal staffing provides for12 patrol officers per shift on a 24-hour basis; sometimes 14 officers are assigned to a shift.

The Police Department presently has a budget providing for three hundred three (303) fulltime equivalent positions allocated to three (3) divisions, operating under The Office of The Chief, as follows: Field Operations, Investigations, and Support Services.[2] In the field, the Police Department has an authorized strength of one hundred ninety one (191) sworn police officers and

[1] Population figure of 147,113 persons derived from California Department of Finance (E-1: City/County Population Estimates with Annual Percent Change, January, 2011 to 2012).

[2] City of Hayward Adopted Operating Budget, Fiscal Year 2012.

one hundred twelve (112) professional staff.[3] However, the City of Hayward's Adopted Operating Budget for fiscal year 2012 includes the elimination of twelve (12) sworn positions and five (5) non-sworn positions, with four (4) of the sworn positions already being vacant as of April 2011. The elimination of these positions will result in a ratio of 1.20 sworn officers per 1,000 population.

With the impending reduction in staffing in FY2012, the Policy Department intends to develop a strategy that minimizes the impact of this reduced staffing through, for example, departmental reorganization and the reprioritization of goals and objectives. Additionally, the Adopted Operating Budget for fiscal year 2012 explains the anticipated outcome of this staff reduction, as follows:

> *Reduction of Sworn Officers*
>
> *These staff reduction will certainly have some impact on department service delivery. However, with proper planning and oversight these impacts will be minimal. The reduction of four patrol officers will result in four of the seven patrol teams being staffed with one less officer. Officer discretionary time that is spent on pro-active activity will be somewhat diminished and the Department may incur some increase in overtime to maintain minimum staffing levels. The Department's ability to respond to emergency calls-for-service will not be significantly impacted.*
>
> *The reduction in the Traffic Bureau will undoubtedly have some impact on traffic enforcement efforts and may require an adjustment to the current schedule. The assignment of Traffic Officers to the night shifts may need to be eliminated or modified in favor of maintaining an adequate traffic enforcement presence during morning and evening commute hours. This change may impact drunken driving enforcement efforts; however, the impact will be minimal.*
>
> *The loss of three Inspectors/Detectives will result in fewer criminal cases being investigated and will increase the work-load of remaining staff. Prioritization and case management will become critical components for Department supervisory /management staff to oversee and monitor. Staff will have to explore options to adequately address the loss of investigators, and perhaps have more investigative follow-up conducted by patrol officers.*
>
> *Reduction of Non-Sworn Officers*
>
> *The loss of the Jail Manager will necessitate a significant reorganization. The current Manager of the Property/Evidence Room and Crime Scene Unit will take on the added responsibility of managing the Jail. Those three units will all be assigned to the Support Services Division. From an operational perspective, the Department doesn't foresee any significant impact on how business gets done or in Departmental efficiency.*

[3] City of Hayward website (http://www.ci.hayward.ca.us/CITY-GOVERNMENT/DEPARTMENTS/POLICE/); accessed July 6, 2012.

The loss of one YFSB Supervisor will increase the workload of the remaining Supervisor and probably result in the YFSB Manager taking on a share of the clinical supervision. While this situation is not ideal, it should not impact service delivery. The Police Records Clerk position that will be eliminated will also come from YFSB. The workload related to the clerical position will be absorbed by Police Records Clerks assigned to other areas and although not ideal, the Department will make the necessary adjustments.

The Crime Prevention Supervisor position that is being eliminated will have no significant impact on service delivery to the public. Duties previously assigned to that position will be absorbed by the remaining two Crime Prevention Specialists and the four District Police Officers. Elimination of the Property Room Technician will impact the efficiency of the Property/Evidence Room to some degree; however, the impact will be limited to timeliness, rather than the quality of the process.

The elimination of an Animal Care Attendant will have a significant impact in the services provided by the Animal Shelter. This loss will result in assigning the Animal Care Attendant who currently manages the Volunteer Program to "full-time" attendant duties, thus reducing the oversight and supervision provided to volunteers. In all likelihood, the services that volunteers provide to the public will be reduced. Staffing at the Shelter will be at a very minimal level and public hours may be reduced as a result. The Department will only have 8 Animal Care Attendants to care for in excess of 200 animals, seven days a week.

Summary

The loss of any staff, sworn or non-sworn will obviously have some impact on delivery of services to the public. With that said, if staffing reductions are at the numbers reflected above, the Department does not foresee the need to significantly change the manner in which staff now provides services. The District Policing concept can remain in place and staff efforts devoted to "quality-of-life" issues will continue forward. The Department's status as a CALEA accredited law enforcement agency will be unaffected and the majority of the public will see little change in police services.

Development Review Oversight

The Police Department utilizes Crime Prevention through Environmental Design (CPTED) principles to provide input to Planning Division staff in their evaluation of development proposals. The Police Department also provides community education events on the application of CPTED principles. CPTED principles are a multi-disciplinary approach to deterring criminal behavior through environmental design.

Police Protection Service Thresholds

The City of Hayward has an established _benchmark for police-related emergency calls for service consisting of officers arriving on scene for Priority 1 calls within five (5) minutes of the

time of dispatch, 90% of the time.[4] [The current police response time for Priority 1 calls for service from time of dispatch to time of arrival within five (5) minutes is 68.5% and reaches 90% at eight (8) minutes.[5]

Fire Department Services

Department Overview

Fire protection service to the Project area is provided by the City of Hayward Fire Department (Fire Department). The Fire Department provides regulatory authority, fire suppression, emergency medical, hazardous materials response and related services to the entire City of Hayward; as well as the unincorporated Fairview Fire Protection District community east of city limits. The total service area is approximately 62.2 square miles. The City Fire Department and surrounding agencies maintain mutual aid agreements.

The Fire Department has nine (9) operating stations which house eleven (11) fire companies. The Fire Department has nine (9) engine companies, which are first responders that provide fire suppression, paramedic medical response and two (2) truck companies that provide fire suppression, structural entry, ventilation, laddering and rescue operations as well as paramedic medical response. Current staffing for fire protection services is at 133.5 fulltime equivalent positions allocated to three organizational divisions: Administration, Operations, and Special Operations.[6] In 2010, the Fire Department responded to 12,250 calls for service, including performing over twenty-eight (28) defibrillations on cardiac arrest victims.[7] The Department also responded to over 14,500 alarms.

Most of the City of Hayward is located within a five (5) minute response time radius to existing fire stations.[8] The Project area is situated within a five (5) minute response time radius to four (4) existing fire stations – No. 1 (22700 Main Street), No. 2 (360 W. Harder Road), No. 7 (28270 Huntwood Avenue), and No. 9 (24912 Second Street). See **Figure 17-1** (Fire Stations Near Project Area) for locations.

Construction Oversight

All proposed development in Hayward is reviewed by the Fire Department to ensure that appropriate measures are taken to minimize fire risks. Projects are reviewed for adequacy of access, design features (setbacks, clearances, etc.) and compliance with code requirements. Access is particularly important to ensure that fire and other emergency apparatus can reach fires, and that people can escape in the event of an emergency. If necessary, the provision of alternative access routes may be required and need to be identified as part of the planning

[4] City of Hayward Adopted Operating Budget, Fiscal Year 2012.

[5] Email communication with Lieutenant Jason Martinez, Hayward Police Department, November 14, 2012.

[6] City of Hayward Adopted Operating Budget, Fiscal Year 2012..

[7] City of Hayward Adopted Operating Budget, Fiscal Year 2012.

[8] See Hayward General Plan, Figure 8-1.

process.

The California Building Code and the California Fire Code, both adopted with local amendments by the City of Hayward, require that almost all new construction includes a fire sprinkler system or automatic fire extinguishing system. Increases in square footage, changes in use, or fire damage repair may also require a sprinkler or automatic fire extinguishing system to be implemented. The Fire Code also includes ingress and egress provisions to ensure the safety of building occupants.

High rise buildings (greater than seven stories, according to the California Building Code) present special problems of access and emergency exit. Moving fire fighters and equipment up stairways typically increases response time. However, the Project would permit a maximum building heights of (6) stories.[9] Thus, advanced built-in protection measures particular to high rise building would not be applicable.

Higher density residential and commercial development also poses special risks due to the concentration of people and the greater chance of fire spreading from one dwelling unit (or business) to the next. Industrial fires also present special hazards, both to the firefighter and to the community. These fires may include hazardous substances that can be spread off-site into the environment and endanger nearby areas. The Fire Department monitors hazardous materials use and storage in these areas through the review and approval of Hazardous Materials Business plans (see Chapter 11, Hazards for further discussion).

Fire Protection Service Thresholds

The City of Hayward has established criteria for emergency calls for service consisting of the first engine company responding five (5) minutes for arrival or less 90% of the time with the balance of assignment arriving in less than eight (8) minutes.[10] Presently, average response times are approximately five minutes.[11] According to the Hayward General Plan (and as shown in **Figure 17-1 (**Fire Stations Near Project Area), the Project area is located in proximity to existing fire stations that would be able to respond in compliance with the five (5) minute response time criteria.[12]

[9] This is only applicable to the T-5 Zone. The remaining transect zones include fewer maximum building stories.

[10] Ibid.

[11] City of Hayward Fire Marshall (email on November 14, 2012)

[12] Figure 8-1 (Fire Stations and Response Areas), Hayward General Plan.

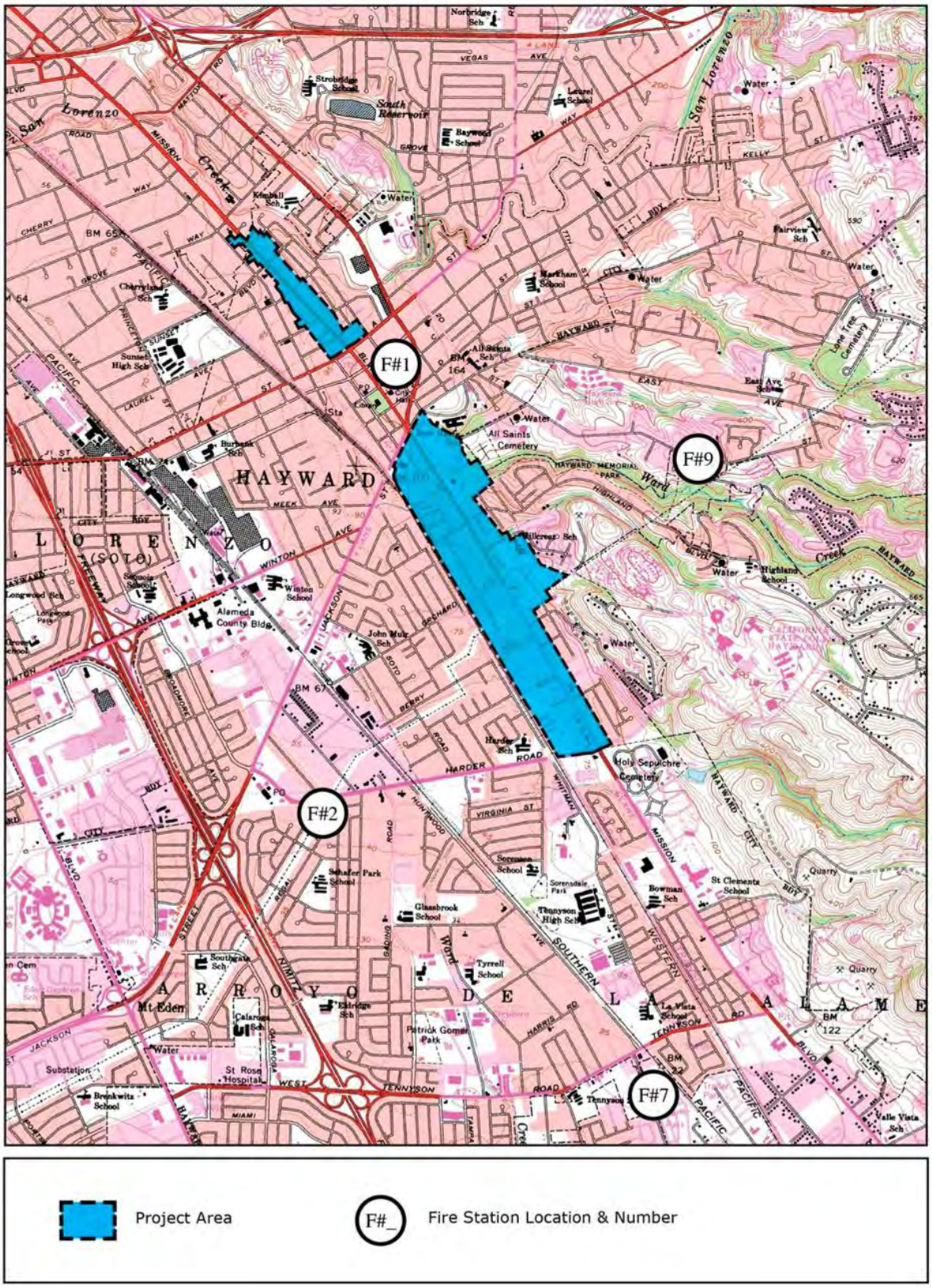

Figure 17-1: Fire Stations Near Project Area.

Schools

Primary and secondary education (i.e., K through 12th Grade) in the City of Hayward is provided by the Hayward Unified School District and New Haven Unified School District. One public university, California State University East Bay, operates in the City of Hayward. Private schools providing education to children and adults also operate in the City of Hayward.

Hayward Unified School District

The Hayward Unified School District (HUSD) boundaries include most of the City of Hayward as well as parts of the unincorporated communities of Cherryland and Fairview. The HUSD operates twenty-one (21) elementary, five (5) middle, and three (3) high schools; and employs about 2,335 persons, including 1,600 teachers, 650 classified employees, and eighty-five (85) administrative positions.

Enrollment trends since the year 2006 are depicted in **Table 17-1** (HUSD Student Enrollment 2006 to 2012) below, and which show a relatively stable school population. Though the 2006 Hayward Unified School District Facilities Master Plan speaks to a declining enrollment prior to and at the time of that plan's preparation, that trend did not bear out into the future.

TABLE 17-1: HUSD STUDENT ENROLLMENT 2006 TO 2012[1]

School Year	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
Enrollment	21,804	21,612	22,098	21,878	21,637	21,744

[1] California Department of Education, Education Demographics Unit
District Enrollment by Grade, Hayward Unified

Aside from potential increases in household sizes within existing dwellings, decisions made by the City of Hayward in approving various types of new housing developments can also have an impact on schools. During the past decade, most of the new housing construction in the City has consisted of single family detached homes and attached townhouses, plus several rental condominium projects. This trend, which was aided by a pre-2007 booming economy has resulted in an increase in the level of home ownership, and has also presumably contributed to the lower student transiency rates, as measured by the District.

Students within the Project area would attend the following schools: Hayward or Tennyson High School (depending upon specific student addresses), Bret Harte Middle School, and elementary schools of Strobridge, East Avenue, or Stonebrae.

New Haven Unified School District

The southern portion of the City (in the Fairway Park neighborhood along Mission Boulevard, south of Industrial Parkway and Fairway Street) is within the New Haven Unified School

District. However, the Project area excludes the New Haven Unified School District.

California State University East Bay

The California State University system operates the "East Bay" campus in Hayward at the eastern terminus of Carlos Bee Boulevard. The California State University at Hayward is one of twenty-two (22) campuses of the California State University system.

The Hayward campus was established in 1957 as the State College for Alameda County. It began with 293 students meeting in downtown Hayward. The school was moved to its current site in the Hayward hills in 1963 and was granted university status in 1972. The university campus occupies about 342 acres. There are nine major buildings on campus, including classroom and faculty office buildings, administrative offices, the Student Union, University Library, and a dormitories. Current enrollment is about 14,848.[13] In 2009, about 1,300 students were living on campus.[14]

Chabot College

Chabot College, located at ninety-four (94) acres in the western area of the city near Highway 92 and Hesperian Boulevard, provides community college education in technical and vocational programs. The college offers over fifty (50) two-year career programs in technical and vocational education, each leading to an Associate degree or Certificate of Achievement/Proficiency, and which prepare students for employment in business, industry, specialized labor, public service and other professions. Enrollment at Chabot College is about 15,000.

REGULATORY SETTING

Federal

There are no federal laws or regulations applicable to this environmental topic.

State

There are no state laws or regulations applicable to this environmental topic.

Hayward General Plan

The City of Hayward General Plan Public Utilities and Services Element contains the following polices and strategies relevant to the Project and issue of public services:

- The City will seek to maintain an appropriate level of emergency response commensurate with the needs of residents and businesses. (Strategy 1)

[13] Chabot College Student Characteristics, Spring 2011, Preliminary Census.

[14] Cal State East Bay, Hayward Campus Master Plan, September 2009.

- Adopt and enforce building and fire codes utilizing fire suppression capabilities availab1e to the City. (Policy 1)
- Maintain a well trained and equipped fire suppression force commensurate with the level of risk to life and property from fire. (Policy 2)
- Provide a program of fire safety education for all citizens, but directed primarily at the high-risk population (senior citizens and young children). (Policy 3)
- Support training of fire and police personnel to ensure an adequate level of emergency medical response. (Policy 4)

- The City will seek to minimize urban wildfire hazards in the hill area. (Strategy 2)
  - Implement the Wildland/Urban Interface Guidelines during the planning and design of development in high fire hazard areas. (Policy 1)
  - Enforce building and fire prevention codes that require property owners to reduce wildfire hazards on their properties. (Policy 2)
  - Coordinate with other jurisdictions and agencies to address wildfire hazards in the East Bay hills. (Policy 3)
- The City will promote disaster preparedness at both the citizen and government levels. (Strategy 3)
  - Provide public education promoting citizen awareness and preparedness for self-action in case of a major disaster. (Policy 1)
  - Maintain response capabilities within the Department of Public Works to assure that City resources can be appropriately utilized during incidents of major or disaster proportions. (Policy 2)

Hayward Municipal Code

Emergency Facilities Tax

Municipal Code Article 14 (Emergency Services Facilities Tax), Chapter 8 (Finance, Revenue and Taxation), provides for the bi-monthly collection of taxes to pay for police stations, fire stations, corporation yards, or offices for staff responsible for managing employees who provide police, fire, and public works emergency responses. The tax is levied on single-family residences, multi-family residences, mobilehomes, transient occupants (e.g., hotel/motel occupants), and all businesses.[15]

[15] Very-low income households, hospitals, sanitariums, convalescent homes, rest homes, intermediate care, and nursing homes are exempt.

Quimby Ordinance

Municipal Code Article 16 (Property Developers - Obligations for Parks and Recreation), Chapter 10 (Planning, Zoning, Subdivisions) sets forth regulations for parkland dedication and/or in-lieu fee payment for park and recreation facilities associated with residential development, including:

- Dedicate of land to construct new parks at ratio of five (5) acres per 1,000 persons.
- In-lieu fee of $11,953 for each new single-family detached residence, $11,395 for each new single-family attached residence (e.g., townhomes and condominiums) and $9,653 for each new multiple family residence (e.g., rental apartments).

Collected in-lieu fees are levied at the time building permits are issued and collected prior to issuance of Certificate of Occupancy. As mentioned, parkland within the Project area and nearby is owned and maintained by HARD. It is expected that, in accordance with the Hayward General Plan, Municipal Code Article 16, and HARD's 2006 Master Plan, that each agency would continue to work in cooperation and that HARD will own and maintain future, new park and recreation facilities.

IMPACT ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of public services, implementation of the Project would have a significant effect on the environment if it were to:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Fire Protection
    - Police Protection
    - Schools
    - Parks (see Chapter 18 – Recreation)
    - Other Public Facilities

FIRE PROTECTION

Impact Pub-1 **(Fire Services)** The Project would not result in the development of facilities for the Hayward Fire Department. Therefore, the Project would not result in a

substantial adverse physical impact associated with the provision of new or physically altered governmental facilities. (***No Impact***).

The Project does not propose any new or physically altered facilities related to the Fire Department. Therefore, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered Fire Department-related facilities. Notwithstanding the Project's resulting ***No Impact*** under applicable CEQA thresholds, the Project would generate additional demand for emergency services from the Fire Department.

For fiscal year 2012/13, the approved budget provides the Fire Department will lose one (1) full-time equivalent position for an administrative clerk. Though existing staff levels would remain largely intact, the budget does identify the need to develop a replacement plan and funding source for Fire Station No. 7 in order to provide a proper span of control for emergency situations. Station No. 7 would, as indicated above, serve the Project area.

The Project would be implemented over many budgetary cycles since the Specific Plan consists of a long-term vision for the area's future land use and development. It is not possible to determine how future city budgets may account more or less funds for Fire Department services. Such decisions are based upon many factors including, but not limited to, General Fund revenues which vary according to economic conditions, changing patterns of crime due to social factors, and discretion on the part of City Council in setting an annual budget for multiple competing priorities.

As the Specific Plan leads to development through the year 2035, the Fire Department will review its level of service calls and response times in order to recommend the amount of additional staff they will require. However, in the interim, the City desires to amend the Project Description (i.e., Specific Plan) to include a new policy addressing the Project's demand upon Fire Department facilities and staff, as follows below.

New Specific Plan Policy

(Fire Services) Prior to the construction of the first dwelling unit within the Project area, the City of Hayward shall prepare and adopt a mechanism to finance public safety staffing and improvements within the Project area. Such a mechanism may include a Community Facilities District or equivalent mechanism that will provide for adequate funding to meet staffing, facility and equipment standards.

POLICE PROTECTION

Impact Pub-2 **(Police Services)** The Project would not result in the development of facilities for the Hayward Police Department. Therefore, the Project would not result in a substantial adverse physical impact associated with the provision of new or physically altered governmental facilities. (***No Impact***).

The Project does not propose any new or physically altered facilities related to the Police Department. Therefore, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered Police Department-related facilities.

Notwithstanding the Project's resulting ***No Impact*** under applicable CEQA thresholds, the Project would generate additional demand for emergency services from the Police Department.

The Department currently maintains a staff of one hundred ninety one (191) sworn officers which equates to a ratio of 1.29 sworn officers per 1,000 population.[16] However, as mentioned in the setting above, the City of Hayward's Adopted Operating Budget for fiscal year 2012 includes the elimination of twelve (12) sworn positions and five (5) non-sworn positions, with four (4) of the sworn positions already being vacant as of April 2011. The elimination of these positions will result in sworn officer staff of one hundred seventy eight (178) which equates to a ratio of 1.20 sworn officers per 1,000 population. In other words, under existing conditions and the 2012 budget, a deficit of forty three (43) sworn police officers exists. The Project would generate, at build out, demand for seven (7) new sworn police officers.

Though the setting section above describes the Police Department's approach to providing services during the 2012/2013 fiscal year, it's important to note the Project would be implemented over many budgetary cycles since the Specific Plan consists of a long-term vision for the area's future land use and development. It is not possible to determine how future city budgets may account more or less funds for Police Department services since such decisions are based upon many factors including, but not limited to, balancing the City's constitutional obligation to provide police protection services against General Fund revenues which vary according to economic conditions, changing patterns of crime due to social factors, and discretion on the part of City Council in setting an annual budget for multiple competing priorities.

As the Specific Plan leads to development through the year 2035, the Police Department will review its level of service calls and response times in order to recommend the amount of additional staff they will require. However, in the interim, the City desires to amend the Project Description (i.e., Specific Plan) to include a new policy addressing the Project's demand upon already deficient sworn officer staffing levels, as follows below.

New Specific Plan Policy

(Police Services) Prior to the construction of the first dwelling unit within the Project area, the City of Hayward shall prepare and adopt a mechanism to finance public safety staffing and improvements within the Project area. Such a mechanism may include a Community Facilities District or equivalent mechanism that will provide for adequate funding to meet staffing, facility and equipment standards.

SCHOOLS

Impact Pub-3 **(Schools)** The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which

[16] Population figure of 147,113 persons derived from California Department of Finance (E-1: City/County Population Estimates with Annual Percent Change, January, 2011 to 2012).

could cause significant environmental impacts, in order to maintain acceptable service ratios for schools. This is considered a ***Less Than Significant Impact***.

The Project does not propose any new or physically altered school facilities. Therefore, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities. However, the Project would generate additional students which, in turn, would put additional demand on schools operated by the Hayward Unified School District. Under the Project's build-out, it is estimated the Project would generate 942 new students.[17]

Senate Bill 50 (SB 50), which is funded by Proposition 1A, limits the power of cities and counties to require fiscal mitigation on home developers as a condition of approving new development and provides for a standardized developer fee. The State Allocation Board approves increases in development fees per Government Code §65995 (b) in response to inflation. Therefore, payment of development fees, in accordance with State Law, is deemed sufficient to provide and maintain an acceptable service ratio for Project-related students.

Therefore, the Project would result in a ***Less Than Significant Impact*** under this topic.

[17] Calculated at 0.5 students per 2,000 population (Route 238 Bypass Land Use Study EIR, SCH# 2008072066).

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RECREATION

INTRODUCTION

This chapter describes existing and planned recreational facilities within and expected to be utilized by persons in the Project area; as well as such existing facilities located outside of the Project area but expected to be utilized by increased population resulting from the Project. It also addresses whether implementation of the Project would cause: (1) physical deterioration of existing recreational facilities; or (2) adverse environmental effects resulting from recreational facilities within the Project area.

PHYSICAL SETTING

Within the City of Hayward, public recreation facilities are generally owned or leased and maintained by one of two (2) special districts - the Hayward Area Recreation and Park District (HARD) and the East Bay Regional Park District (EBRPD). Total HARD park acreage – including local parks, community-wide parks, district-wide parks, and open space/trails – is identified in **Table 18-1** (HARD Park Acreage in Hayward) below. The City of Hayward owns and maintains a small number of additional public spaces which the HARD has deemed too small for their ownership and maintenance.

TABLE 18-1: HARD PARK ACREAGE IN HAYWARD

Park Type	Acres
Local Parks	203.85
Community Parks	95.74
District-wide Parks	1,894.68
Open Space/Trails	112.31
Total	2,306.58

[1] HARD Master Plan, 2006.

Inside the Project Area

Within the Project area, there is one (1) public recreational facility - the Hayward Plunge and Memorial Park (24176 Mission Boulevard). The Hayward Plunge is located at Memorial Park's frontage with Mission Boulevard and, as the name implies, it consists of a structure providing for indoor swimming. Within the Project area, Memorial Park includes the following recreational facilities: picnic tables, group picnic area, barbecues, play area, parking lot, rest rooms, open lawn area, hiking trails, and two (2) tennis courts. Memorial Park extends outside of the Project area into the foothills along Ward Creek.

Outside the Project Area

Outside of the Project area (within walking, biking or driving distance), there are a number of public recreation facilities. These include facilities owned and operated by the Hayward Area Recreation District (HARD) as well as the East Bay Regional Park District (EBRPD). While both organizations provide a similar service, their facilities differ in geographic scale. While the HARD generally provides facilities scaled to the needs of individual neighborhoods, the EBRPD generally provides facilities scaled to the region.

HARD facilities located outside but generally within walking (i.e., ¼-mile) or cycling (i.e., 1-mile) distance of the Project area include the following:

- Spring Grove Park – An approximate 1.25 acre park located at the intersection of Torrano Avenue and Spring Drive. Existing amenities include one (1) basketball court, a picnic area, and children's playground.

- Sorensdale Park - An approximate 4.78-acre park located at 275 Goodwin Street. Existing amenities include: off-street parking, three (3) baseball/softball fields, three (3) horseshoe pits, an open lawn area for informal play, public restrooms, and children's playground. The park also includes the Sorensdale Recreation Center which consists of 23,846 square feet of building area for HARD's community activity and learning programs.

- Cannery Park - An approximate 7-acre park bound by B Street, Meekland Avenue, and Burbank Street; also abutting Burbank Elementary School. Existing amenities include: off-street parking, public restrooms, children's playground, picnic area, two (2) baseball/softball fields, one (1) soccer field, two (2) basketball courts, and an open lawn area for informal play.

- Centennial Park - An approximate 10.7-acre park located at 24000 Amador Street. Existing amenities include: two (2) lighted softball fields, one (1) soccer field, two (2) basketball courts, an open lawn area for informal play,

- DeAnza Park - An approximate 4.44-acre park located at the intersection of 2nd Street and City Center Drive. The park includes the Hayward Senior Center, Douglas Morrison Theatre, and Japanese Gardens. The senior center includes 11,500 square feet of building area for HARD's community activity and learning programs, primarily for elderly persons. The Japanese Gardens is a cultural amenity and outdoor area showcasing

traditional Japanese Garden art.

- Carlos Bee Park – An approximate 6.88-acre park located at the western terminus of Earl Drive. Existing amenities include: off-street parking, two (2) tennis courts, and an open lawn area for informal play.

- Cherryland Park – An approximate 3-acre park located at the intersection of Grove Way and June Court. Existing amenities include: one (1) basketball court, one (1) skateboard park, two (2) horseshoe pits, an open lawn for informal play, children's playground, and picnic area.

The HARD 2006 Master Plan considers these facilities to be "local parks" with service areas generally one-quarter to one-half mile in radius. Portions of the Project area are within this radius distance of the above parks. In addition, the Regulating Plan in the South Hayward BART/Mission Boulevard Form-Based Code designates land at the corner of Mission Boulevard and Valle Vista Avenue as Civic Space. During the community charrette for the Plan, it was envisioned that this land would be developed as a park and community center. This park and community center would be approximately 1.5 miles from the Project area and would serve the Project area.

The EBRPD has regional facilities outside the Project area which are generally located at distances greater than two (2) miles. These include:

- Garin/Dry Creek Regional Park – An expansive open space within the Hayward Hills and with a street address of 1320 Garin Avenue, Hayward. The park includes grasslands, chaparral, oak woodlands, mixed evergreen forestland, riparian areas, and freshwater wetlands. Many trails for hiking, biking and equestrian users occur throughout. Existing amenities include: off-street parking, picnic areas, a visitor center, and day/group camping.

- Cull Canyon Regional Recreation Area – An expansive, narrow open space in Cull Canyon with a street address of 18627 Cull Canyon Drive, Castro Valley. The park includes a popular swimming spot consisting of a 1.5-acre lagoon with bathhouse, snack bar and lifeguard service. In an adjacent 19-acre reservoir, fishing is permitted. Many picnic areas are provided with tables and barbeque units. The Chabot-to-Garin Trail travels through the park.

The EBRPD 1997 Master Plan considers Garin and Dry Creek Pioneer to be 'Regional Parks' which consist of spacious land areas with outstanding natural features including rare species of flora and fauna. The Master Plan also characterizes Regional Parks as having sufficient land area to support many outdoor recreational opportunities for the enjoyment and education of the public. The 1997 Master Plan distinguishes Cull Canyon as a 'Regional Recreation Area' since it emphasizes active outdoor recreational activities including swimming at Cull Canyon Lake and hiking along the Bay Ridge Trail.

REGULATORY SETTING

Within the City of Hayward, public recreation facilities are generally owned or leased and maintained by one of two (2) special districts - the Hayward Area Recreation District (HARD) or the East Bay Regional Park District (EBRPD). The City of Hayward does, however, own and maintain a small number of public spaces which the HARD has deemed too small.

Hayward Area Recreation District

The Hayward Area Recreation District (HARD) is an independent special district for the purposes of providing park and recreation services for an approximate sixty-four (64) square mile area. HARD's service boundary includes the City of Hayward (including the Project area) and the unincorporated communities of San Lorenzo, Ashland, Cherryland, Castro Valley, and Fairview. The HARD utilizes a Master Plan, last updated in the year 2006, to guide both short-term and long-term decisions regarding park facilities and recreation services.

HARD currently owns, leases, maintains or operates a system of over one-hundred (100) facilities, encompassing 2,306.58 acres in the City of Hayward.[1] Facilities range from local and community parks to special use facilities and community centers, athletic fields to regional parks and trails. The District also operates Skywest Golf Course and Mission Hills of Hayward Golf Course. Some parks are owned outright by HARD, while others are leased from the City of Hayward, or from school districts in the area. Additional park facilities are located in PG&E easements. HARD has also contributed to the development of recreation facilities owned and operated by others.

The 2006 HARD Master Plan presents park acreage/population standards for the HARD to use in decision-making for park acquisition and development. **Table 18-2** (Hayward Area Recreation District Park Acreage/Population Standards for Park Acquisition and Development) below identifies HARD's standards. However, the 2006 HARD Master Plan acknowledges the standards in **Table 18-2** are optimal and difficult to achieve in built-out areas (i.e., the Project area). The Plan additionally acknowledges that park acquisition is to be achieved in cooperation with the City of Hayward through, for example, the City's collection of development impact fees through its land use and development approval process.

The 2006 HARD Master Plan, states that most of the City Hayward is well served in terms of most of the residential neighborhoods being within relatively close proximity to a local or community park, and that HARD has a number of specialized recreation facilities serving the entire community that supplement the core neighborhood and community park serving facilities.

The 2006 Master Plan suggests the HARD look to expand park facilities in conjunction with redevelopment projects. While the 2006 Master Plan directs that HARD work in partnership with the City of Hayward and local school districts to generally increase park and recreational service objectives, it also provides the following defined strategy applicable to the Project area:

[1] 2006 Hayward Area Recreation District Master Plan.

Strategy H-10: "Continue to develop the Eden Greenway, a linear space that lies beneath the PG&E power transmission lines that traverse the City in an east-west direction. Much of this land has already been developed by HARD as a linear parkway with limited recreational facilities. However, there are still portions that have not been improved. Some portions are located in neighborhoods that are presently underserved in terms of the amount of parkland. Other portions are located adjacent to areas that are planned for residential uses and could be improved as amenities for future housing developments."

The Project would advance this strategy by providing the referenced land under the transmission lines a Civic Space (CS) Zone designation. The purpose of the CS Zone is to provide for open space, civic buildings and civic uses, including park land.

TABLE 18-2: HARD PARK ACREAGE/POPULATION STANDARDS FOR PARK ACQUISITION AND DEVELOPMENT

Park Type	Acreage per 1000 Population[1]			Size Service Radius[2]	Service Radius	Level Area
	Minimal	Desirable	Optimal			
Local Parks	1.0[3]	1.5	2.0	3 – 10 acre	¼ - ½ mile	3.0
School Parks	1.0[3]	1.5	2.0	3 – 10 acre	¼ - ½ mile	3.0
District-wide Parks[4]	3.0	4.0	5.0	10 – 20 acre	2 to 3 miles	10
Regional Parkland	-	3.0	-	10 – 20+ acre	½ Hour Drive	Varies[5]
Open Space, Trails & Linear Parks	-	1 mile	-	Within 10 min. walk	As Needed	As required for ADA

1 Modifying factors which must be taken into account when applying the above guidelines include: (a) availability; (b) nature of neighborhood; (c) population characteristics; (d) accessibility.

2 Service area radii are generalized, expressed in miles and must be evaluated on a case-by-case basis taking into account such variables as terrain, major man-made obstacles (such as freeways) and general availability of open space.

3 Smaller than minimum acreages may be considered.

4 District-wide parks include: community parks and centers, special use facilities and athletic fields that serve neighborhood and community needs.

5 Level area required may vary widely depending on use, parking areas for community facilities – 2 acres average.

East Bay Regional Park District

The East Bay Regional Park District (EBRPD) is an independent special district that also provides park and recreation services. However, as compared to HARD, the boundary for the EBRPD consists of a much larger geographic area (i.e., Alameda and Contra Costa Counties).

Consequently, the EBRPD generally provides larger scale regional facilities such as parks, preserves, recreation areas, shorelines and trails.[2] In total, the EBRPD oversees sixty-five (65) regional parks, over 108,000 acres of open space, and 1,200 miles of trails.

The EBRPD utilizes a 1997 Master Plan to guide resource management, land use, and facility development. The Master Plan has no provisions particular to the Project area. Similarly, the EBRPD's 2007 Master Land Use Plan proposes no new recreational facilities within the Project area.[3] While the EBRPD has initiated a revision to the 1997 Master Plan, its contents are not yet available to the public nor adopted by the EBRPD Board of Directors.

Hayward General Plan

The City of Hayward General Plan Community Facilities and Amenities Element contains the following polices and strategies relevant to the Project and issue of recreation:

- Seek to increase the amount, diversity and quality of parks and recreational facilities and opportunities. (Policy 5) (Page 6-21)
- Work with the Hayward Area Recreation and Park District in the development and implementation of its Master Plan and support the District in its efforts to restore its revenue base. (Strategy 1) (Page 6-21)
- Encourage the provision of recreational activities for all people, consistent with the changing demographic composition of the city. (Strategy 2) (Page 6-21)
- Review minimum park size standards with HARD in order to accommodate the need for smaller parks in developed or underserved neighborhoods. (Strategy 3) (Page 6-21)
- Encourage the creation and maintenance of neighborhood “miniparks” through partnerships with private, non-profit and business interests where it is not possible to achieve parks that meet HARD standards. (Strategy 4) (Page 6-21)
- Work with HARD to complete development of the remaining portions of the Eden Greenway corridor underneath the PG&E transmission lines. (Strategy 5) (Page 6-21)
- Maintain parks in a consistent manner throughout the city and encourage neighborhood involvement in park maintenance. (Strategy 6) (Page 6-21)
- Maintain park dedication requirements for new residential development at the maximum allowed under state law. (Strategy 7) (Page 6-21)
- Establish park dedication in-lieu fees that reflect land costs. (Strategy 8) (Page 6-22)

[2] EBRPD 1997 Master Plan, Pages 45 to 53.

[3] EBRPD 1997 Master Plan Map depicts at the BART tracks abutting (and outside of) the southern segment of the Project area as including a “Potential Regional Trail” titled the East Bay Greenway.

- Examine the feasibility of requiring land dedication rather than payment of in-lieu fees, consistent with state law. (Strategy 9) (Page 6-22)
- Consider adoption of an ordinance that would require new commercial and industrial development to either provide on-site recreational facilities or contribute in-lieu fees for park and recreational facilities that benefit employees. (Strategy 10) (Page 6-22)
- Evaluate the feasibility of acquiring air rights above parking garages for recreational purposes. (Strategy 11) (Page 6-22)
- Enhance the aesthetic and recreational values of open space corridors within the urbanized area. (Policy 6) (Page 6-22)
- Preserve creekside environments through maintenance or reestablishment of native trees, setback of development from creek slopes, and sensitive flood control designs. (Strategy 1) (Page 6-22)
- Seek to accentuate creeks in the review of new development proposals and consider establishment or extension of pathways along the creeks. (Strategy 2) (Page 6-22)
- Consider additional greenway linkages along fault corridors and in other areas to encourage walking and cycling and to provide improved access to activity centers. (Strategy 5) (Page 6-22)

Hayward Municipal Code

Quimby Ordinance

Hayward Municipal Code Article 16 (Property Developers - Obligations for Parks and Recreation), Chapter 10 (Planning, Zoning, Subdivisions) sets forth regulations for parkland dedication and/or in-lieu fee payment for park and recreation facilities associated with residential development. These requirements, which would continue to be applied under the Project, include the following:

- Dedicate of land to construct new parks at ratio of five (5) acres per 1,000 persons.
- In-lieu fee of $11,953 for each new single-family detached residence, $11,395 for each new single-family attached residence (e.g., townhomes and condominiums) and $9,653 for each new multiple family residence (e.g., rental apartments).

Collected in-lieu fees are levied at the time building permits are issued and collected prior to issuance of Certificate of Occupancy. As mentioned, recreation facilities within the Project area, including outside of but accessible to population resulting from the Project, is owned and maintained by HARD. It is expected that, in accordance with the Hayward General Plan, Quimby Ordinance, and HARD's 2006 Master Plan, each agency would continue to work in cooperation and that HARD will own and maintain future, new park and recreation facilities planned by the Project.

IMPACT ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of recreation and this Program EIR, implementation of the Project would have a significant effect on the environment if it were to:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services including parks.

RECRETIONAL FACILITIES DETERIORATION

Impact Park-1 **(Substantial Deterioration of Existing Parks and Recreation Facilities)** Future development in the Project area would result in an increase in residents and daytime employees above that contemplated by the Hayward General Plan. That increase in residents and employees could be expected to utilize park and recreational facilities located both inside and outside of the Project area. However, that increase would not result in the substantial physical deterioration of such facilities since existing park acreage in Hayward exceeds the five (5) acre per 1,000 population standard specified in the Hayward General Plan and because new development would be expected to construct new park facilities and/or contribute in-lieu fee payments for such facilities. This would constitute a ***Less Than Significant Impact***.

Table 18-3 (Estimated Park Dedication Requirements for Project) shows the amount of new parkland that would be expected to be dedicated (i.e., 21.69 acres) for net new dwelling units resulting from implementation of the Project. If no parkland was dedicated in conjunction with future development projects, the estimated in-lieu fee payments would equal a total of $18,182,020.[4]

[4] This figure is based upon the build-out assumption utilized in this EIR (see Chapter 3, Project Description) and, more specifically: (a) T3 Zone including only single-family detached; (b) T4 and T4-1 Zones including only new single-family attached; and (c) T5 Zone including only rental apartments.

TABLE 18-3: ESIMATED PARK DEDICATION REQUIREMENTS FOR PROJECT

New Dwelling Units	Projected Project Area Population Growth	Park Acreage Required
1,883[1]	4,338[2]	21.69 acres[3]

1 See Table 3-1 for background on assumed net new dwelling units

2 Assumes application of 2000 US Census population per dwelling unit ratios, as follows: (a) single-family detached dwelling: 3.42 persons per unit; (b) townhome dwelling: 2.62 persons per dwelling; and (c) apartment dwelling: 2.11 persons per dwelling. Dwelling unit ratios applied, as follows: (T-3 Zone) 3.42 persons per unit; and (T-4, T-4.1, T-5 Zones) 2.62 persons per unit.

3 Based upon Hayward General Plan parkland dedication ratio of five (5) acres per 1,000 persons.

The Project would provide a General Plan designation of Public and Quasi-Public as well as corresponding Civic Space (CS) Zone designations for approximately 13.4 acres of existing parkland (i.e., Memorial Park and Hayward Plunge) within the Project area and, thereby, ensure their continued use for recreational activities. The Project would also apply the Public and Quasi General Plan designation and Civic Space (CS) Zone to 8.2 acres of land not presently developed as parkland. This includes existing commercial properties north of A Street at which the Hayward Fault would severely constrain or render infeasible any future development of structure intended for human occupation. The Project also provides for future recreation improvements at the Eden Greenway, as contemplated by the General Plan and HARD Master Plan (i.e., Strategy H-10 of 2006 HARD Master Plan), through the same General Plan and zoning designations.

Properties in the Project area not presently including parkland and which are to be designated Public and Quasi-Public or Civic Space Zone total 8.2 acres, and could be purchased or dedicated to HARD for public park purposes. If those purchases were successful, the total area of parkland provided within the Project area would equate to 21.69 acres. However, the General Plan and Hayward Quimby Ordinance would not restrict parkland dedication or the use of in-lieu fee payments to the Project area.

Received in-lieu fees may be used by the City of Hayward for the purpose of acquiring necessary land and developing new or rehabilitating park or recreation facilities reasonably relating to serving the development.[5] As mentioned in the setting section of this chapter, there are a number of existing public parks located within walking and biking distance of the Project area. Subject to the City's discretion, those parks are assumed to be eligible for, at a minimum, the use of in-lieu fee payments collected in the Project area.

Looking at the Project's effect relative to the maintenance of sufficient park acreage for the City's population, **Table 18-4** (Citywide Population vs. Park Acreage) calculates the existing and existing plus Project characteristics. Under the Project, the existing surplus of park acreage would be maintained.

5 Hayward Municipal Code §10-16.25(d) (Use of In-Lieu Fees).

TABLE 18-4: CITYWIDE POPULATION VS. PARK ACREAGE			
Existing Conditions			**Park Acreage (Surplus or Deficit)[1]**
Population	147,113 persons		+ 1,571 acres surplus
Park Acreage	2,306.58 acres		
With Project Conditions			
Population	151,451 Persons		+ 1,557.53 acres surplus
Park Acreage	2,314.78 acres		

[1] Based on General Plan ratio of five (5) acres per 1,000 population

Along with existing park facilities, the payment of required park dedication in-lieu impact fees to the City of Hayward in combination with designation of new park and open space lands through General Plan and zoning designation changes, would meet City and HARD park requirements. Therefore, the Project would result in ***Less Than Significant Impact*** concerning the substantial physical deterioration of existing recreational facilities.

RECRETIONAL FACILITIES HAVING ADVERSE EFFECTS

Impact Park-2 **(Proposed Recreational Facilities with Adverse Physical Effect)** The Project would rezone one public park and certain other properties not presently including recreational facilities to a Civic Spaces (CS) Zone. The Project would not advance or authorize specific development plans for those sites. This is considered to result in ***No Impact***.

The Project does not include or identify the details of specific recreational facilities to be developed. The Project does, however, provide General Plan and Zoning Map designations intended to retain and preserve existing recreational facilities as well as lead to the development of new recreational facilities at properties not presently dedicated to public parkland purposes. Therefore, it is assumed that, at properties which the Project would apply a Public and Quasi-Pubic General Plan designation and Civic Space Zone designation, the Project will lead to the enhancement of existing recreational facilities or the development of new ones.

With regard to the Hayward Plunge and Memorial Park, the Project applies designations that provide for the preservation and continued use of existing recreational facilities and site features. In this way, the Project intends to avoid potentially significant impacts, at a minimum, to biological resources within and nearby Ward Creek as well as the potential historic qualities of the Hayward Plunge building.

Concerning the proposed new Public and Quasi-Public General Plan designation and Civic Space Zone designation at properties north of A Street, the Project does so with the intention of avoiding significant impacts under the topic of geology and soils. As discussed in Chapter 9, those properties are underlain by the Hayward Fault and, because of their size and dimensions, the Alquist-Priolo Act would prohibit the placement of new habitable structures at those

locations.

With regard to the Project's application of new Public and Quasi-Public General Plan designations and Civic Space Zone designations at the already-planned Eden Greenway, those properties are already urbanized. It is not expected the Project would lead to adverse effects at that location. Similarly, properties within the industrial area northwest of the intersection of Mission Boulevard and Harder Road are already developed and the future development of recreational facilities there could be expected to result in no adverse effects.

Although it is possible existing facilities in the Project area may be modified in the future and that potentially significant impacts may result under, for example, the environmental topics of biological resources or cultural resources, it is not possible to determine such impacts under this Project without being highly speculative. Similarly, with regard to properties proposed to include new recreational facilities, it is also not possible to determine the severity of impacts under the Project without being highly speculative.

When a proposal to modify existing facilities or develop new facilities comes forward, it is expected this Program EIR would be consulted to determine whether additional environmental review is necessary. Given the presence biological resources and cultural resources at, for example, the Hayward Plunge/Memorial Park site, it is reasonable to assume more detailed environmental review would be required for specific development proposals at a future time.

In conclusion, the Project would not, through the application of General Plan and Zoning Map changes, result in an adverse physical effect on the environment, as related to recreational facilities. Therefore, the Project is considered to result in ***no impact*** under this criterion.

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TRANSPORTATION

INTRODUCTION

This chapter examines potential impacts of the Project on roadways, intersections, public transit systems, bicycle and pedestrian systems and parking resources. The transportation analysis and this chapter were prepared by Kittelson and Associates, Inc. (formerly Dowling Associates, Inc.).

PHYSICAL SETTING

The Project area generally straddles Mission Boulevard in the City of Hayward. Residential neighborhoods and hillsides generally flank the eastern and western portions of the Project area. The Project area's topography is generally flat, with a gradual downward slope to the west, towards San Francisco Bay which is located approximately 5.5 miles to the southwest. To the east, the Hayward Hills are adjacent to the Project area.

Thoroughfare Network

Construction of the Route 238 Corridor Improvement Project was underway at the time of preparing this EIR and, within the Project Area, substantially complete between Jackson Street and Harder Road. Within the Project Area, the Route 238 Corridor Improvement Project will modify the following roadway attributes: (a) peak hour parking restrictions; (b) change to travel lane configurations; (c) installation of new curb/gutter/sidewalks and streetlights; change to turning movements; (d) traffic signal modifications; and (e) installation of new traffic signals. The setting description below includes the current road geometry. However, as explained under the methodology description at Page 19-19 to 19-20, the analysis for existing conditions assumes changes to those geometries vis-à-vis completion of the Route 238 Corridor Improvement Project.

Existing and planned roadway facilities

Regional vehicular access to the Project area is provided primarily by the interstate freeway system that crosses the western and northern portions of the City of Hayward. **Figure 19-1** (Project Location) provides a map showing the Project location in relation to the freeway system.

Interstate 880

Interstate 880 (I-880), a north-south freeway, is located about 1.75 miles to the west of the Project site. I-880 is accessible from the Project area by A Street, Winton Avenue and Jackson Street in the north, Harder Road in the central, and by Tennyson Road in the south. I-880 spans roughly 50 miles from Oakland to San Jose, CA.

I-880 is a major regional commuter route. Average traffic volumes on I-880 exceeded 240,000 vehicles per day in 2011 with seven (7) percent consisting of truck traffic. Combined northbound and southbound volumes exceeded 16,000 vehicles in both morning (7:30 AM to 8:30 AM) and evening peak hours(5:00 PM to 6:00 PM).[1],[2] It serves as an important connector for the Port of Stockton and the Port of Oakland and as a farm to market route from the Central Valley to the Bay Area.

Interstate 580

Interstate 580 (I-580), an east-west freeway, is located about 1.5-miles north of the Project area, and may be accessed by Mission and Boulevards. I-580 connects the Bay Area and the Central Valley. I-580 also serves as a major transportation corridor serving the commute between the growing Central Valley , I-5 Corridor and the Bay Area. In 2011, more than 180,000 vehicles, including 11,000 trucks carrying goods to and from the Central Valley, use I-580 every day. [1],[2]

State Route 92

State Route 92 (SR-92), known as Jackson Street within the City of Hayward, is an east-west facility located 1.5 miles north of the Project site. Access to SR-92 from the Project area is provided via Mission Boulevard. SR-92 connects Half Moon Bay near the Pacific coast (and State Route 1) and downtown Hayward at the junction of Mission and Foothill Boulevards. Between Watkins Street and the Mission-Foothill-Jackson intersection, Jackson Street is no longer designated as Route 92 as it was relinquished to the City in conjunction with the Route 238 Corridor Improvement Project.

Mission Boulevard

Mission Boulevard is a major regional north-south arterial. Within the Project area, north of Downtown, it is designated as State Road 185. This section is not a part of the Route 238 Corridor Improvement Project. It has four (4) travel lanes, two (2) in each direction, and unmarked on-street parking on both sides. Within the Project area's southern segment there is a raised median on Mission Boulevard south of Jackson Street-Foothill Boulevard. There is a center line divider on Mission Boulevard north of Jackson Street-Foothill Boulevard. The posted speed limit along Mission Boulevard is thirty-five (35) miles per hour. As part of the Route 238 Corridor Improvement Project, Mission Boulevard will one way and will have five lanes southbound between A Street and Jackson Street

[1] 2011 Traffic Volumes on the California State Highway System, State of California Business, Transportation and Housing Agency Department of Transportation, 2012.

[2] 2011 Annual Average Daily Truck Traffic on the California State Highway System, State of California Business, Transportation and Housing Agency Department of Transportation, 2012.

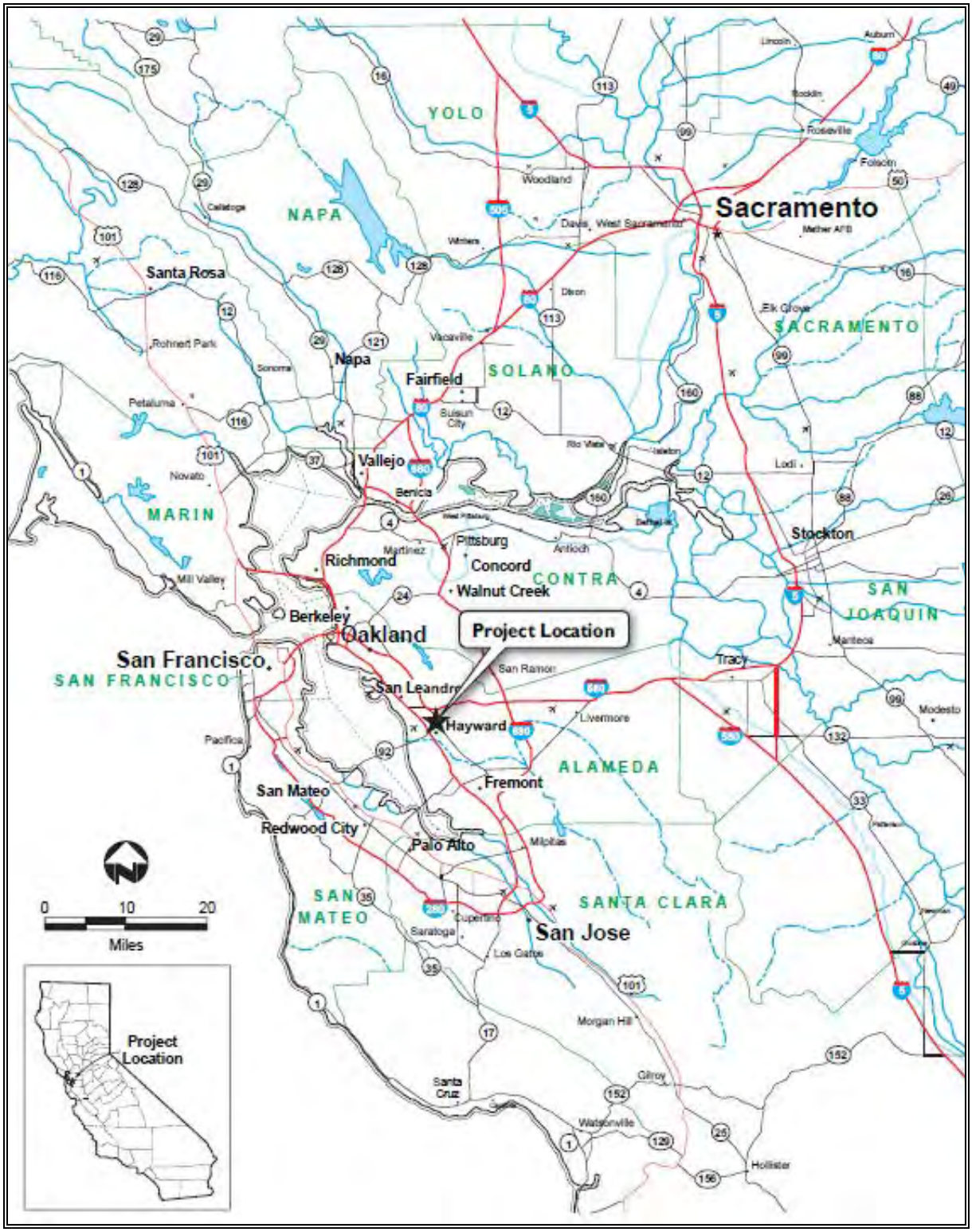

Figure 19-1: Project Location

Mission Boulevard provides local access to residential and commercial developments, but also serves as a regional thoroughfare providing access along the entire East Bay from Oakland (as International Boulevard/State Route 185) to Fremont. This function is reflected by Mission Boulevard's identification in the Alameda County Congestion Management Program (CMP) network.

Land uses abutting Mission Boulevard are varied but primarily include commercial and institutional uses, including car dealerships, auto body and repair shops, retail stores, places of religious worship, schools, bars, and gas stations. Several lots are vacant and/or include abandoned buildings. On-street parking is permitted on intermittent sections of the Mission Boulevard, but is not highly utilized because most businesses have private parking lots. Sidewalks are provided along both sides of the Mission Boulevard within the Project area.

Sunset Boulevard

Sunset Boulevard is an east-west, two-lane roadway with abutting residential and commercial land uses. The posted speed limit along Sunset Boulevard is twenty-five (25) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at the intersection of Mission Boulevard. There are marked crosswalks in all approaches at its intersection with Mission Boulevard. On-street parking is permitted on both sides of the street.

A Street

A Street is an east-west, four-lane roadway with abutting commercial land uses. The posted speed limit along A Street is twenty-five (25) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at intersection with Mission Boulevard. There are marked crosswalks in all approaches at its intersection with Mission Boulevard. On-street parking is permitted on both sides of the street. As part of the Route 238 Corridor Improvement Project, A Street will be converted to five lanes one way westbound between Foothill and Mission Boulevards.

B Street

B Street is an east-west, two-lane roadway with abutting residential and commercial land uses. B Street has one-way westbound movement between 2nd Street and Watkins Street. The posted speed limit along B Street is twenty-five (25) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at intersection with Mission Boulevard. There are marked crosswalks in all approaches at its intersection with Mission Boulevard. On-street parking is permitted on both sides of the street. As part of the Route 238 Corridor Improvement Project, B Street will be converted to two way traffic east of Foothill Boulevard.

C Street

C Street is an east-west, two-lane roadway with commercial land uses and access to the Hayward Library. Access to the apartment complex and residential subdivisions is provided by local streets that intersect with C Street. C Street has one-way eastbound movement between Watkins Street and 2nd Street. The posted speed limit along C Street is twenty-five (25) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at

intersection with Mission Boulevard. There are marked crosswalks in all approaches at its intersection with Mission Boulevard. On-street parking is permitted on both sides of the street.

D Street

D Street is an east-west, four-lane roadway with commercial land uses. The posted speed limit along D Street is thirty-five (35) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at intersection with Mission Boulevard. There are marked crosswalks in all approaches at its intersection with Mission Boulevard. On-street parking is prohibited on both sides of the street.

Foothill Boulevard

Foothill Boulevard is a north-south city roadway than runs from the junction of Mission Boulevard and Jackson Street to Mattox Road. Abutting properties primarily include commercial land uses. Between the I-580 on-ramps and Mattox Road, Foothill Boulevard retains its former designation as SR 238 and is under Caltrans control. As part of the Route 238 Corridor Improvement Project, Foothill Boulevard will be six lanes one way northbound between Jackson Street and A Street.

Fletcher Lane

Fletcher Lane is an east-west, two-lane roadway with abutting residential and commercial land uses. Abutting properties include multiple-family residential, commercial and office land uses. The posted speed limit along Fletcher Lane is thirty-five (35) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at Fletcher Lane/Mission Boulevard. There are marked crosswalks in all approaches of Fletcher Lane/Mission Boulevard. On-street parking is permitted on northern side of Fletcher Lane.

Walpert Street

Walpert Street is an east-west, two-lane roadway with abutting residential and commercial land uses. Abutting properties primarily include apartment complexes. The posted speed limit along Walpert Street is thirty-five (35) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at Walpert Street /Mission Boulevard. There are marked crosswalks in all approaches of Walpert Street/Mission Boulevard. On-street parking is permitted on both sides of the street. However, there is a prohibition of on-street parking restriction on northern side of Walpert Street in close proximity to its intersection with Mission Boulevard.

Highland Boulevard

Highland Boulevard is an east-west, two-lane roadway with abutting residential and commercial land uses. Access to the apartment complex and residential subdivisions is provided from Highland Boulevard and by local streets that intersect with Highland Boulevard. The posted speed limit along Highland Boulevard is twenty-five (25) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at westbound approach of Highland Boulevard/Mission Boulevard. There is a marked crosswalk on the westbound

approach of Highland Boulevard/Mission Boulevard. On-street parking is permitted on both sides of Highland Boulevard. The west leg of intersection is located to the south of Highland Boulevard and Mission Boulevard intersects with Sycamore Avenue.

Sycamore Avenue

Sycamore Avenue is an east-west, two-lane roadway with abutting residential and commercial land uses. Access to the apartment complex and residential subdivisions is provided from Sycamore Avenue and by local streets that intersect with Sycamore Avenue. The posted speed limit along Sycamore Avenue is thirty-five (35) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at eastbound and northbound approaches of Sycamore Avenue/Mission Boulevard. There are marked crosswalks on the eastbound and northbound approaches of Sycamore Avenue/Mission Boulevard. However, with completion of Route 238 Corridor Improvement Project, the crosswalk in the northbound approach will be relocated to the southbound approach of Highland Boulevard/Mission Boulevard. On-street parking is prohibited in close proximity of intersection with Mission Boulevard. However, on-street parking is permitted on both sides of street to the west of Edith Street.

Carlos Bee Boulevard

Carlos Bee Boulevard is an east-west, four-lane minor arterial with abutting residential and commercial land uses. Carlos Bee Boulevard provides access to California State University at East Bay and residential subdivisions in the Hayward Hills. The posted speed limit along Carlos Bee Boulevard is thirty-five (35) miles per hour. Sidewalks and on-street parking are provided only along the north side of the street. There are marked crosswalks with pedestrian curb ramps on all approaches of Carlos Bee Boulevard/Mission Boulevard intersection.

Orchard Avenue

Orchard Avenue is an east-west, four-lane roadway with abutting residential and commercial land uses. Access to apartment complexes is provided from Orchard Avenue and by local streets that intersect with Orchard Avenue. The posted speed limit along Orchard Avenue is twenty-five (25) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at Orchard Avenue/Mission Boulevard. There are marked crosswalks on all approaches of Orchard Avenue/Mission Boulevard. On-street parking is prohibited in close proximity to the intersection of Orchard Avenue with Mission Boulevard. On-street parking is permitted on the south side of Orchard Avenue east of O'Neil Avenue and the north side of Orchard Avenue west of O'Neil Avenue.

Berry Avenue

Berry Avenue is an east-west, two-lane roadway with abutting residential and commercial land uses. Berry Avenue extends from Mission Boulevard to the BART tracks to the west, where it dead ends. Access to apartment complexes is provided from Berry Avenue. The posted speed limit along Berry Avenue is twenty-five (25) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at Berry Avenue/Mission Boulevard. On-street parking is permitted on both sides of the street. The intersection with Mission

Boulevard is signalized and crosswalks exist in all approaches.

Harder Road

Harder Road is a four-lane, east-west collector roadway with a raised median. Abutting properties include residential and commercial uses. It is curvilinear and contains gentle grades. It also provides access to the California State University at East Bay. The posted speed limit along Harder Road is thirty-five (35) miles per hour. Sidewalks are provided along both sides of the street, and pedestrian curb ramps are found at Harder Road/Mission Boulevard. There are marked crosswalks on all approaches of Harder Road/Mission Boulevard. On-street parking is prohibited in close proximity of intersection with Mission Boulevard. Its intersection with Mission Boulevard is signalized. Completed roadway improvements , according to the Route 238 Corridor Improvement Project, include dual left-turn lanes on Harder Road in both directions at the Mission Boulevard intersection.

Tennyson Road

Tennyson Road is a four-lane, east-west arterial that traverses the City of Hayward, terminating at Mission Boulevard to the east and Industrial Boulevard to the west. In the Project area, from Pacific Street to Mission Boulevard, the roadway is divided by a raised, landscaped median and passes under the BART train tracks. Land uses along Tennyson Road include a mixture of commercial and residential. The speed limit is thirty-five (35) miles per hour. The Hayward General Plan's Circulation Element depicts the future extension of this roadway (east of Mission Boulevard) in order to serve new development. The roadway's intersections at Dixon Street/East 12th Street and Mission Boulevard are signalized. Tennyson Road is part of the Alameda County Congestion Management Program system.

Public Transportation

The Project Area is served by existing transit, including both regional rail and local bus services. This section contains detailed descriptions of those public transit services accessible to the Project Area.

Bay Area Rapid Transit (BART)

The San Francisco Bay Area Rapid Transit District (BART) provides heavy-rail, regional transit service to four (4) counties in the Bay Area, including San Francisco. Two BART stations, Hayward and South Hayward, are located one-quarter mile and one (1) to the Project, respectively.

Both BART stations in Hayward provide direct service via the Fremont-Richmond line and Fremont-Daly City line. The Fremont-Richmond line provides service every fifteen (15) minutes during the weekday until 7:30 PM and every twenty (20) minutes during evening weekday times and the weekend. This train line runs until midnight every day, with weekday, Saturday, and Sunday service beginning at 4 AM, 6 AM, and 8 AM, respectively. The Fremont-Daly City line provides service every fifteen (15) minutes during the weekday and every twenty (20) minutes on Saturday. This train line runs until 6 PM every day, with weekday and Saturday service beginning at 5 AM and 9 AM, respectively. After 6 PM, commuters transfer at the Bayfair

station to the Dublin/Pleasanton–San Francisco line for San Francisco destinations.

BART is presently planning extension of service to the south to the City of San Jose, to the east to the City of Livermore, and via e-BART to the north to the City of Antioch. However, this EIR only assumes completion of the extension to San Jose in its Cumulative 2035 analysis. **Figure 19-2** (BART System Map) shows BART's existing system map.

Alameda-Contra Costa Transit District

Bus service to the Project Area is provided by the Alameda-Contra Costa Transit District (AC Transit)[3]. The following nine (9) bus routes operate in the Project Area: Routes 22, 32, 48, 60, 93, 94, 95, 99, and 801. Route 801 (Oakland-Fremont), which is a part of the All-Nighter regional bus network, provides after-hours service to the Project Area with timed connections. Detailed service times and frequencies are contained in **Table 19-1** (AC Transit Buses Serving the Project Area). Most bus stops in the Project Area are indicated by free standing poles with signs indicating bus route numbers. Some bus stops on Mission Boulevard and at the BART stations (Hayward and South Hayward) contain other amenities, such as shelters and bus route maps. **Figure 19-3** (AC Transit Bus Service in Project Area) displays a map of AC Transit's bus system serving the Project Area.

In addition to providing bus service to the general population, AC Transit also provides paratransit service for seniors and adults with disabilities throughout Alameda County. The City of Hayward also operates a complementary service for its residents in the event that AC Transit's Paratransit service is temporarily oversubscribed.

Private Shuttle Services

The California State University East Bay campus provides shuttle services to students, faculty, and staff. This shuttle service runs between campus and the Hayward BART station. It is available from 6:20 AM to 10:20 PM between Monday to Thursday. On Friday and between semester breaks, the shuttle service is available from 6:20 AM to 6:05 PM. This service is provided at intervals between fifteen (15) to thirty (30) minutes during weekdays. The shuttle service is not available during weekends and university holidays. In addition to riding the shuttle, students can find schedules and buy transit passes on campus in the Commute Information Center. The University also offers to assist students and staff find carpool partners.

A1-American shuttle provides twenty-four (24) hour service to and from Hayward to nearby airports of San Francisco (SFO), Oakland (OAK), and San Jose (SJC). This shuttle service is available to/from hotels, motels, office building, airports, any BART station, and any private location[4].

[3] Alameda-Contra Costa Transit District, Accessed on July 16, 2012, http://www.actransit.org/

[4] A1- American Shuttle, Accessed on July 16, 2012, http://www.a1americanshuttle.com/

Figure 19-2: BART System Map

Passenger Rail Service

The Project Area is provided access to intercity train service via Amtrak's Capitol Corridor route. The Capitol Corridor is an intercity passenger train system that provides rail service to sixteen (16) stations in eight (8) Northern California counties. Capitol Corridor services are coordinated with other rail users – Amtrak, the Union Pacific Railroad, Caltrans, and the various agencies and communities that make up the Capitol Corridor. Passengers of the Capitol Corridor boarding in Hayward may also transfer to other Amtrak routes providing access to over 500 destinations in forty-six (46) states, including service to Canadian destinations of Vancouver, Toronto and Montreal. The Hayward Amtrak station is located at B Street and Meekland Avenue in downtown Hayward. On weekdays, train service is available from 7:00 AM to 8:00 PM at every one (1) to three (3) hours. During weekends and holiday train service runs from 8:00 AM to 8:00 PM with every one (1) to three (3) hours.[5]

[5] Capitol Corridor Joint Powers Authority, Accessed on July 16, 2012, http://www.capitolcorridor.org/

Table 19-1: AC Transit Buses Serving the Project Area

Route	Cities Served	Timepoints	Days	Times	
22	Hayward	Hayward BART Chabot College Kaiser Permanente Hayward Medical Center South Hayward BART Mission Blvd & Harder Rd Hayward BART	Weekday	First	6:00 AM
				Last	11:00 PM
				Frequency	30 min
			Weekend	First	6:15 AM
				Last	11:15 PM
				Frequency	60 min
32	Hayward Cherryland Ashland Castro Valley	Hayward BART B St & Center St Castro Valley BART 164th Ave & E 14th St Bay Fair BART Paseo Grande & Meekland Ave Blossom Way & Western Blvd Hayward BART	Weekday	First	5:30 AM
				Last	8:30 PM
				Frequency	60 min
			Weekend	First	6:15 AM
				Last	7:15 PM
				Frequency	60 min
48	Hayward Castro Valley	Hayward BART Foothill Blvd & Grove Way Castro Valley BART Eden Hospital Foothill Blvd & Manchester Rd Bay Fair BART	Weekday	First	6:30 AM
				Last	7:30 PM
				Frequency	60 min
			Weekend	No Service	
60	Hayward	Hayward BART Campus Dr & Second St Warren Hall, Cal State East Bay	Weekday	First	5:15 AM
				Last	10:15 PM
				Frequency	20 min
			Weekend	First	6:00 AM
				Last	7:15 PM
				Frequency	40 min
93	San Leandro Hayward San Lorenzo Cherryland Ashland	Hayward BART Bay Fair BART Paseo Grande & Meekland Ave Paseo Grande & Hesperian Blvd Grant Ave & Bockman Rd Hesperian Blvd & Hacienda Ave Hayward BART	Weekday	First	5:15 AM
				Last	8:30 PM
				Frequency	60 min
			Weekend	First	7:15 AM
				Last	7:15 PM
				Frequency	60 min
94	Hayward	Hayward BART C St & Foothill Blvd Campus Dr & Second St Hayward Blvd & Spencer Ln Hayward Blvd & Skyline Dr Hayward Blvd & Fairview Ave	Weekday	First	5:15 AM
				Last	8:00 PM
				Frequency	50-60 min
			Weekend	No Service	
95	Hayward	Hayward BART C St & Foothill Blvd Bret Harte Middle School Hayward High School D St & Maud Ave Kelly St & Eddy St	Weekday	First	5:30 AM
				Last	8:00 PM
				Frequency	30 min
			Weekend	First	6:30 AM
				Last	6:15 PM
				Frequency	30 min
99	Fremont Union City Hayward	Fremont BART Mission Blvd & Mowry Ave Decoto Rd & Fremont Blvd Union City BART Mission Blvd & Whipple Ave Mission Blvd & Gresel St South Hayward BART Mission Blvd & Harder Rd Hayward BART Bay Fair BART	Weekday	First	5:45 AM
				Last	11:15 PM
				Frequency	30-60 min
			Weekend	First	6:15 AM
				Last	12:15 AM
				Frequency	40 min
801	Fremont Union City Hayward	Fremont BART Fremont Blvd & Mowry Ave Fremont Blvd & Peralta Blvd Decoto Rd & Fremont Blvd Union City BART Mission Blvd & Gresel St South Hayward BART Hayward BART Bay Fair BART San Leandro BART 98th Ave & International Blvd Seminary Ave & International Blvd International Blvd & 34th Ave 23rd & International Blvd 14th St & Broadway	Weekday	First	All Night
				Last	All Night
				Frequency	60 min
			Weekend	First	All Night
				Last	All Night
				Frequency	60 min

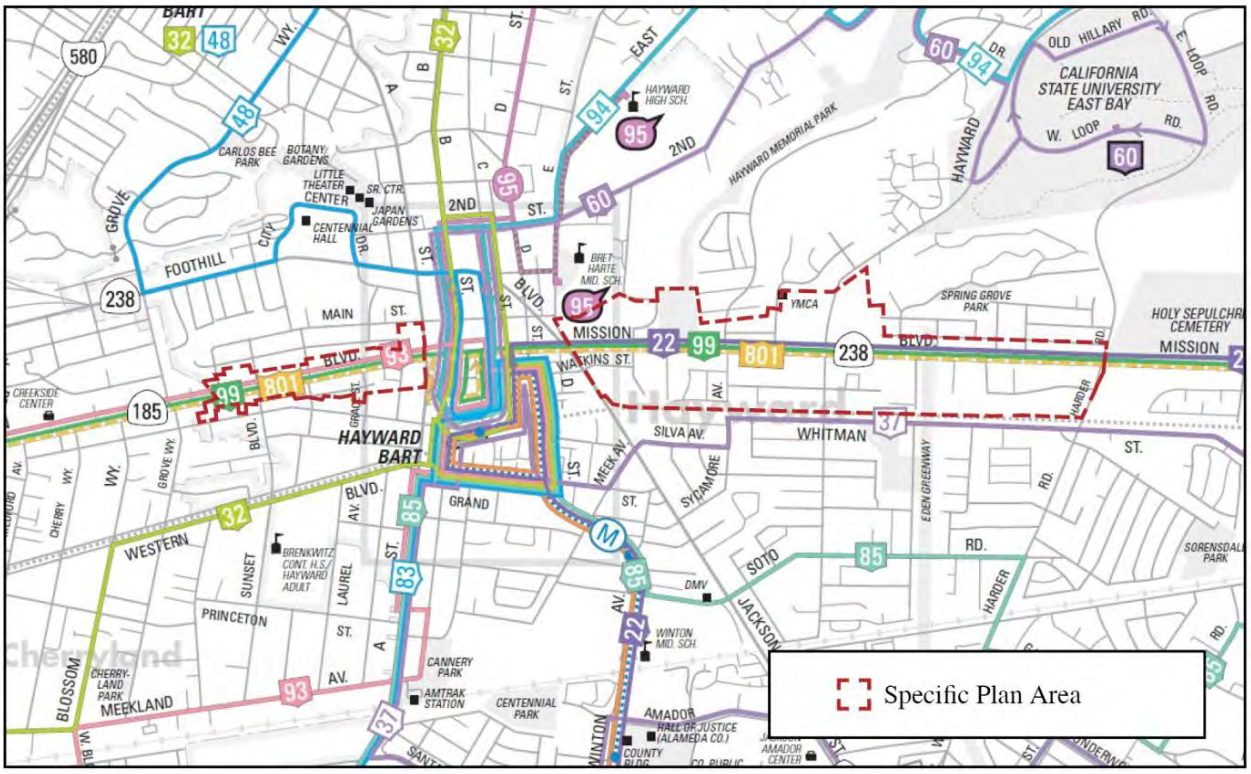

Figure 19-3: AC Transit Bus Service in the Project Area

Existing and Planned Bicycle Facilities

The Project area contains designated bicycling facilities, including on-street facilities. According to the City of Hayward's *Bicycle Master Plan 2008*, existing bikeways may be found along the following roadways in the project area:

- Class II bike lanes on D Street and Harder Road to the east and west of Mission Boulevard.
- Class III bike route on A Street (to the east and west of Mission Boulevard) and Carlos Bee Boulevard (to the east and west of Mission Boulevard).

Additionally, the City of Hayward has planned to develop additional facilities, as depicted in the 2007 *Bicycle Master Plan*. The proposed bikeway network includes additions in the Project area, including:

- Adding Class III bike route on Mission Boulevard (between A Street and D Street) and C Street (to the east and west of Mission Boulevard).

Figure 19-4 (Hayward Bicycle Master Plan Network) shows the most current existing and planned bikeways under the Bicycle Master Plan, published in 2007.

The classification system for bikeways are Class I (typically called a "bike-path," provides bicycle travel on a paved right-of-way completely separated from any street or highway), Class II (often referred to as a "bike lane," provides a striped and stenciled lane for one-way travel on a street or highway), and Class III (referred to as "bike route," provides for shared use with motor vehicle traffic and is identified only by signing). The lack of bicycle designations on city streets does not preclude bicycle usage, as the California Vehicle Code applies the same rules governing motor vehicles to bicyclists. Other facilities for bicyclists may include parking, traffic signal loop detectors, and employee locker/showering facilities.

The Route 238 Corridor Improvement Project will configure Mission Boulevard into a one-way southbound street between A Street and Jackson Street. One outcome of this change is a change to existing bicycle movements. Specifically, bicycles traveling northbound on Mission Boulevard and wishing to continue north on Mission Boulevard will need to continue onto Foothill Boulevard and turn left at "A" Street, and then turn right onto Mission Boulevard.

Existing and Planned Pedestrian Facilities

This section provides a qualitative description of pedestrian facilities within the Project Area in terms of walkways, roadway crossings, and trails. Though the City of Hayward does not have a separate pedestrian planning document, policies addressing pedestrian facilities are contained in the Circulation element of Hayward's *General Plan,* including the Mission-Garin and Harder Tennyson Neighborhood Plans.

Sidewalks are provided along all roadways within the Project Area and at connecting thoroughfares. Crosswalks are located at key crossing locations on Mission Boulevard, including at A Street, B Street, C Street, D Street in the north, and Fletcher Lane, Pinedale Court, Highland-Sycamore Avenue, Carlos Bee Street, Berry Avenue, Torrano Avenue and Harder Road in the south.

In the southern Project Area segment, pedestrian access to eastern portions of Hayward is restricted by an existing railroad right-of-way located west of Mission Boulevard. However, Sycamore Avenue has a pedestrian overpass over the railroad right-of-way; Jackson Street, Orchard Avenue and Harder Road have pedestrian access via roadway underpasses.

The Route 238 Corridor Improvement Project will eliminate pedestrian crossing locations, as follows:

- The crosswalk on Jackson Street at Mission Boulevard will be replaced with a crossing located further east on Foothill Drive at Main Street.
- The crosswalk at Pinedale Court will be removed and a median will be installed in Mission Boulevard to discourage pedestrians from crossing the street between the Jack in the Box and the Hayward Plunge just west of Pinedale Court.
- The crosswalk at Devon Drive will be eliminated.

However, as described on Page 3-19 (Project Description), the Project would remove these barriers if future developments or increased pedestrian demand warrant either of the changes articulated therein.

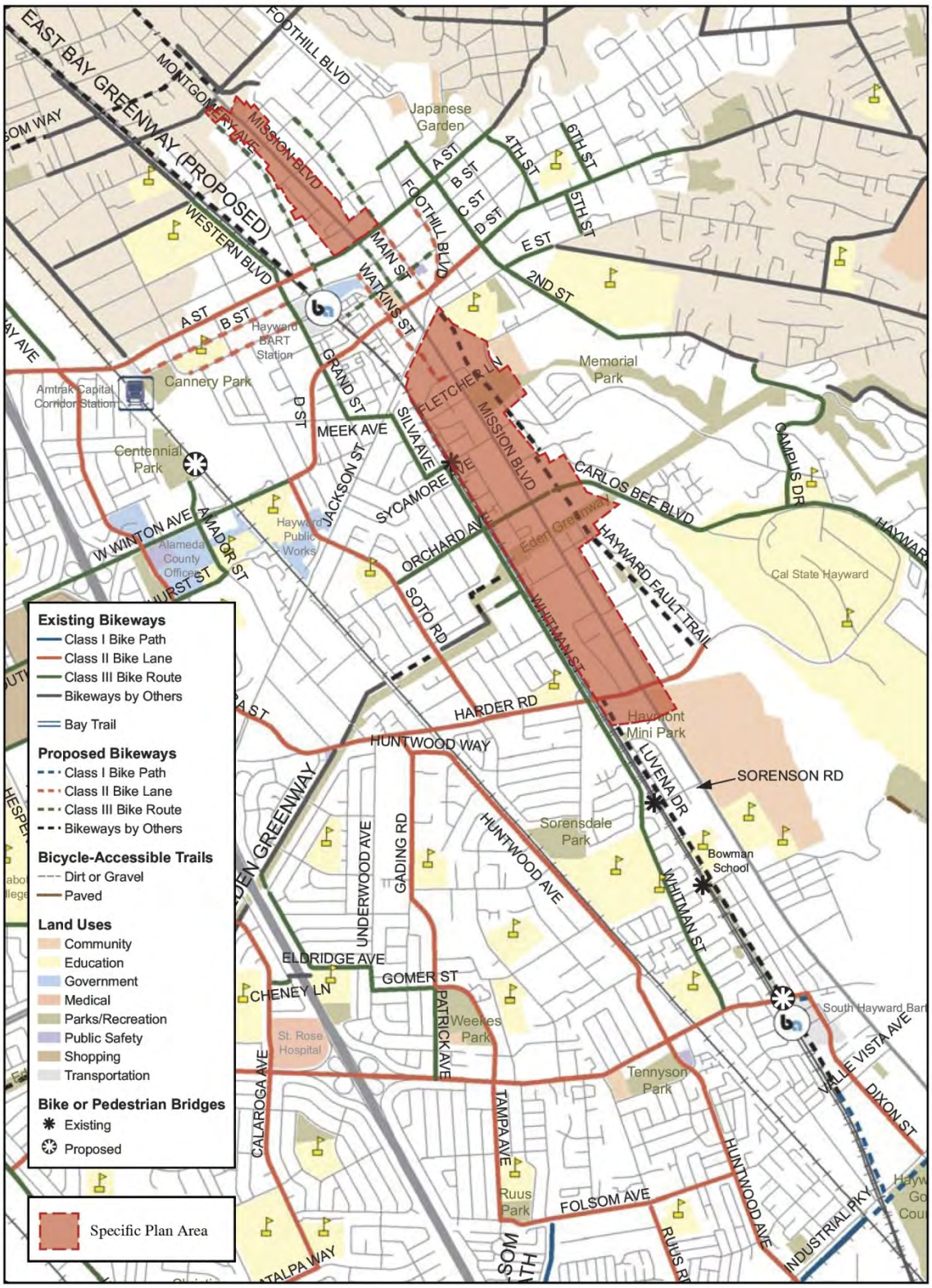

Figure 19-4: Hayward Bicycle Master Plan Network

Walkways

In general, sidewalks of a 6-foot width or more and intersection pedestrian curb ramps are found on both sides of streets in the Project Area. A raised curb-type is found at all intersections. Mission Boulevard, Sunset Boulevard, A Street, B Street, C Street, Jackson Street-Foothill Boulevard, Fletcher Lane, Highland Boulevard, and Berry Avenue are study roadways with continuous pedestrian walkway facilities. However, the following exceptions are found in the Project Area:

- Carlos Bee Boulevard, to the east of Mission Boulevard, does not have continuous walkway facilities on the south side of the street from Mission Boulevard to East Loop Road, and on the north side from Overlook Drive to East Loop Road.

Roadway Crossings

Marked crosswalks in the study area are found on at least one leg of signalized intersections but are less frequently found at unsignalized intersections. Regardless of markings, California Vehicle Code[6] §21809(a) provides that pedestrians are permitted to cross at all intersection legs unless they are specifically prohibited from doing so.

The Jackson/Mission/Foothill junction, pedestrians are discouraged from crossing the northeast side of the intersection by lack of crossing aids but not prohibited. The intersection is generally difficult to cross because it is a five-legged intersection at skewed angles with high traffic volumes on Mission Boulevard, Foothill Boulevard, and Jackson Street. However, the existing conditions analysis assumes the completion of Route 238 Corridor Improvement Project. After completion of the Route 238 Corridor Improvement Project. crossing improvements will be made to allow pedestrians to safely cross Foothill Boulevard in the vicinity of the Jackson/Mission/Foothill junction.

At signalized intersections on Mission Boulevard, marked crosswalks are accompanied by pedestrian signal heads, pedestrian actuation, and directional ramps. All crosswalks span Mission Boulevard at sixty (60) to ninety-six (96) feet curb-to-curb widths, equating to approximately seventeen (17) to twenty-seven (27) seconds of roadway exposure. Distances between signalized intersections vary from roughly 470 to 2500 feet, approximately 2 to 12 minutes of walking time.

Trails

The Hayward Area Recreation & Park District's Master Plan lists two (2) parks with trails proximate to the Project area[7]. These parks are as follows:

- Sulphur Creek Nature Center – This park is located to the northeast and outside of the Project area at 1801 D Street.

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[6] 2012 California Vehicle Code, Department of Motor Vehicles, http://www.dmv.ca.gov/pubs/veh_code.pdf (Accessed on November 26, 2012

[7] District Recreation & Parks Master Plan, Hayward Area Recreation & Park District, June 2006.

- Hayward Plunge & Memorial Park – This park is located within the Project area at 24176 Mission Boulevard.

Traffic Operations

Study Intersections

A set of intersections was selected for study based upon the anticipated volume and distributional patterns of Project-related traffic and known locations of operational difficulty. This selection was made in collaboration with and approved by the City of Hayward Public Works Department staff. The following intersections, shown in **Figure 19-5** (Project Area and Study Locations), were studied:

1. Mission Boulevard at Sunset Boulevard
2. Mission Boulevard at A Street
3. Mission Boulevard at B Street
4. Mission Boulevard at C Street
5. Mission Boulevard at D Street
6. Mission Boulevard at Jackson Street-Foothill Boulevard
7. Mission Boulevard at Fletcher Lane
8. Mission Boulevard at Highland Boulevard
9. Mission Boulevard at Carlos Bee Boulevard
10. Mission Boulevard at Berry Avenue
11. Mission Boulevard at Harder Road

The convention for directional description of roadways and traffic in this EIR assume Mission Boulevard is aligned as north-south and all cross streets are assumed as east-west.

Existing Traffic Volumes

All of the study intersection counts were provided by the City of Hayward Public Works Department. Intersection counts were conducted between 2005 and 2011. Traffic turning volumes were counted at the study intersections during the AM and PM commuter periods (7:00 to 9:00 AM and 4:00 to 6:00 PM).

Although 2005 traffic counts are used in this analysis, they are reflective of, and conservatively higher than current traffic volumes. This is due, in part, to a reduction in Project-area generated traffic attributable to general regional economic conditions, as well as to the completion of major freeway improvement projects including the I-238 widening project and the 880/92 interchange completion project.According to annual traffic counts from Caltrans, regional pass-through traffic along Mission Boulevard (i.e., State Route 238) has seen substantial decreases in traffic volumes since 2005.

Table 19-2: Mission Boulevard (Route 185/238) Traffic Volumes from 2005 to 2011

Intersection	Year	Back - Average Annual Daily Trips[2]	Ahead - Average Annual Daily Trips
Mission Boulevard at Harder Road	2005	40,000	37,500
	2006	43,000	38,500
	2007	41,000	38,500
	2008	40,500	38,000
	2009	37,000	31,000
	2010	36,000	30,000
	2011	-	-
Mission Boulevard at A Street	2005	23,900	30,000
	2006	21,500	27,000
	2007	21,400	27,000
	2008	20,500	26,000
	2009	19,100	24,200
	2010	18,500	23,600
	2011	-	-

1 http://traffic-counts.dot.ca.gov/

2 "Back AADT" is the term Caltrans uses to reference traffic South or West of the count location. "Ahead AADT" is the term Caltrans uses to reference traffic North or East of the count location.

Since the earliest traffic volume counts were taken in 2005, a number of significant traffic generating land uses (i.e., commercial businesses) in the Project area have ceased operating. These include, but are not limited to, the following closed businesses:

- Automax of Hayward (i.e., automobile sales) at 29000 Mission Boulevard (approximate 16,000 square foot building);
- Frazee Paints (i.e., commercial retail sales) at 28700 Mission Boulevard (approximate 7,500 square foot building);
- Buso Glass Company (i.e., commercial retail sales) and Perry and Key Body Shop (i.e., automobile repair) at 28953 Mission Boulevard (approximate 20,000 square foot building); and
- Autos Unlimited (i.e., automobile repair) at 29294 Mission Boulevard (approximate 20,000 square foot building (now demolished)).

This equates to an approximate floor area of 63,500 square feet of commercial businesses which

have closed after 2005 traffic volume counts were taken, but whose trips are still accounted for in this EIR. Also, aside from these observed reductions in commercial floor area (i.e., traffic generating land uses) within the Project area, there have been no substantial additions of either commercial space or residential dwelling units. Two (2) mixed development projects (i.e., South Hayward BART Mixed Use Project, Mission Paradise Project) were approved but neither has filed for buildings permits or initiated construction. Thus, given the above information, it can be deduced that traffic levels within the Project area have been reduced subsequent to completion of traffic counts in 2005.

Concerning traffic volumes from trips originating outside of the Project area, Mission Boulevard is the regional roadway that conveys a substantial number of vehicle trips both outside of the Project area and City of Hayward. A decline of traffic volumes along Mission Boulevard would, therefore, indicate a reduction of regional pass-through trips originating outside of the Project area. Since the traffic counts were conducted, there has been a steady decline in both peak hour and average daily trips along Mission Boulevard, as illustrated in **Table 19-2** (Mission Boulevard (Route 185/238) Traffic Volumes Year 2005 to 2011).

The existing conditions information below assumes completion of the Route 238 Corridor Improvement Project and, as a result, the intersection counts were translated to account for the Route 238 Corridor one-way downtown configuration that will modify Foothill Boulevard (between Mission Boulevard and A Street) as one-way northbound, A Street (between Foothill Boulevard and Mission Boulevard) as one-way westbound, and Mission Boulevard (between A Street and Foothill/Jackson Street) as one-way southbound. Existing conditions traffic volumes are shown in **Figure 19-6** (Existing Vehicle Turning Movement Volumes and Geometries)**.**

Intersection Operations

Level of Service Concept

"Levels of service" describe the operating conditions experienced by motorists. Level of service is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort and convenience. Levels of service are designated "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. Level of Service (LOS) "A" through "E" generally represent traffic volumes at less than intersection capacity, while LOS "F" represents over capacity and/or significant delays. As mentioned below in the regulatory setting, the Hayward General Plan identifies LOS "D" as the goal for City's intersections during peak commute hours. LOS "E" may be considered acceptable due to costs of mitigation or when there would be other unacceptable impacts".[8]

Signalized Intersection Evaluation Methodology

Intersections, rather than roadway segments between intersections, are the capacity controlling locations for a circulation system such as the Project study area. Each jurisdiction determines acceptable level of service (LOS) for intersections under its jurisdiction. The 1994 Highway

[8] Page 3-26 of Hayward's Circulation Element on Improving Local Access and Circulation 11-1

Capacity Manual methodology was used to analyze signalized intersections, per City of Hayward's traffic impact study requirements9. The criteria used for signalized intersections are summarized in Table 19-3 (Highway Capacity Manual LOS Criteria). LOS at signalized intersections is based on the weighted average delay for all intersection legs.

Unsignalized Intersection Evaluation Methodology

There are no unsignalized intersections evaluated in this EIR.

Analysis Software

The most current TRAFFIX © software (version 8.0) was used to analyze traffic conditions of the study intersections. Intersection levels of service for vehicles in the project area were analyzed using the Transportation Research Board's 1994 *Highway Capacity Manual (HCM).*

Existing Intersection Levels of Service

A summary of vehicle LOS for the Existing Conditions is shown in **Table 19-4** (Existing (Baseline) No Project Conditions – Intersection Level of Service). The LOS table shows all study intersections under Existing Conditions operate at LOS "D" or better, except Mission Boulevard at A Street during the PM peak hour, which operates at LOS "F".

Analysis Methodology

The following four (4) scenarios are considered in the following traffic analysis:

1. Existing 2012 (Baseline): represents existing conditions including existing counts and roadway and transit systems.
2. Existing 2012 (Baseline) Plus Project: represents existing conditions including existing counts and roadway and transit systems plus addition of the Proposed Project land uses and roadway connections.
3. Cumulative 2035 No Project: represents future 2035 land use and transportation conditions as forecast by the Alameda Countywide Travel Demand Model.
4. Cumulative 2035 Plus Project: represents future 2035 land use and transportation conditions as forecast by the Alameda Countywide Travel Demand Model plus addition of the Proposed Project land uses and roadway connections.

Since the Route 238 Corridor Improvement Project is fully funded, presently under construction and substantially complete, this EIR assumes its completion and assigns its physical attributes to the Existing 2012 (Baseline) condition. Consequently, the subsequent scenarios (i.e., Existing 2012 (Baseline) Plus Project, Cumulative 2035 No Project, Cumulative 2035 Plus Project) reflect an analysis based upon a completed 238 Corridor Improvement Project.

[9] Requirements for Traffic Studies, City of Hayward Transportation/Development Section, May 2003

Table 19-3: 1994 Highway Capacity Manual LOS Criteria – Signalized Intersections

Level of Service (LOS)	Average Delay (seconds/vehicle)	Description
A	≤ 5	Very Low Delay: This level of service occurs when progression is extremely favorable and most vehicles arrive during a green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 5 and ≤ 15	Minimal Delays: This level of service generally occurs with good progression, short cycle lengths, or both. More vehicles stop than at LOS A, causing higher levels of average delay.
C	> 15 and ≤ 25	Acceptable Delay: Delay increases due to fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	> 25 and ≤ 40	Approaching Unstable Operation/Significant Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume / capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 40 and ≤ 60	Unstable Operation/Substantial Delays: These high delay values generally indicate poor progression, long cycle lengths, and high volume / capacity ratios. Individual cycle failures are frequent occurrences.
F	> 60	Excessive Delays: This level, considered unacceptable to most drivers, often occurs with oversaturation (that is, when arrival traffic volumes exceed the capacity of the intersection). It may also occur at high volume / capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.
Source: Transportation Research Board, *Highway Capacity Manual,* Washington, D.C., 1994, pages 9-6 and 9-7		
Dowling Associates, Inc.		

Traffic Model

Prior to preparation of this EIR, all traffic analysis in the City of Hayward has used the City of Hayward Planning Area 2 model. That model relied on the Hayward General Plan Land Use Map and ABAG Projections 2003 for land use data outside of Hayward. The model forecast traffic and transit for year 2000 and year 2025 conditions. Subsequently, the Alameda County Transportation Commission (Alameda CTC) updated the Countywide model to include more recent assumptions, including ABAG Projections 2009 (P2009) land use data and 2009 MTC Regional Transportation Plan (RTP) highway and transit network data. The current Countywide Model is implemented with CUBE software developed by Citilabs, and is consistent with the MTC Baycast Regional model. The model also includes land use assumptions within Hayward

Traffic Analysis Zones (TAZs) consistent with ABAG P2009 and the Hayward General Plan. As a result, the City of Hayward has adopted the Countywide model for all development and traffic studies. The Countywide model forecasts traffic for 2000, 2005, 2020 and 2035 conditions.

This EIR uses the most current Alameda County Transportation Commission (ACTC) travel demand model ("Countywide Model"). The Countywide Model was used to generate, distribute, apply mode split, and assign trips onto the local and regional roadway network for each analysis scenario.

The Countywide Model was used to project the growth between existing 2012 baseline conditions and cumulative 2035 conditions at all study locations. The growth was added to the existing counts to develop turning movement forecasts at all study intersections. The model was previously validated to counts at selected screen-line locations that included both freeway and arterial segments. Any differences between the counts and base year model volumes were reduced using the industry standard incremental adjustment methodology per the (National Cooperative Highway Research Program) NCHRP 255 Report. The adjusted 2035 volumes were used in the cumulative analysis. The Countywide Model was also used to identify project trip distribution for the with-project condition. Project volumes were added to the cumulative no project volumes on all study area roads and freeway segments.

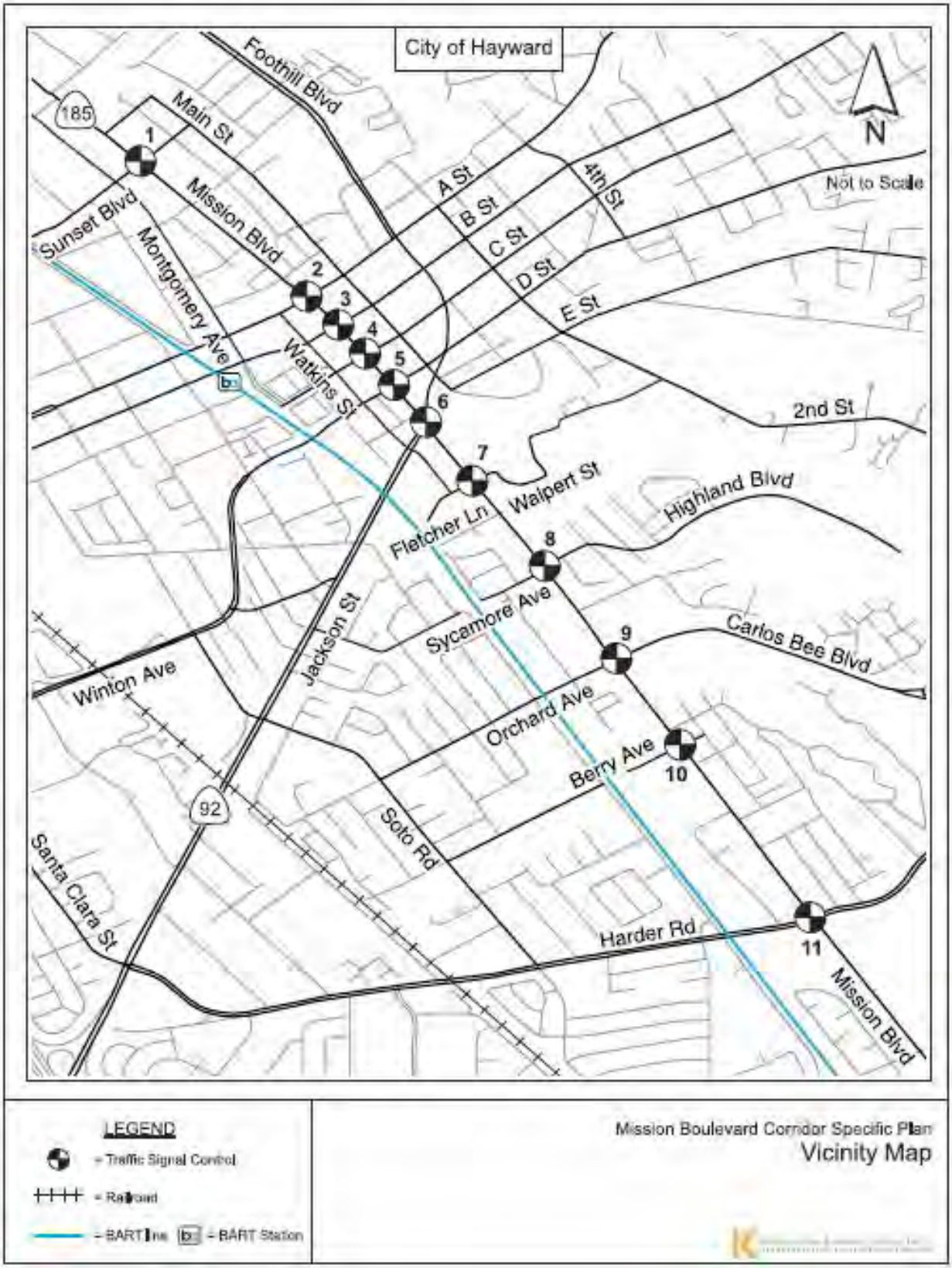

Figure 19-5: Project Area and Study Locations

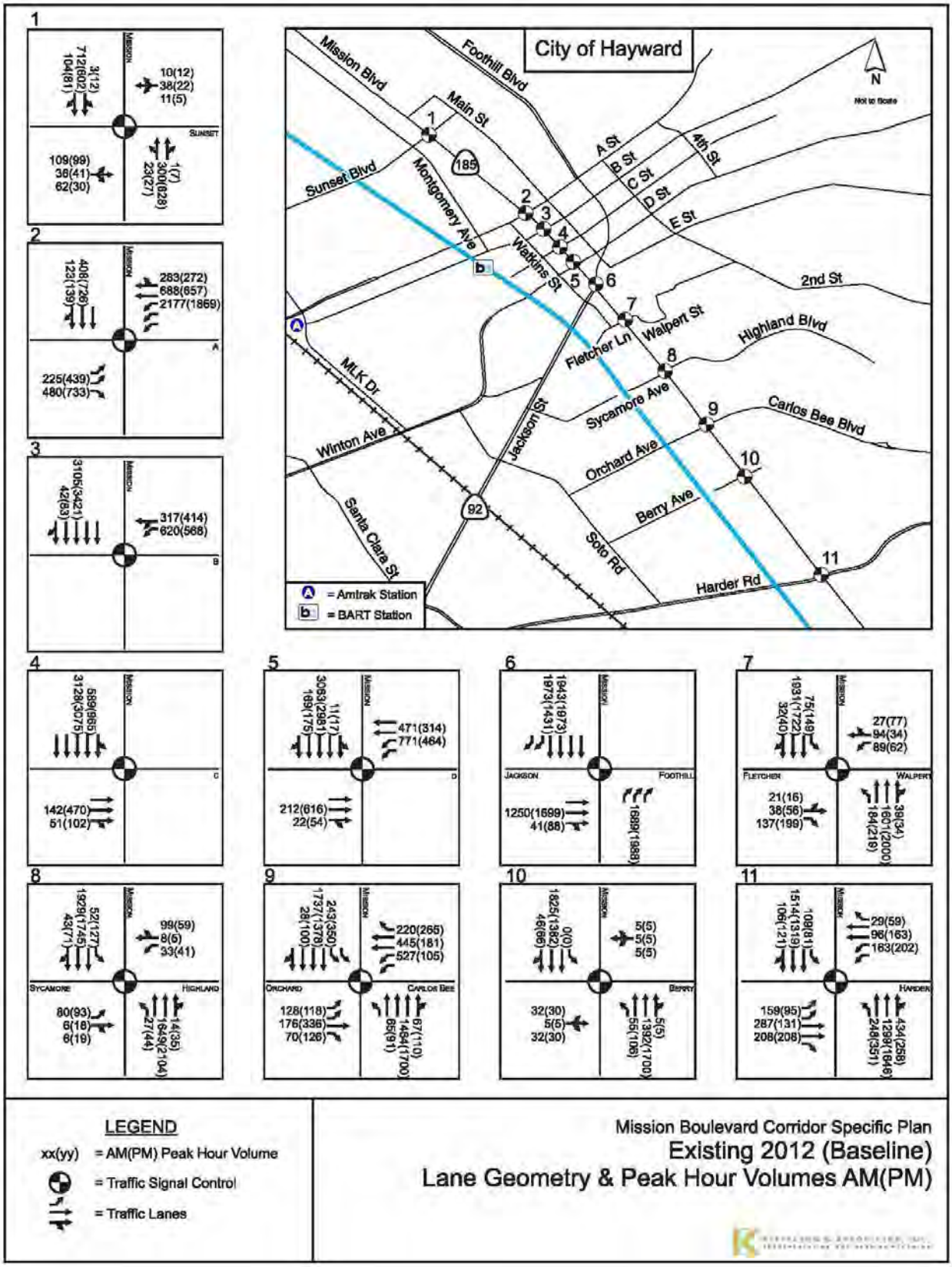

Figure 19-6: Existing Vehicle Turning Movement Volumes and Geometries

Table 19-4: Existing 2012 (Baseline) Conditions – Intersection Level of Service

Intersection		Traffic Control	Peak-Hour	LOS	Delay
1	Mission Boulevard at Sunset Boulevard	Signal	AM	B	9.3
			PM	B	8.0
2	Mission Boulevard at A Street	Signal	AM	D	36.4
			PM	**F**	**62.9**
3	Mission Boulevard at B Street	Signal	AM	C	15.2
			PM	C	15.6
4	Mission Boulevard at C Street	Signal	AM	A	3.6
			PM	B	7.3
5	Mission Boulevard at D Street	Signal	AM	C	18.4
			PM	C	17.9
6	Mission Boulevard at Jackson Street and Foothill Boulevard	Signal	AM	B	11.4
			PM	B	12.9
7	Mission Boulevard at Fletcher Lane	Signal	AM	C	15.7
			PM	C	20.6
8	Mission Boulevard at Highland Boulevard and Sycamore Avenue	Signal	AM	B	12.5
			PM	B	13.3
9	Mission Boulevard at Carlos Bee Boulevard and Orchard Avenue	Signal	AM	D	30.6
			PM	D	28.8
10	Mission Boulevard at Berry Avenue	Signal	AM	A	4.1
			PM	B	5.3
11	Mission Boulevard at Harder Road	Signal	AM	C	21.9
			PM	C	20.5

LOS = Level of Service; **Delay** = Weighted average delay for vehicles in seconds.

BOLD denotes locations with sub-standard operations; **SHADED** denotes locations with significant project-related impacts.

Signalized intersections were analyzed using the 1994 Highway Capacity Manual (HCM).

Source: Kittelson & Associates, Inc., 2013, using TRAFFIX 8.0.

REGULATORY SETTING

Federal

There are no federal transportation regulations applicable to the proposed Project.

State

Caltrans is responsible for planning, designing, constructing, and maintaining all interstate freeways and state routes. I-880, I-238, I-580 and State Routes 92, 185 (north of A Street) and 238 (south of Industrial Parkway) are roadways near to the study area that are under Caltrans' jurisdiction.

Regional

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area, including Alameda County and as such is required to prepare and adopt a Regional Transportation Plan (RT).. MTC adopted the current RTP known as *Transportation 2035* on April 22, 2009.

Transportation 2035 specifies a detailed set of investments and strategies throughout the region from 2010 through 2035 to maintain, manage, and improve the surface transportation system, specifying how anticipated federal, State, and local transportation funds will be spent. There are no *Transportation 2035* planned projects within the Project area. Also, Project-related traffic impacts would not affect a planned *Transportation 2035* project located outside the Project area.

Congestion Management Plan and Guidelines

The Alameda County Transportation Commission (Alameda CTC) prepares the Countywide Transportation Plan and maintains the Congestion Management Program (CMP), a plan mandated by California law to describe the strategies to address congestion problems on the Metropolitan Transportation System (MTS) and CMP network, which includes state highways and principal arterials. The CMP uses LOS standards as a mean to measure congestion and has established LOS standards to determine how local governments meet the standards of the CMP. MTS and CMP roadways applicable to the current Project include: I-880, I-580, SR 238, SR 92, Mission Boulevard Foothill Boulevard, Hesperian Boulevard, A Street, B Street, Winton Avenue, Jackson Street, Harder Road, Tennyson Road and Industrial Parkway. CMP designated transit systems include BART and AC Transit.

City of Hayward

General Plan

The Circulation Element of the General Plan contains policies and strategies relating to regional traffic, promoting alternative transportation modes and improving local access and circulation.

- Reduce the amount of Regional Through Traffic in the Hayward Area. (*Policy 1*)
    - Support transportation plans that incorporate alternatives to automobile use. (*Strategy 2*)
    - Coordinate transportation planning with regional agencies and adjoining jurisdictions. (*Strategy 4*)
- Expand or Reconfigure the Regional Road Network to Reduce Through Traffic on Major Arterials. (*Policy 2*)
    - Improve or create loops or bypass routes to channel regional traffic away from major arterials. (*Strategy 1*)
    - Improve roadway and transit connections that serve regional through traffic. (*Strategy 2*)
    - In order to relieve traffic congestion in the City of Hayward, the City Council shall pursue the implementation of transportation projects which may include alternatives to the Route 238 Bypass (Foothill Freeway) and which would qualify for funding from Measure B and other sources. The Council is further authorized and directed to make any modification to the General Plan required to accommodate the implementation of such alternatives or projects. (Measure U). (*Strategy 3*)
    - Improve and complete freeway interchanges to facilitate traffic flow. (*Strategy 4*)
- Minimize Adverse Impacts of Regional Traffic on Existing Neighborhoods. (*Policy 3*)
    - Minimize adverse impacts of road construction and expansion projects on neighborhoods and the downtown. (Strategy 1)
    - Identify and pursue alternatives to road construction and expansion as necessary for improving traffic flows. (*Strategy 2*)
    - Evaluate circulation patterns and develop appropriate traffic-calming measures to discourage through traffic in neighborhoods. (*Strategy 3*)
- Improve Mobility to Foster Economic Vitality. (*Policy 4*)
    - Provide a safe and efficient transportation system for the movement of people, goods and services through and within Hayward. (*Strategy1*)
- Improve Coordination among Public Agencies and Transit Providers. (*Policy 5*)
    - Consider needs of transit riders, pedestrians, people in wheelchairs, cyclists and others in long-range planning and review of development proposals. (*Strategy1)*

- Promote effective intermodal connections at transit stations (*Strategy 5*)

- Create Improved and Safer Circulation Facilities for Pedestrians. (*Policy 8*)
  - Complete planned sidewalk system and maintain and repair sidewalks to ensure pedestrian safety. (*Strategy 1*)
  - Increase consideration of pedestrian needs including appropriate improvements to crosswalks, signal timing, signage, and curb ramps. (*Strategy 2*)
  - Enhance pedestrian linkages from neighborhoods to recreational facilities and open spaces with pedestrian paths, creekside walks, and utility greenways. (*Strategy 3*)
  - Encourage design of development that contributes to continuous pedestrian pathways and pedestrian connectivity. (*Strategy 4*)

- Provide the opportunity for safe, convenient and pleasant bicycle travel throughout all areas of Hayward. (*Policy 9*)
  - Implement system of bikeways throughout the City (per the Bicycle Master Plan) tying residential areas to commercial areas and to recreational open space along the shoreline and in the hills. (*Strategy 1*)
  - Provide the related facilities and services necessary to allow bicycle travel to assume a significant role as a local alternative mode of transportation and recreation. (*Strategy 2*)
  - Encourage the use of bicycles as a pleasant means of travel and recreation embodying physical, environmental and social benefits. (*Strategy 3*)

- Encourage Land Use Patterns that Promote Transit usage. (*Policy 10*)
  - Encourage transit-oriented development, where appropriate, encourage intensive new residential and commercial development within 1/2 mile of transit stations or 1/4 mile of major bus routes. (*Strategy 1)*
  - Encourage mixed-use residential and commercial development to reduce the need for multi-destinational trips (*Strategy 2*)
  - Promote high density new residential development, including residential above commercial uses, near transit facilities, activity generators and along major arterials. (*Strategy 3)*
  - Encourage alternatives to automobile transportation through development policies and provision of transit, bike and pedestrian amenities. (*Strategy 4*)
  - Encourage design of development that facilitates use of transit. (*Strategy 6)*

Bicycle Master Plan

The *Hayward Bicycle Master Plan*, approved in October 2008, provides a long-term vision for bicycle transportation in the City of Hayward. It updates a previous plan prepared in 1997 by providing an updated inventory of the City's bicycle paths, bicycle lanes and bicycle routes. It also contains an updated list of proposed bikeways and bicycle support facilities. The plan seeks to improve connections to neighboring communities and the regional bicycle network through application of the following goals and objectives:

- Goal 1: To provide the opportunity for safe, convenient and pleasant bicycle travel throughout all areas of Hayward
    - Objective 1.1: To make the system of streets accommodate bicycle use
    - Objective 1.2: To assist in the development of new facilities, require new development either to contribute funding, or to assist in the construction of nearby planned bicycle facilities
    - Objective 1.3: Seek funding of bicycle facilities through available source such as the Federal surface transportation funding (SAFETEA-LU); State of California Transportation Development Act funds; the Bicycle Transportation Account funds; the Regional Bay Area Air Quality Management District funds, and County of Alameda Measure B Bicycle and Pedestrian Funding
- Goal 2: To provide the related facilities and services necessary to allow bicycle travel to assume significant role as a local alternative mode of transportation and recreation
    - Objective 2.1: To work with transit agencies, such as BART and AC Transit, to increase their systems' accessibility to bicycle users, especially during peak hour commute times and on lines serving major bicycle destinations such as California State University
    - Objective 2.2: To provide bicycle lockers at primary City facilities to increase bicycle commuter ridership among City employees
    - Objective 2.3: To consider additional Travel Demand Reduction programs that provide economic incentives for bicycle commuters
    - Objective 2.4: To increase bicycle use, as alternative transportation
- Goal 3: To encourage the use of bicycle as a pleasant means of travel recreation embodying physical, environment and social benefits
    - Objective 3.1: To reduce the number of bicyclist injuries (enhance bicyclists' safety) to create opportunities for new bicyclists to have a positive bicycling experience
    - Objective 3.2: To promote public awareness and acceptance bicycling

The *Hayward Master Bicycle Plan* also has two (2) planned pedestrian trails identified proximate to the Project area, including:

- East Bay Greenway: This planned trail is located to the west and outside of the northern segment of the Project area. The trail is planned to extend from Oakland to Hayward underneath elevated BART tracks. In Hayward, the East Bay Greenway would run underneath the elevated BART tracks from the San Leandro Border to the Downtown Hayward BART station (see **Figure 19-7**: Hayward Bicycle Master Plan).

- Hayward Fault Trail: This proposed trail is located within the southern Project area segment . The proposed trail runs parallel to Mission Boulevard along the Hayward Fault. (see Figure 19-6: Hayward Bicycle Master Plan). This trail is also depicted in the Hayward General Plan (see **Figure 3-3**).

In addition, the City of Hayward Zoning Ordinance includes the Hayward Foothills Trail Special Design District (SD-7), which identifies the route of a continuous north/south trail along the properties involved in the 238 Bypass Land Use Study (see **Figures 19-8 to 19-12: 238 Bypass Trail Location** below).

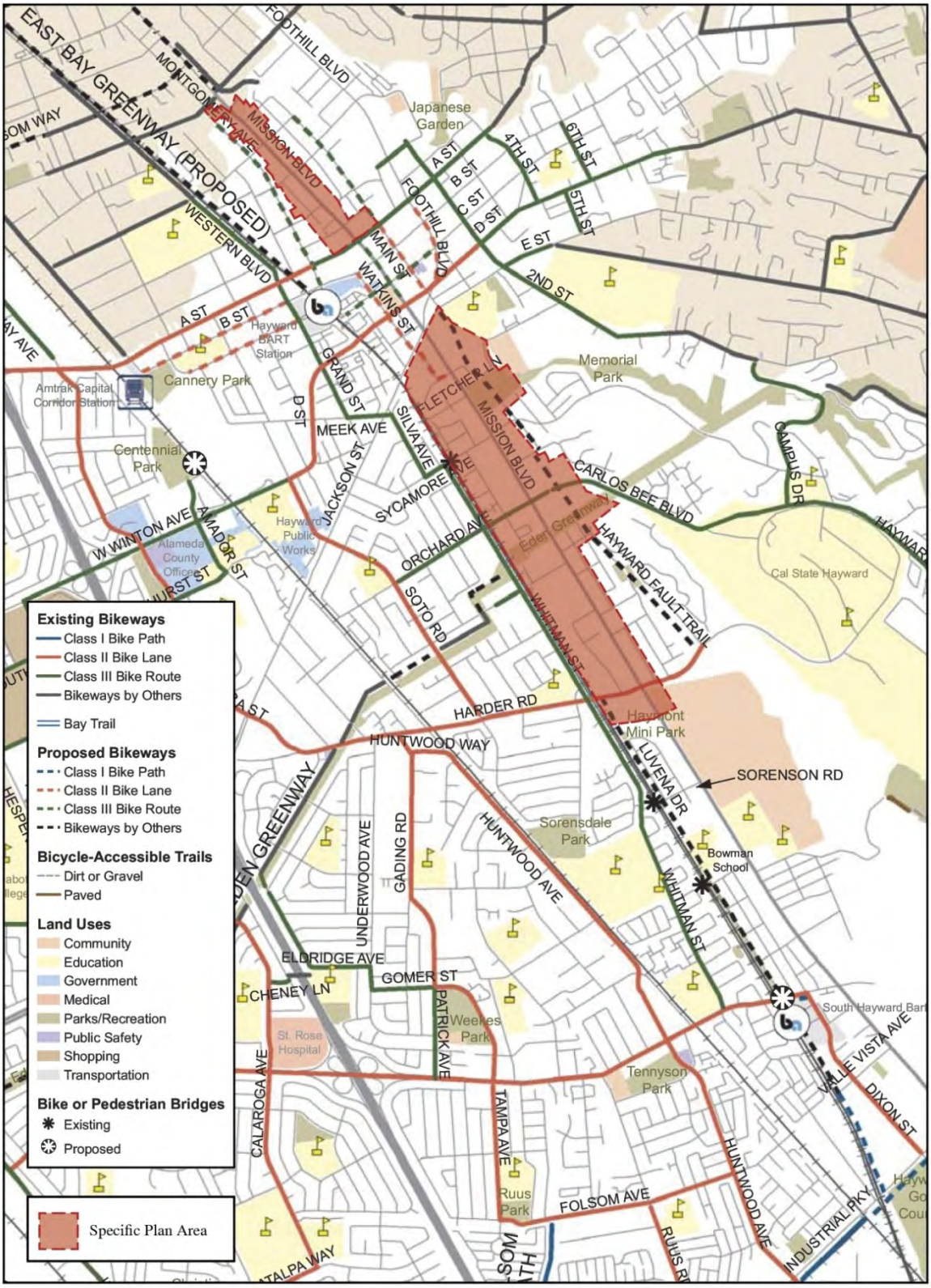

Figure 19-7: Hayward Bicycle Master Plan Network

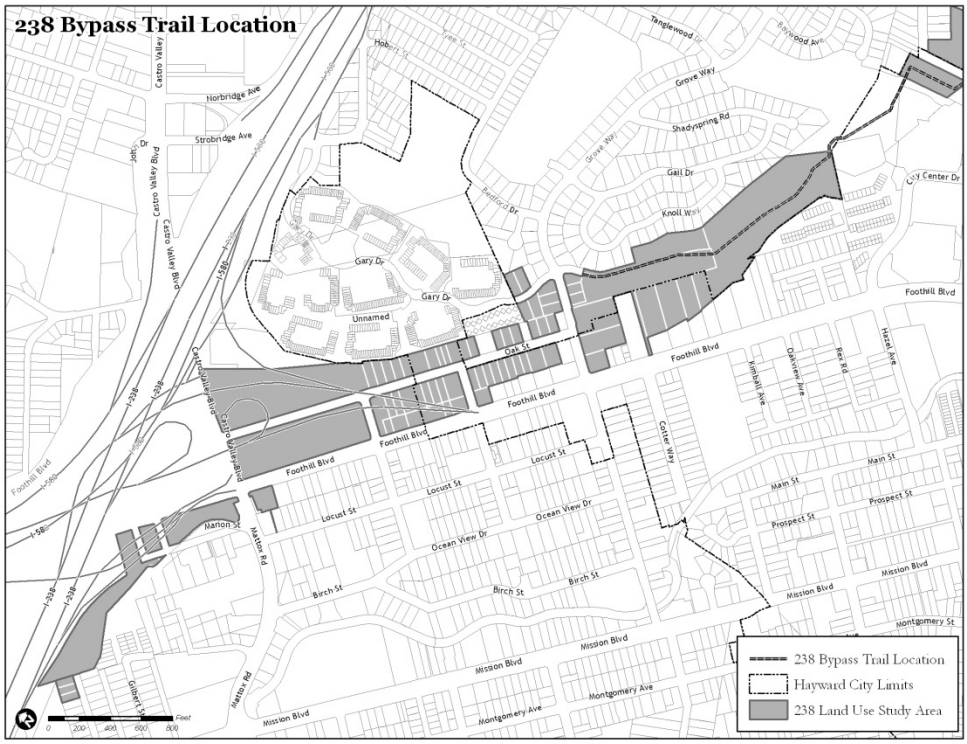

Figure 19-8: 238 Bypass Trail Location.

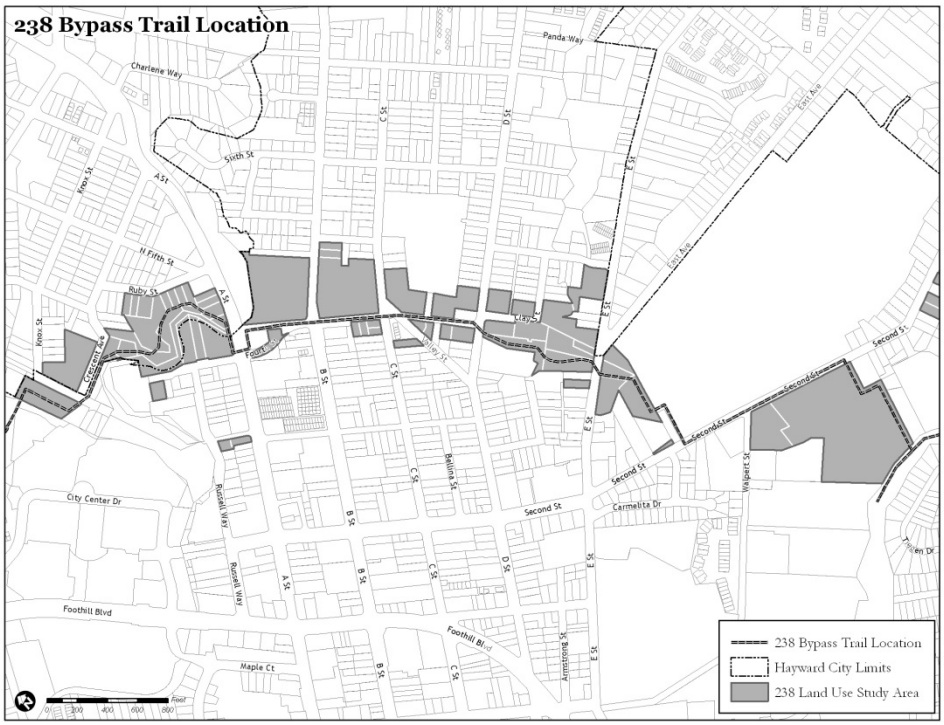

Figure 19-9: 238 Bypass Trail Location.

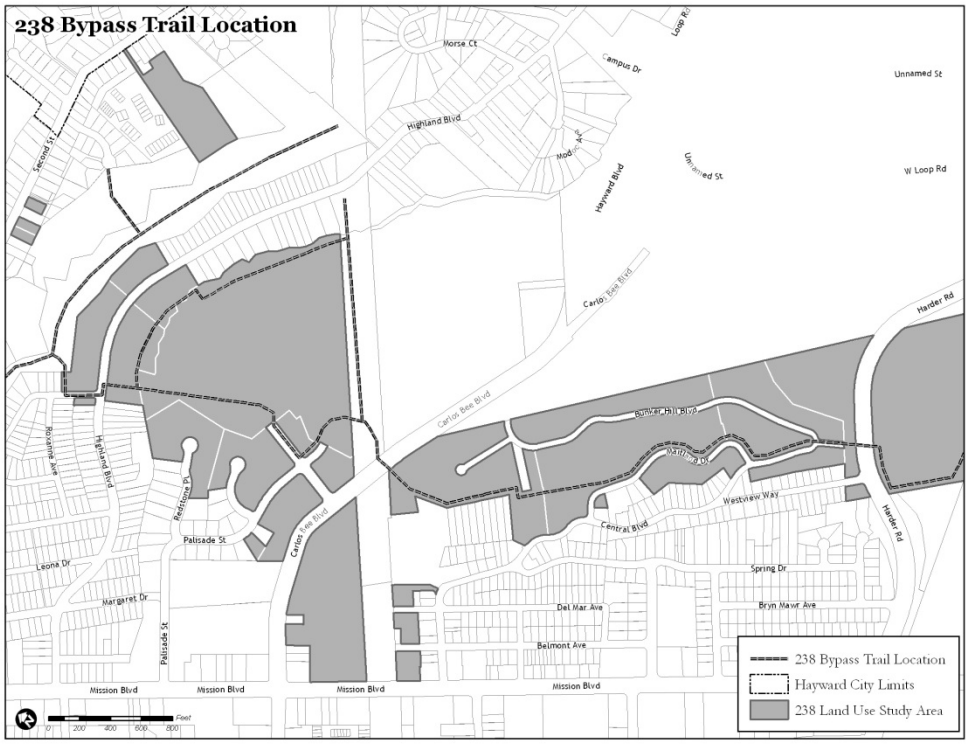

Figure 19-10: 238 Bypass Trail Location.

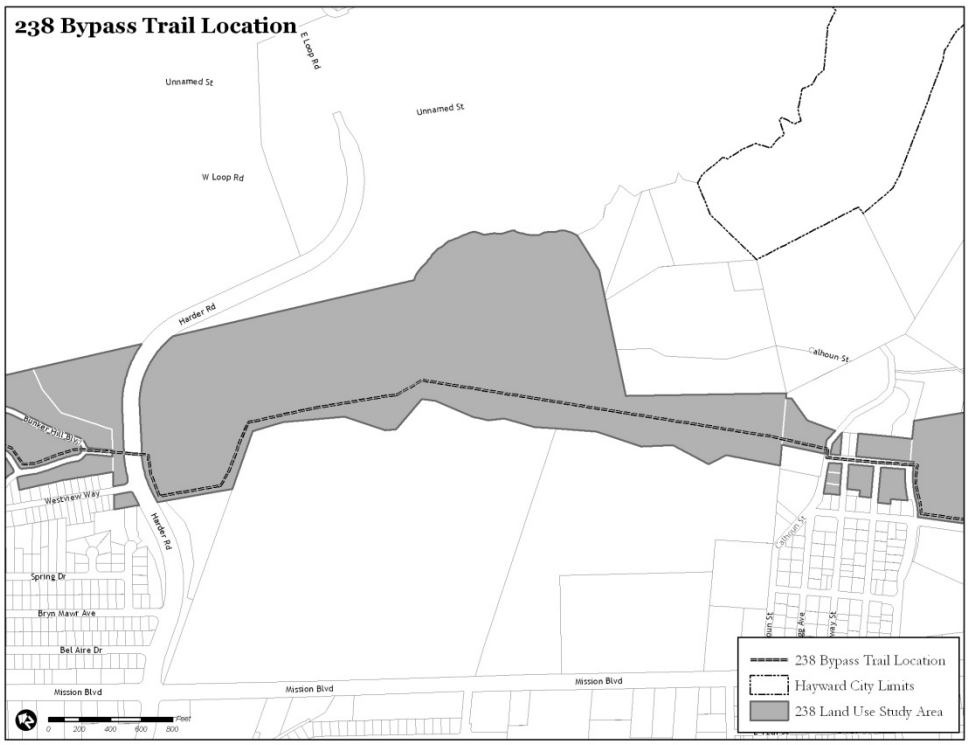

Figure 19-11: 238 Bypass Trail Location.

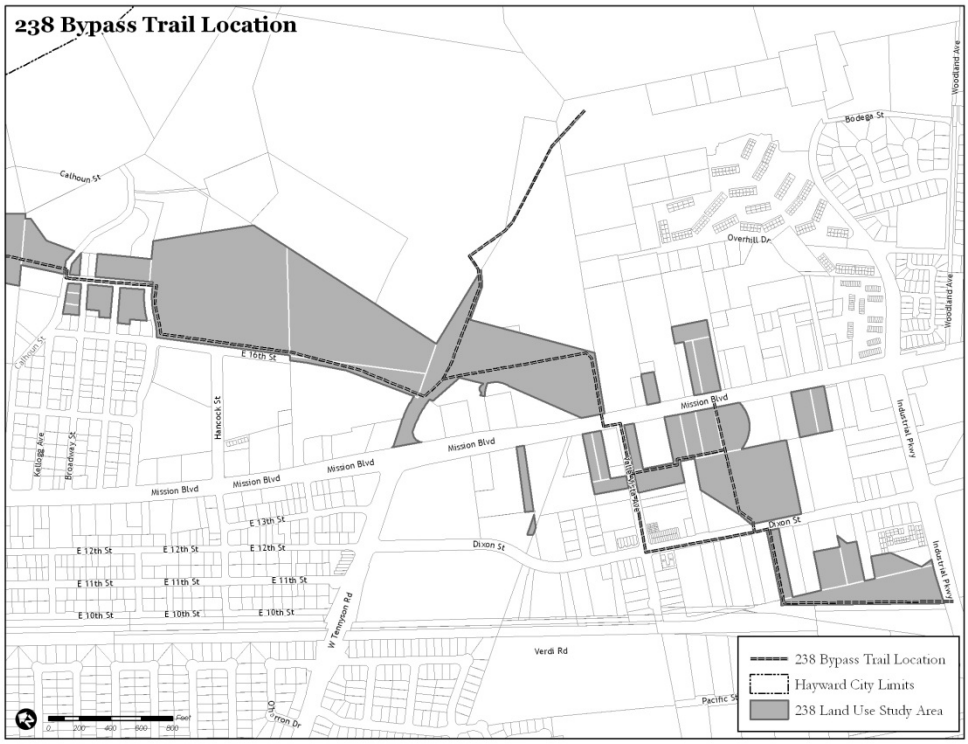

Figure 19-12: 238 Bypass Trail Location.

PROJECT CONDITIONS

This section presents a description of the Project's vehicle trip generation, distribution, and assignment to the road network. Please see Chapter 3 (Project Description) for the build-out assumptions relied upon in preparation of the transportation impact analysis.

Project Trips

Trip Generation

Land use estimates utilized in the trip generation analysis below are identified in **Table 19-5** (Vehicle Trip Generation Estimates). Land uses were geocoded to the Alameda County Transportation Commission (CTC) Countywide Model Traffic Analysis Zones (TAZs) according to residential and commercial units of the Institute of Transportation Engineers (ITE) 8th Edition *Trip Generation Manual*. A summary of the results of added trips from the Project for both existing 2012 (Baseline) and 2035 cumulative conditions are shown in **Figure 19-5** (Vehicle Trip Generation Estimates for Project).

Trip Distribution

Project trips were distributed out of the traffic analysis zones (TAZs) using the Alameda County Transportation Commission (CTC) Countywide Projections 2009 Travel Demand model. The

model also accounts for transit trips based on the model's internally calibrated mode choice module. Based on the model's trip distribution and mode split reductions, Project vehicle trips were then assigned to the roadway network through the study intersections identified in **Figure 19-5** (Project Area and Study Locations). **Figure 19-13** (Existing 2012 (Baseline) Conditions, Project-Only Trips) identifies the Project-only vehicle trips for the AM and PM peak-hours at the study intersections for Existing 2012 (Baseline) condition. **Figure 19-14** (Cumulative 2035 Conditions Project-Only Trips) identifies the Project-only vehicle trips for the AM and PM peak-hours at the study intersections for 2035 Cumulative condition.

Table 19-5: Vehicle Trip Generation Estimates for Project

Type	Use	Size	Units	ITE Code	Daily Rate	Daily Trips	AM Peak Hour Traffic			PM Peak Hour Traffic		
							In	Out	Total	In	Out	Total
Existing (No Project)												
Housing	Single Family	1,555	DU	210	9.57	14,881	292	875	1,166	989	581	1,571
Housing	Apartments	1,615	DU	220	6.72	10,853	239	585	824	611	391	1,001
Commercial	Office	720	ksf	710	11.01	7,924	982	134	1,116	182	890	1,072
Commercial	Market	720	ksf	850	102.24	73,587	1,576	1,008	2,584	3,854	3,703	7,557
	Totals					**107,246**	**3,088**	**2,601**	**5,689**	**5,637**	**5,565**	**11,202**
Existing + Project												
Housing	Single Family	2,316	DU	210	9.57	22,164	434	1,303	1,737	1,474	865	2,339
Housing	Apartments	2,738	DU	220	6.72	18,399	405	991	1,396	1,036	662	1,698
Commercial	Office	886	ksf	710	11.01	9,749	1,208	165	1,373	224	1,095	1,319
Commercial	Market	886	ksf	850	102.24	90,534	1,939	1,240	3,179	4,742	4,556	9,298
	Totals					**140,846**	**3,986**	**3,699**	**7,685**	**7,475**	**7,179**	**14,654**
Existing Project Only Trips												
Housing	Single Family	-	DU			7,283	143	428	571	484	284	769
Housing	Apartments	-	DU			7,547	166	407	573	425	272	696
Commercial	Office	-	ksf			1,825	226	31	257	42	205	247
Commercial	Market	-	ksf			16,946	363	232	595	888	853	1,740
	Totals					**33,601**	**898**	**1,098**	**1,995**	**1,839**	**1,614**	**3,452**
Cumulative (2035) (No Project)												
Housing	Single Family	2,190	DU	210	9.57	20,958	411	1,232	1,643	1,393	818	2,212
Housing	Apartments	2,248	DU	220	6.72	15,107	332	814	1,146	850	544	1,394
Commercial	Office	886	ksf	710	11.01	9,749	1,208	165	1,373	224	1,095	1,319
Commercial	Market	886	ksf	850	102.24	90,534	1,939	1,240	3,179	4,742	4,556	9,298
	Totals					**136,348**	**3,890**	**3,450**	**7,340**	**7,210**	**7,013**	**14,223**
Difference compared to No Project (Existing)						**29,102**	**802**	**849**	**1,651**	**1573**	**1448**	**3021**
Cumulative (2035) + Project												
Housing	Single Family	2,758	DU	210	9.57	26,394	517	1,551	2,069	1,755	1,031	2,786
Housing	Apartments	2,983	DU	220	6.72	20,046	441	1,080	1,521	1,128	721	1,849
Commercial	Office	886	ksf	710	11.01	9,749	1,208	165	1,373	224	1,095	1,319
Commercial	Market	886	ksf	850	102.24	90,534	1,939	1,240	3,179	4,742	4,556	9,298
	Totals					**146,723**	**4,105**	**4,036**	**8,141**	**7,849**	**7,403**	**15,252**
Difference compared to No Project (2035)						**10,375**	**215**	**586**	**801**	**639**	**390**	**1,029**
Cumulative Project Only Trips												
Housing	Single Family	-	DU			5,436	107	320	426	361	212	574
Housing	Apartments	-	DU			4,939	109	266	375	278	178	456
Commercial	Office	-	ksf			0	0	0	0	0	0	0
Commercial	Market	-	ksf			0	0	0	0	0	0	0
	Totals					**10,375**	**215**	**586**	**801**	**639**	**390**	**1,029**

DU = Dwelling Units; ksf = 1,000 square feet

Source: *Trip Generation*, 8th Edition, Institute of Transportation Engineers, 2008, Washington, DC

Kittelson & Associates, Inc, 2012

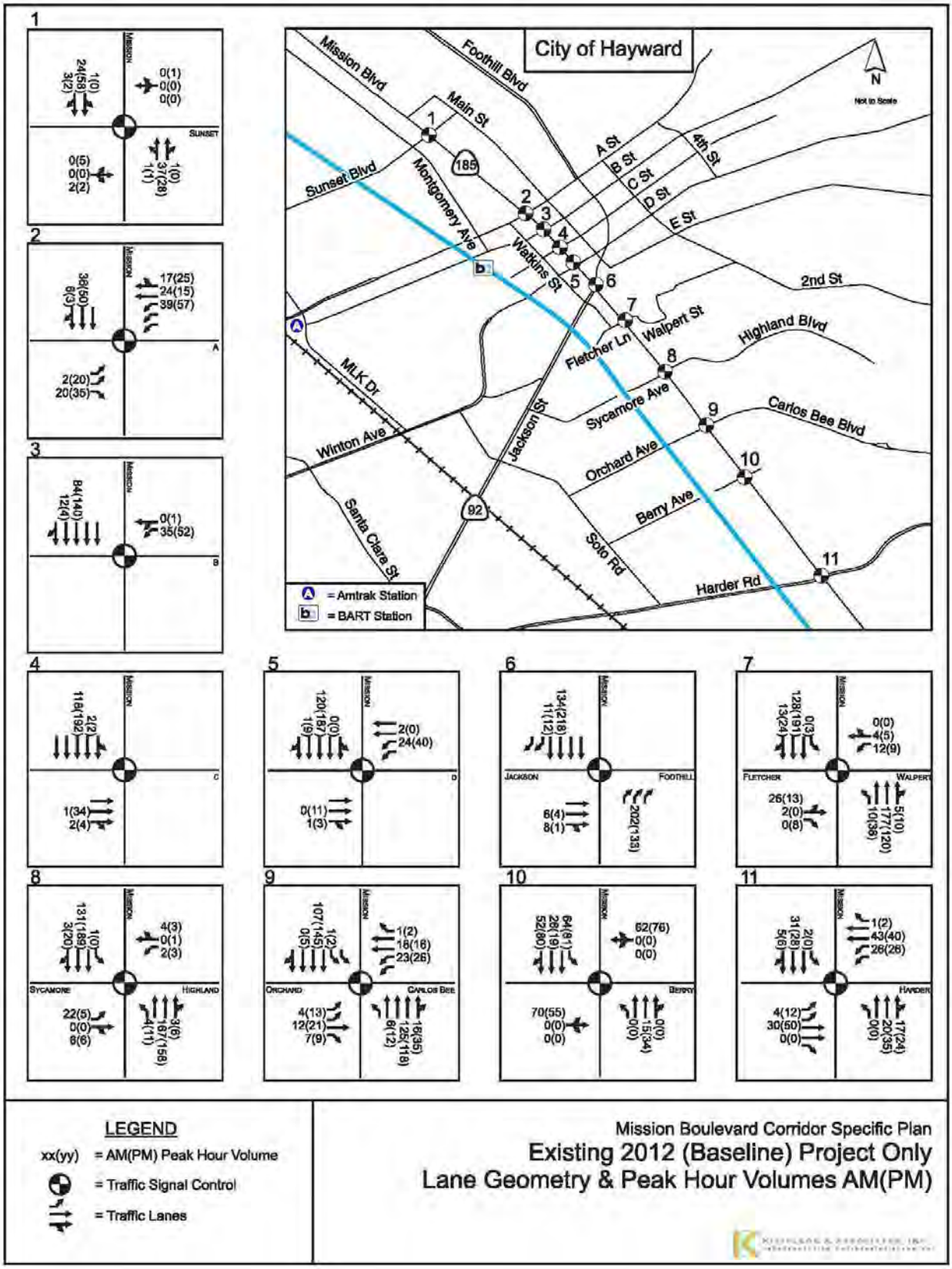

Figure 19-13: Existing 2012 (Baseline) Conditions, Project-Only Trips.

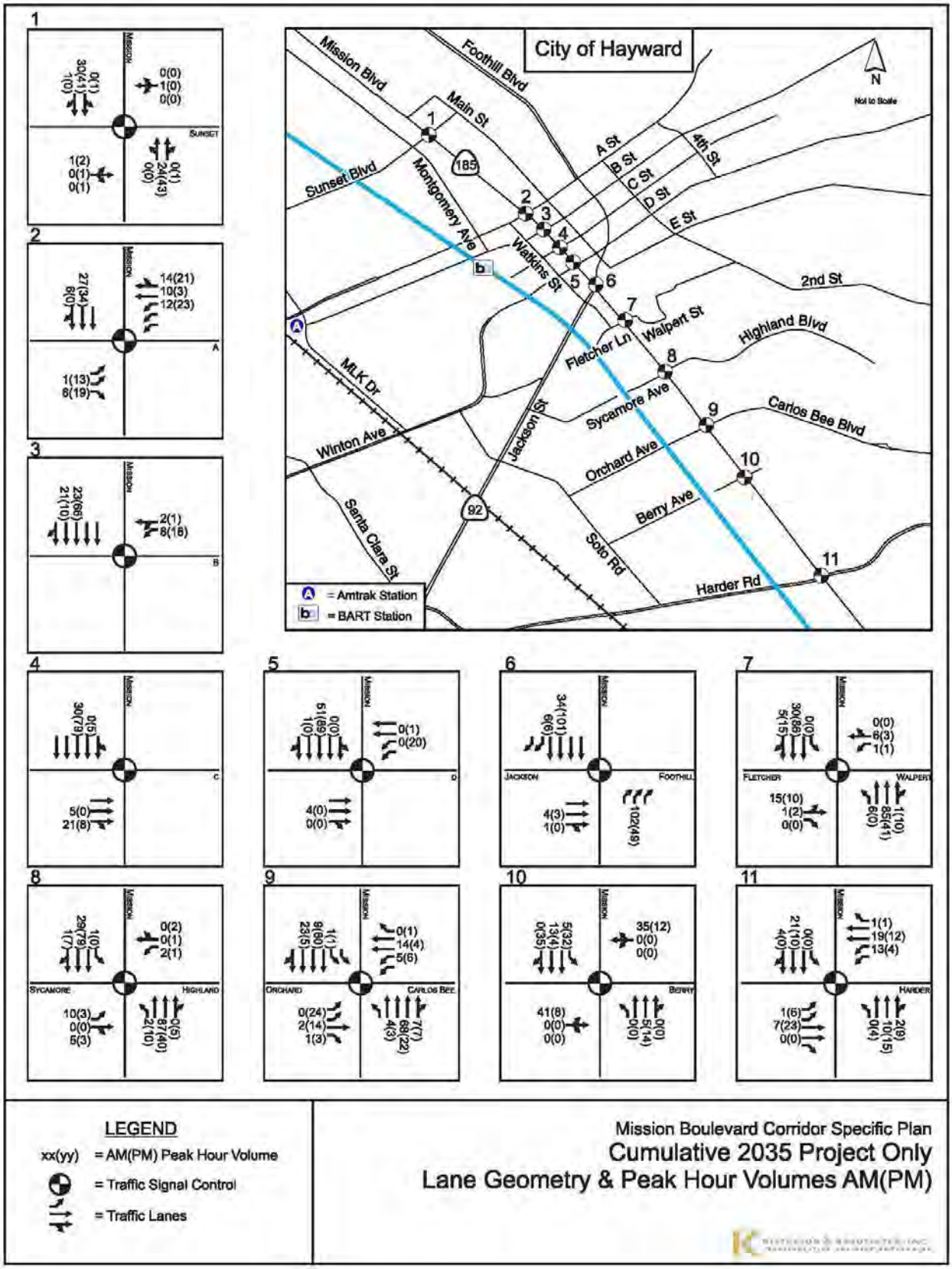

Figure 19-14: Cumulative 2035 Conditions Project-Only Trips.

Year 2035 Cumulative Conditions

This section discusses the analysis of the two (2) cumulative scenarios (i.e., 2035 Cumulative No Project, 2035 Cumulative Plus Project). Lane configurations for study intersections under 2035 Cumulative conditions were assumed to be the same as described under Existing 2012 (Baseline) and Existing 2012 (Baseline) Plus Project conditions.

Year 2035 Traffic Volumes

Year 2035 AM and PM peak-hour roadway segment traffic volumes were obtained from the Alameda Countywide Projections 09 Model. This model is based on the MTC Regional BayCast Model and is used by Alameda CTC to produce traffic projections for use in the CMP and transportation and air quality planning and includes build-out of the City of Hayward according to the 2002 General Plan. Although the model produces forecasts for freeways and major arterials in Alameda County, the model does not include sufficient traffic analysis zone (TAZ) or roadway network detail to produce accurate forecasts for minor arterial and local streets and at study intersections in the City of Hayward. Thus, this EIR analysis relies on appropriate calibration adjustments to match the baseline model to existing counts.

The Countywide Model was used to generate, distribute, apply mode split, and assign trips onto the local and regional roadway network for the 2035 Cumulative No Project and 2035 Cumulative Plus Project scenarios. The model was also used to generate the growth between the Existing 2012 (Baseline) conditions and 2035 Cumulative conditions at all study locations.

Year 2035 conditions assume redevelopment of the Planning Area according to its land use designations under the current General Plan. The proposed changes in land use due to the Project are not included in the model. The Project's land uses were coded into the Countywide Model and the resulting trip assignment was compared to the trip assignment for the uses assumed under the current General Plan. A comparison of the land uses between the General Plan and the Project are shown in Table 19-11 (Land Use Comparison between 2035 No-Project and Project).

Projected growth was added to the existing counts to develop turning movement forecasts at all study intersections. The model was validated to counts at selected screen-line locations that included both freeway and arterial segments. The Alameda Countywide model does not have a 2012 horizon year. But since most of the counts used in this analysis are from 2005, it was considered that the 2005 model was appropriate to represent existing baseline conditions. Any differences between the counts and the Baseline model volumes (reduction or increase) were factored out using the industry standard incremental adjustment methodology (commonly known as the Furness Adjustment method, as described in the National Cooperative Highway Research Project NCHRP-255 Report) until any residual model error was removed. These adjusted volumes were used in the 2035 Cumulative analysis.

A summary of vehicle LOS for the Cumulative 2035 No Project scenario is shown in **Table 19-6** (Cumulative 2035 No Project Conditions – Intersection Level of Service). Intersection turning movement volumes and lane geometries for the Cumulative 2035 No Project Conditions is shown in **Figure 19-15** (Cumulative 2035 No Project Turning Movement Volumes).

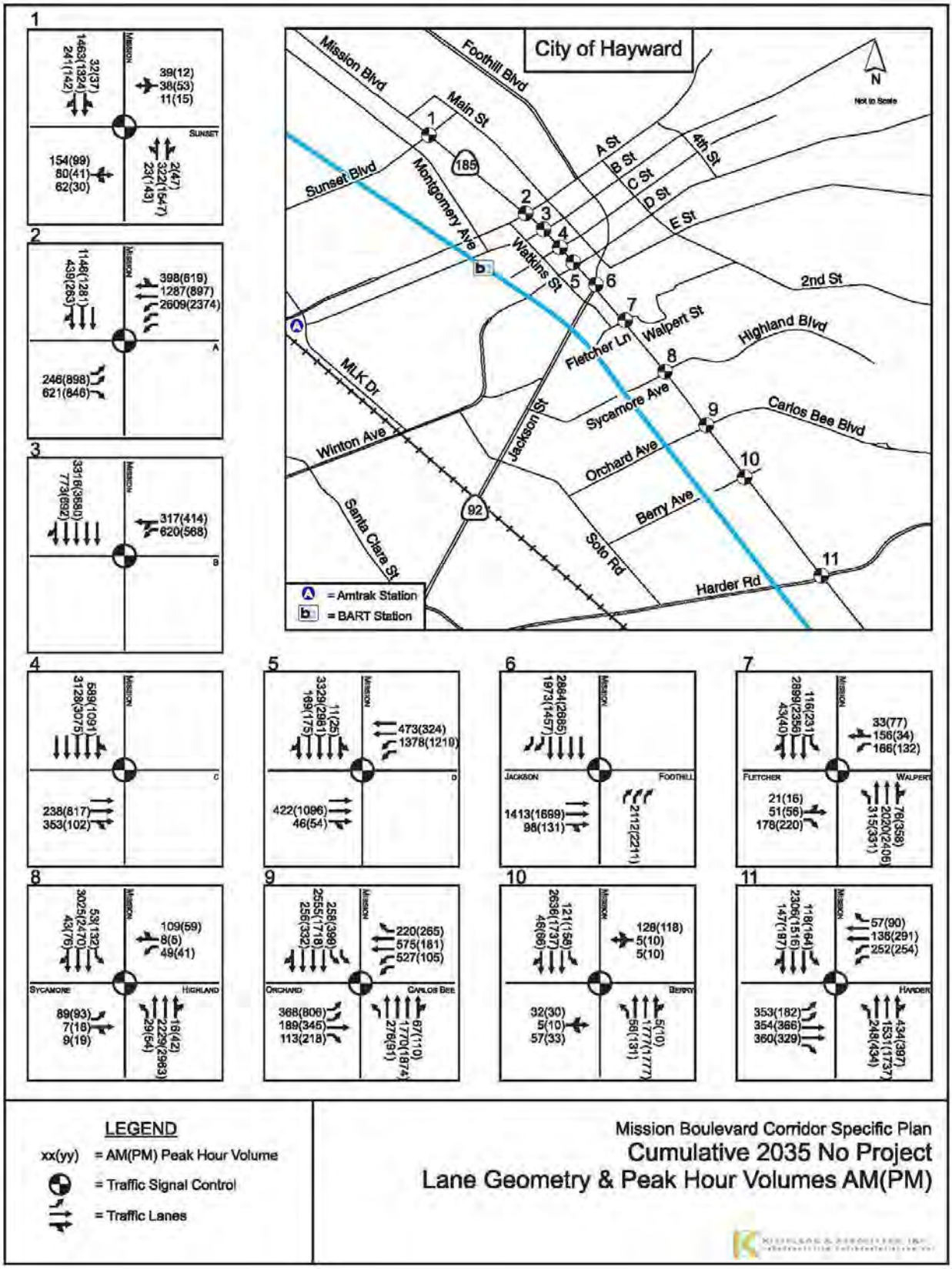

Figure 19-15: Cumulative 2035 No Project Turning Movement Volumes.

Table 19-6: Cumulative 2035 No Project Conditions – Intersection Level of Service

Intersection		Traffic Control	Peak-Hour	LOS	Delay
1	Mission Boulevard at Sunset Boulevard	Signal	AM	B	12.5
			PM	**F**	**75.1**
2	Mission Boulevard at A Street	Signal	AM	**F**	**218.7**
			PM	**F**	**284.9**
3	Mission Boulevard at B Street	Signal	AM	C	15.8
			PM	C	16.9
4	Mission Boulevard at C Street	Signal	AM	B	11.7
			PM	B	11.8
5	Mission Boulevard at D Street	Signal	AM	D	39.3
			PM	**E**	**50.0**
6	Mission Boulevard at Jackson Street and Foothill Boulevard	Signal	AM	B	13.3
			PM	B	14.7
7	Mission Boulevard at Fletcher Lane	Signal	AM	D	26.1
			PM	D	26.6
8	Mission Boulevard at Highland Boulevard and Sycamore Avenue	Signal	AM	B	12.8
			PM	B	13.8
9	Mission Boulevard at Carlos Bee Boulevard and Orchard Avenue	Signal	AM	D	38.3
			PM	D	39.1
10	Mission Boulevard at Berry Avenue	Signal	AM	B	9.2
			PM	B	12.3
11	Mission Boulevard at Harder Road	Signal	AM	D	27.4
			PM	D	29.1

LOS = Level of Service; **Delay** = Weighted average delay for vehicles in seconds.

BOLD denotes locations with sub-standard operations; **SHADED** denotes locations with significant project-related impacts.

Signalized intersections were analyzed using the 1994 Highway Capacity Manual (HCM).

Source: Kittelson & Associates, Inc., 2013, using TRAFFIX 8.0.

According to LOS results presented in **Table 19-6** (Cumulative 2035 No Project Conditions – Intersection Level of Service), all study intersections are projected to operate at LOS "D" or better except Mission Boulevard at Sunset Boulevard, Mission Boulevard at A Street, and Mission Boulevard at D Street. More specifically, these study intersections would operate at the following sub-standard levels of service under the Cumulative 2035 No Project Condition:

- Intersection 1: Mission Boulevard at Sunset Boulevard is projected to operate at LOS "F" during the PM peak hour.

- Intersection 2: Mission Boulevard at A Street is projected to operate at LOS "F" for both AM and PM peak hours. Under the 238 Corridor Improvement Project DEIR (page 3.11-28), this intersection was identified to operate at LOS F in 2025 during the AM and PM peak hours.

- Intersection 5: Mission Boulevard at D Street is projected to operate at LOS "E" during the PM peak hour. Under the 238 Corridor Improvement Project DEIR (page 3.11-28), this intersection was identified to operate at LOS F in 2025 during the AM and PM peak hours.

IMPACT ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of transportation and this EIR, implementation of the Project would have a significant effect on the environment if it were to:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

- Result in inadequate emergency access?

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Significance criteria are identified to determine what constitutes a significant impact due to the Project. The standards used to determine whether Project-related impacts at signalized intersections would be significant if they would:

- Degrade the AM or PM peak hour from an acceptable LOS D (50 seconds/vehicle) or better under No Project Conditions to an unacceptable LOS E or worse under Project Conditions except when LOS E is determined by the City of Hayward as acceptable due to costs of mitigation or when there would be other unacceptable impacts.

- Degrade the AM or PM peak hour operating at LOS F under No Project Conditions by increasing the delay per vehicle by four (4) seconds or more.

An intersection can be mitigated to a *Less Than Significant* level if an infrastructure improvement or traffic volume reduction results in the intersection operating at its minimum threshold or better. If an intersection is currently operating at substandard LOS, the improvement must, at a minimum, return the intersection to its No Project operating conditions to achieve a *Less Than Significant* classification.

With regard to public transit, the standards used to determine whether Project-related impacts at would be significant are as follows:

- AC Transit's standard for ridership is based on an existing load factor of 1.25 total passengers for each seat. The AC Transit and the City of Hayward have not established thresholds for identifying potentially significant impacts. Therefore, for this Project, it is assumed that a significance threshold of 5% additional ridership would result in a significant impact. This amount is considered less than the daily measured variation in transit ridership and any additional trips associated with the project would be considered a significant impact. The 5% threshold is also consistent with thresholds used in the CMP analysis.

- BART's standard for ridership is based on an existing load factor of ninety (90) passengers per car, seated or standing. BART and the City of Hayward have not established thresholds for identifying potentially significant impacts. Therefore, for this Project, it is assumed that a significance threshold of 5% additional ridership would result in a significant impact. This amount is considered less than the daily measured variation in transit ridership and any additional trips associated with the project would be considered a significant impact. The 5% threshold is also consistent with thresholds used in the CMP analysis.

CONFLICT WITH PLAN, ORDINANCE OR POLICY

EXISTING 2012 (BASELINE) PLUS PROJECT

Impact

Trans-1 **(Existing 2012 (Baseline) – Mission Boulevard and A Street Intersection)** Under the Existing 2012 (Baseline) Plus Project condition, traffic generated by the Project would increase the delay at Mission Boulevard and A Street intersection, which already operates at unacceptable (i.e., LOS F) level of service, by more than four (4) seconds, (from 61.0 to 76.7 seconds of delay) during the PM peak-hour As noted, previously in the 238 Corridor Improvement Project DEIR (page 3.11-28), this intersection was identified to operate at LOS F under existing conditions during the AM and PM peak hours.

Project traffic was added to the Existing 2012 (Baseline) condition, as shown on **Figure 19-16**

(Existing 2012 (Baseline) Plus Project Turning Movements). A summary of resulting LOS for each study intersection is shown in **Table 19-7** (Level of Service for Existing 2012 (Baseline) Plus Project Conditions). Detailed peak hour intersection LOS calculations are provided in Appendix C.

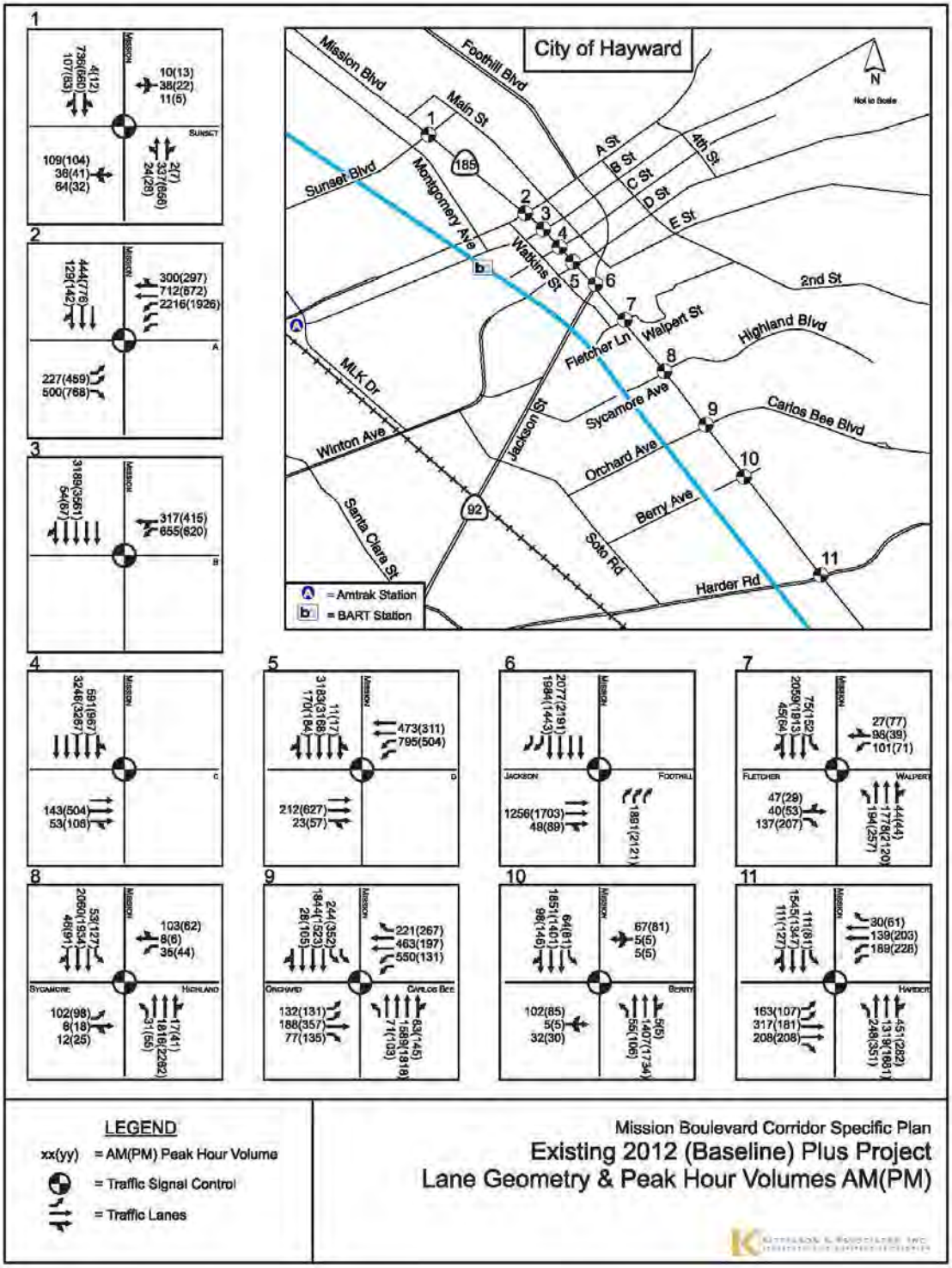

Figure 19-16: Existing 2012 (Baseline) Plus Project Turning Movements

Table 19-7: Level of Service for Existing 2012 (Baseline) and Existing 2012 (Baseline) Plus Project Conditions.

Intersection		Traffic Control	Peak-Hour	Existing 2012 (Baseline)		Existing 2012 Plus Project	
				LOS	Delay	LOS	Delay
1	Mission Boulevard at Sunset Boulevard	Signal	AM	B	9.3	B	9.2
			PM	B	8.0	B	8.0
2	Mission Boulevard at A Street	Signal	AM	D	36.4	E	40.9
			PM	**F**	**62.9**	**F**	**79.1**
3	Mission Boulevard at B Street	Signal	AM	C	15.2	C	15.6
			PM	C	15.6	C	16.4
4	Mission Boulevard at C Street	Signal	AM	A	3.6	A	3.7
			PM	B	7.3	B	7.6
5	Mission Boulevard at D Street	Signal	AM	C	18.4	C	18.8
			PM	C	17.9	C	18.4
6	Mission Boulevard at Jackson Street and Foothill Boulevard	Signal	AM	B	11.4	B	11.6
			PM	B	12.9	B	13.4
7	Mission Boulevard at Fletcher Lane	Signal	AM	C	15.7	C	16.1
			PM	C	20.6	C	21.5
8	Mission Boulevard at Highland Boulevard and Sycamore Avenue	Signal	AM	B	12.5	B	13.6
			PM	B	13.3	B	13.8
9	Mission Boulevard at Carlos Bee Boulevard and Orchard Avenue	Signal	AM	D	30.6	D	30.9
			PM	D	28.8	D	29.8
10	Mission Boulevard at Berry Avenue	Signal	AM	A	4.1	B	10.3
			PM	B	5.3	B	11.2
11	Mission Boulevard at Harder Road	Signal	AM	C	21.9	C	23.0
			PM	C	20.5	C	22.0

LOS = Level of Service; **Delay** = Weighted average delay for vehicles in seconds.

BOLD denotes locations with sub-standard operations; **SHADED** denotes locations with significant project-related impacts.

Signalized intersections were analyzed using the 1994 Highway Capacity Manual (HCM).

Source: Kittelson & Associates, Inc., 2013, using TRAFFIX 8.0.

As summarized in **Table 19-7** (Level of Service for Existing 2012 (Baseline) Plus Project Conditions), the addition of the Project's traffic volumes would not cause any study intersections to go from acceptable to unacceptable condition for level of service. However, the Mission Boulevard and A Street intersection, already operating at an unacceptable LOS F (with 61.0 seconds of delay) during the PM peak hour without the Project, would result in a delay per vehicle increase of more than four (4) seconds with the Project (the delay would increase to 76.7 seconds). This increase in delay can be mitigated to a ***Less Than Significant Level*** through

implementation of Mitigation Measure Trans-1 below.

Mitigation Measure

Trans-1 **(Restripe on the eastbound approach on A Street at Mission Boulevard and A Street)** Convert the eastbound outer left-turn lane into a left-right turn shared lane.

Mitigation Measure Trans-1 is displayed in **Figure 19-17** (Existing 2012 (Baseline) Plus Project Intersection Mitigations).

Implementation of Mitigation Measure Trans-1 should occur when volumes reach the levels identified in the analysis. City will monitor the volumes periodically and install the mitigation when necessary.

Resulting Level of Significance

Implementation of Mitigation Measure **Trans-1** would reduce the Project's contribution to the impact at the Mission Boulevard and A Street intersection to a ***Less than Significant*** level by causing the intersection to operate at LOS D during both AM and the PM peak-hour. See **Table 19-8** (Existing 2012 (Baseline) Plus Project Intersection Mitigations at Mission Boulevard and A Street) below.

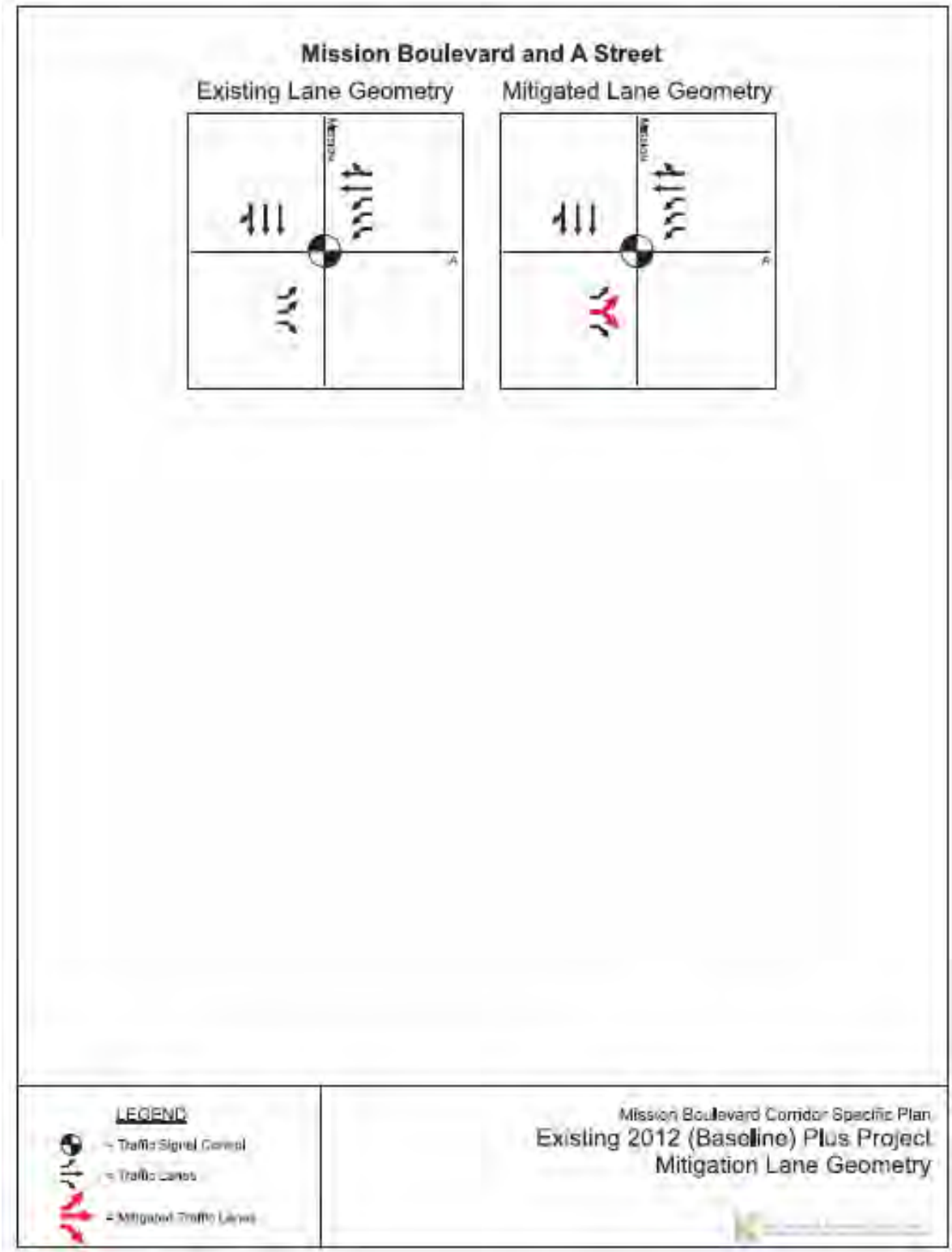

Figure 19-17: Existing 2012 (Baseline) Plus Project Intersection Mitigations

Table 19-8: Existing 2012 (Baseline) Plus Project Intersection Mitigations at Mission Boulevard and A Street

Intersection		Mitigation	Peak-Hour	Existing 2012 (Baseline)			Existing 2012 Plus Project	
				LOS	Delay		LOS	Delay
2	Mission Boulevard at A Street	No Mitigation	AM	D	36.4		**E**	**40.9**
			PM	**F**	**62.9**		**F**	**79.1**
		Restripe on the eastbound approach	AM	C	23.6		C	24.6
			PM	D	30.8		D	33.2

LOS = Level of Service; **Delay** = Weighted average delay for vehicles in seconds.

BOLD denotes locations with sub-standard operations; **SHADED** denotes locations with significant project-related impacts.

Signalized intersections were analyzed using the 1994 Highway Capacity Manual (HCM).

Source: Kittelson & Associates, Inc., 2013, using TRAFFIX 8.0.

2035 CUMULATIVE PLUS PROJECT

Intersections turning movement volumes and lane geometries for Cumulative 2035 Plus Project Conditions are shown in **Figure 19-18** (2035 Cumulative Plus Project - Turning Movement Volumes). **Table 19-9** (2035 Cumulative No Project and Plus Project Conditions - Intersection Level of Service) summarizes the delay and LOS forecasted for each study intersection under both the 2035 Cumulative No Project and 2035 Cumulative Plus Project conditions. Both conditions would result in two (2) intersections, projected to operate at an unacceptable level of service under the 2035 Cumulative No Project condition, to experience delays attributable to the Project in excess of four (4) seconds.

Table 19-9: 2035 Cumulative No Project and Plus Project Conditions - Intersection Level of Service

Intersection		Traffic Control	Peak-Hour	Cumulative 2035 No-Project		Cumulative 2035 Plus Project	
				LOS	Delay	LOS	Delay
1	Mission Boulevard at Sunset Boulevard	Signal	AM	B	12.5	B	12.7
			PM	**F**	**75.1**	**F**	**87.2**
2	Mission Boulevard at A Street	Signal	AM	**F**	**218.7**	**F**	**233.5**
			PM	**F**	**284.9**	**F**	**311.7**
3	Mission Boulevard at B Street	Signal	AM	C	15.8	C	16.0
			PM	C	16.9	C	17.5
4	Mission Boulevard at C Street	Signal	AM	B	11.7	B	12.3
			PM	B	11.8	B	11.9
5	Mission Boulevard at D Street	Signal	AM	D	39.3	**E**	**41.2**
			PM	**E**	**50.0**	**E**	**55.8**
6	Mission Boulevard at Jackson Street and Foothill Boulevard	Signal	AM	B	13.3	B	13.4
			PM	B	14.7	C	15.1
7	Mission Boulevard at Fletcher Lane	Signal	AM	D	26.1	D	28.4
			PM	D	26.6	D	27.2
8	Mission Boulevard at Highland Boulevard and Sycamore Avenue	Signal	AM	B	12.8	B	13.5
			PM	B	13.8	B	14.5
9	Mission Boulevard at Carlos Bee Boulevard and Orchard Avenue	Signal	AM	D	38.3	D	39.1
			PM	D	39.1	D	39.9
10	Mission Boulevard at Berry Avenue	Signal	AM	B	9.2	B	12.6
			PM	B	12.3	B	13.2
11	Mission Boulevard at Harder Road	Signal	AM	D	27.4	D	28.1
			PM	D	29.1	D	29.8

LOS = Level of Service; **Delay** = Weighted average delay for vehicles in seconds.

BOLD denotes locations with sub-standard operations; **SHADED** denotes locations with significant project-related impacts.

Signalized intersections were analyzed using the 1994 Highway Capacity Manual (HCM).

Source: Kittelson & Associates, Inc., 2013, using TRAFFIX 8.0.

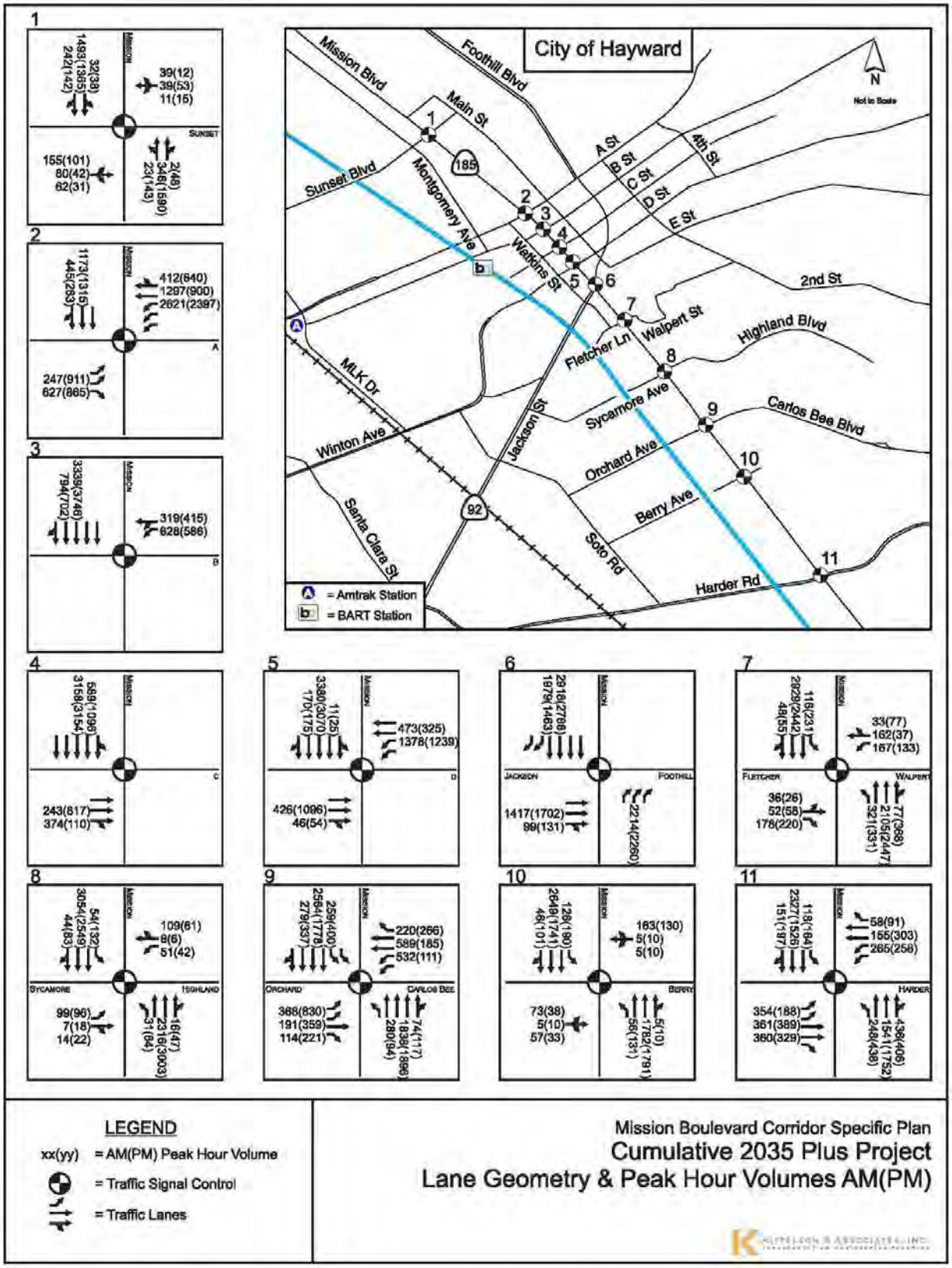

Figure 19-18: Cumulative 2035 Plus Project - Turning Movement Volumes.

INTERSECTION 1: MISSION BOULEVARD AND SUNSET BOULEVARD

Impact

Trans-2 **(Cumulative 2035 Plus Project - Mission Boulevard and Sunset Boulevard)** Under the Cumulative 2035 Plus Project condition, traffic generated by the Project would have a cumulatively considerable impact on the delay at the intersection Mission Boulevard and Sunset Boulevard intersection through an increase of 12.1 seconds of average delay during the PM peak-hour.

Under the Cumulative 2035 No Project condition, the Mission Boulevard and Sunset Boulevard intersection would operate at an unacceptable LOS F during the PM peak hour. The addition of Project trips, as reflected under the Cumulative 2035 Plus Project condition, would cause more than four (4) seconds of delay in the PM peak-hour. However, this increase in delay can be mitigated to a ***Less Than Significant*** level by Mitigation Measure **Trans-2** below.

Mitigation Measure

Trans-2 **(Cumulative 2035 Plus Project - Mission Boulevard and Sunset Boulevard)** Convert the existing left-through-right shared lane into a through-right shared lane on both eastbound and westbound approaches; add a separate left-turn lane on both eastbound and westbound approaches.

Mitigation Measure Trans-2 is displayed in **Figure 19-19** (Cumulative 2035 Plus Project Intersection Mitigations).

Implementation of Mitigation Measure Trans-2 should occur when volumes reach the levels identified in the analysis. City will monitor the volumes periodically and install the mitigation when necessary.

Resulting Level of Significance

Implementation of Mitigation Measure Trans-2 would reduce the Project's contribution to the impact at the Mission Boulevard and Sunset Boulevard intersection to a Less than Significant level by resulting in an LOS E during both the AM and PM peak-hour. However, implementation of Mitigation Measure Trans-2 would remove on-street parking along both sides of Sunset Boulevard in proximity to the intersection.

Under existing conditions, on-street parking is allowed on either side of Sunset Boulevard with occasional restrictions to accommodate driveways. Based on the queuing analysis, Implementation of Mitigation Measure 2 would require restriping the lanes for the eastbound and westbound approaches by one-hundred (100) feet from the intersection. This would require the removal of approximately five (5) parking spaces on the south side of the eastbound approach and three (3) parking spaces on the north side of the westbound approach on Sunset Boulevard. These parking spaces currently serve businesses fronting Sunset Boulevard.

The business fronting the south side of the eastbound approach on Sunset Boulevard has an off-

street parking lot with access off Mission Boulevard that could potentially accommodate some of the customers after the loss of the five (5) on-street parking spaces. Other customers would need to park on the north side of Sunset Boulevard which would retain all parking spaces currently located west of Mission Boulevard.

The business fronting the north side of the westbound approach does have an off-street parking lot on site that could potentially accommodate customers after the loss of the three (3) spaces on the north side of Sunset Boulevard. Given the availability of both on-street and off-street parking, it appears the parking removal can be accommodated by existing sources.

The Hayward General Plan indicates, on Page 3-15, with regard to collector streets such as Sunset Boulevard, the need to balance traffic, turning and parking. However, the General Plan prescribes no priority to either function.

If the City of Hayward determines that the benefits of retaining on-street parking outweigh those achievable through implementation of Mitigation Measure Trans-2, this impact would be considered Significant and Unavoidable. In that circumstance, the City of Hayward would need to adopt one or more of the findings required by CEQA Guidelines §21081.

INTERSECTION 2: MISSION BOULEVARD AND A STREET

Impact

Trans-3 **(Cumulative 2035 Plus Project - Mission Boulevard and A Street)** Under the Cumulative 2035 Plus Project condition, the Project would increase the delay of the Mission Boulevard and A Street intersection to increase by an average of 9.3 seconds during the AM peak-hour and 20.6 seconds during the PM peak-hour.

Under the Cumulative 2035 No Project condition, the Mission Boulevard and A Street intersection is projected to operate at an unacceptable LOS F during the AM and PM peak hour. The addition of Project trips, as reflected under the 2035 Cumulative With Project condition, would result in a delay per vehicle increase of more than four (4) seconds of delay in the AM and PM peak-hour at this intersection. However, this increase in delay can be mitigated to a ***Less Than Significant Level*** by implementation of Mitigation Measure **Trans-3** below.

Mitigation Measure

Trans-3 **(Cumulative 2035 Plus Project - Restripe on the eastbound approach on A Street at Mission Boulevard and A Street)** Convert the eastbound outer left-turn lane into a left-right turn shared lane.

Mitigation Measure Trans-3 is displayed in Figure 19-12 (Cumulative 2035 Plus Project Intersection Mitigations).

Implementation of Mitigation Measure Trans-3 should occur when volumes reach the levels identified in the analysis. City will monitor the volumes periodically and install the mitigation when necessary.

Resulting Level of Significance

Implementation of Mitigation Measure **Trans-3** would reduce the Project's contribution to the impact at the Mission Boulevard and A Street intersection ***to Less Than Significant level*** by resulting in an LOS F during the AM and PM peak-hour. The average delay after implementation of mitigation is lower than the Cumulative 2035 No Project condition. See **Table 19-10** (2035 Cumulative Plus Project Intersection Mitigations at Mission Boulevard and Sunset Boulevard and A Street) below.

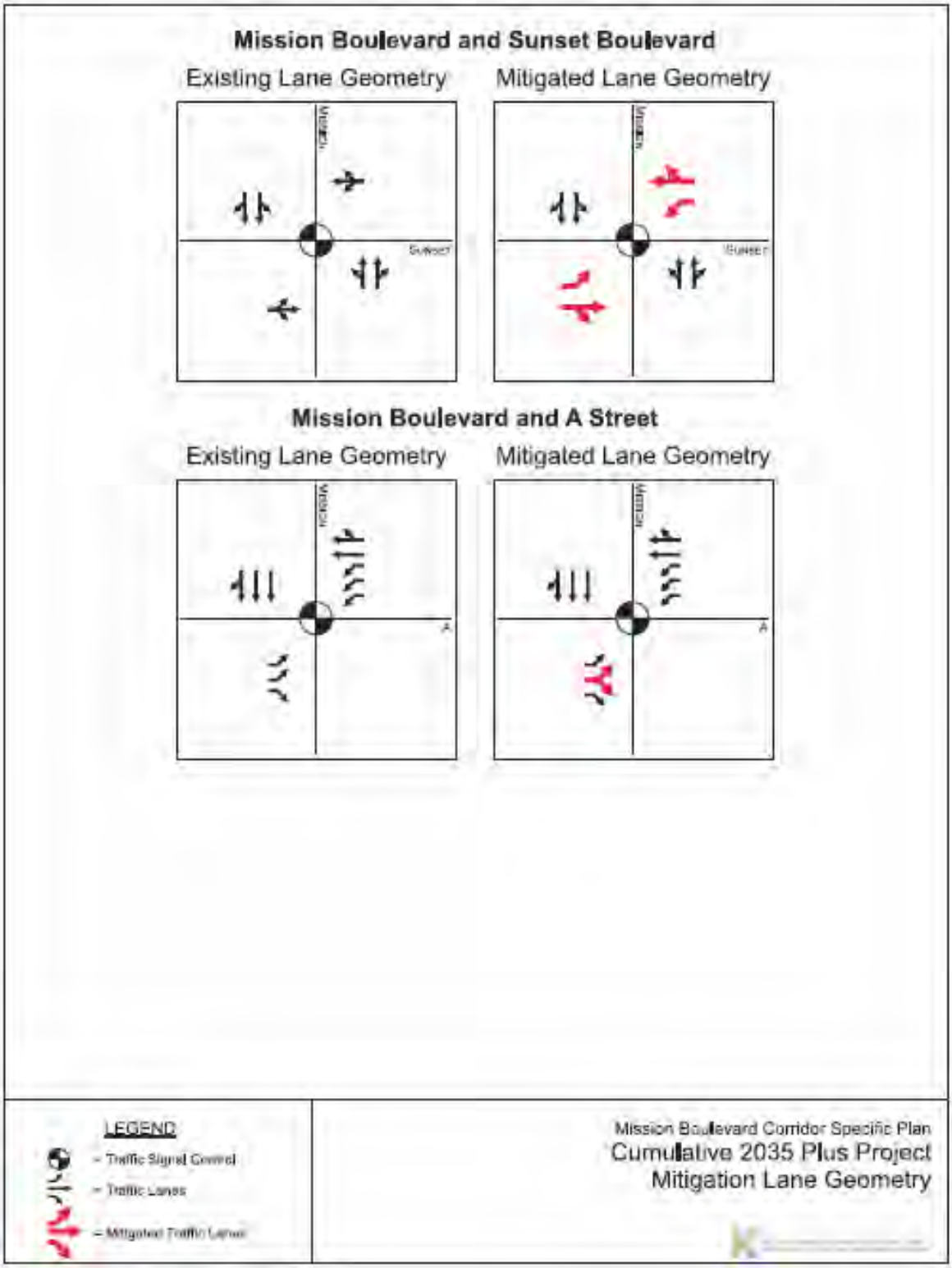

Figure 19-19: Cumulative 2035 Plus Project Intersection Mitigations

Table 19-10: Cumulative 2035 Plus Project Mitigations at Mission Boulevard and Sunset Boulevard and A Street

Intersection		Mitigation	Peak-Hour	Cumulative 2035 No-Project			Cumulative 2035 Plus Project	
				LOS	Delay		LOS	Delay
1	Mission Boulevard at Sunset Boulevard	No Mitigation	AM	B	12.5		B	12.7
			PM	**F**	**75.1**		**F**	**87.2**
		Add a left-turn lane on both eastbound and westbound approaches	AM	B	9.5		B	9.5
			PM	**E**	**46.5**		**E**	**54.9**
2	Mission Boulevard at A Street	No Mitigation	AM	**F**	**218.7**		**F**	**233.5**
			PM	**F**	**284.9**		**F**	**311.7**
		Restripe on the eastbound approach	AM	**F**	**98.1**		**F**	**106.0**
			PM	**F**	**153.9**		**F**	**168.7**

LOS = Level of Service; **Delay** = Weighted average delay for vehicles in seconds.

BOLD denotes locations with sub-standard operations; **SHADED** denotes locations with significant project-related impacts.

Signalized intersections were analyzed using the 1994 Highway Capacity Manual (HCM).

Source: Kittelson & Associates, Inc., 2013, using TRAFFIX 8.0.

CONGESTION MANAGEMENT PLAN

CMP ROADWAY SEGMENTS – TRAFFIC VOLUMES

The Alameda County Transportation Commission (ACTC) requires an analysis of the potential impacts of the Project on the metropolitan transportation system since the Project has the potential to generate more than one-hundred (100) peak hour trips. Potential Project-related impacts on the regional transportation system were assessed using the Alameda County Transportation Commission Countywide Travel Demand Model for Cumulative year 2020 and 2035 conditions. Roadway segments analyzed include all MTS roadways and CMP-designated roadways, plus several local MTS roadways in the vicinity of the project area, as follows:

Interstates/State Highways

- I-880
- SR 92
- SR 238

Arterials

- Mission Boulevard
- Hesperian Boulevard
- Foothill Boulevard
- A Street
- B Street
- Winton Avenue
- Jackson Street
- Harder Road
- Tennyson Road
- Industrial Parkway

These roadway segments were identified by Alameda County Transportation Commission (ACTC) staff in their May 13, 2011 letter responding to the Notice of Preparation.

The traffic forecasts used in this CMP analysis are based on the most current version of the Countywide Model, which uses Association of Bay Area Government's (ABAG) Projections 2009 socio-economic forecasts. The analysis also assumes Project-related land use changes in years 2020 and 2035, as shown in **Table 19-11** (Land Use Comparison between Cumulative 2020 No-Project and Plus Project) and **Table 19-12** (Land Use Comparison between Cumulative 2035 No-Project and Plus Project). The resulting socio-economic data for the Project area was added into the model for the 2020 and 2035 forecasts for all traffic analysis zones (TAZ's) within the Project area.

Table 19-11: Land Use Comparison between Cumulative 2020 No-Project and Plus Project

Year 2020	No Project		Project		Change	
TAZ	Households	Total Jobs	Households	Total Jobs	Households	Total Jobs
658	58	163	91	166	33	3
659	76	301	171	259	95	(42)
660	144	450	265	453	121	3
675	500	82	576	95	76	13
676	200	189	286	180	86	(9)
694	225	427	738	623	513	196
695	293	325	446	304	153	(21)
696	164	173	315	220	151	47
697	466	297	833	611	367	314
699	24	66	236	206	212	140
700	538	232	598	242	60	10
701	482	174	499	183	17	9
Total	**3,170**	**2,879**	**5,054**	**3,542**	**1,884**	**663**

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012

Table 19-12: Land Use Comparison between Cumulative 2035 No-Project and Plus Project

Year 2035	No Project		Project		Change	
TAZ	Households	Total Jobs	Households	Total Jobs	Households	Total Jobs
658	72	166	91	166	19	-
659	114	259	171	259	57	-
660	197	453	265	453	68	-
675	525	95	576	95	51	-
676	225	180	286	180	61	-
694	371	623	738	623	367	-
695	370	304	446	304	77	-
696	174	220	315	220	141	-
697	652	611	913	611	261	-
699	463	206	611	206	148	-
700	721	242	761	242	40	-
701	555	183	568	183	13	-
Total	**4,438**	**3,542**	**5,741**	**3,542**	**1,302**	**-**

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012

Threshold of Significance

According to the Alameda County Transportation Authority 2011 Congestion Management Program (CMP), the Alameda CTC has not adopted any policy for determining the threshold of significance for Level of Service for the Land Use Analysis Program of the CMP, therefore for purposes of this EIR, the LOS standard for Metropolitan Transportation System (MTS)

roadways, which include the CMP roadway network, has been set as follows:

- Result in any roadway link to become LOS F, and or if already LOS F under no-project conditions, project trips do not result in more than 5% increase in the volume to capacity (V/C) ratio;

For purposes of this EIR, the Project would result in significant traffic impacts on MTS roadways if it results in any CMP roadway link resulting in those conditions.

The traffic baseline forecasts for Cumulative 2020 & 2035 were extracted for the PM peak hour at the required CMP and MTS highway segments from the Countywide Travel Model. The PM peak hour was evaluated in compliance with Alameda CTC CMP requirements. The PM peak hour volumes, V/C ratios and the LOS for Baseline and Plus Project conditions represent both directions of flow. **Table 19-13** provides results for the 2020 no-project scenario. **Table 19-14** provides results for the 2020 with-project scenario. **Table 19-15** provides results for the 2035 no-project scenario. **Table 19-16** provides results for the 2035 with-project scenario.

Table 19-17 provides a comparison of results between the 2020 scenarios including identification of LOS and potentially impacted locations between the no-project and projects scenarios. **Table 19-18** provides a similar comparison for the 2035 scenarios.

2020 BASELINE WITH PROJECT CONDITIONS – TRAFFIC VOLUMES

Impact

Trans-4 **(Congestion Management Plan – Year 2020)** The Project is projected to contribute to increase in PM peak hour volumes at most Congestion Management Plan roadway segments in the Year 2020 Plus Project condition. However, no roadway segment under the Year 2020 Plus Project condition is projected to result in an unacceptable LOS or increase in volume to capacity (V/C) ratio above 5%. Therefore, for the Year 2020 Plus Project condition, the Project would result in a ***Less Than Significant Impact***.

Year 2020 No Project traffic volumes are shown in **Table 19-13** (Segment Evaluation for Year 2020 No Project Condition), and the Year 2020 Plus Project volumes are shown in **Table 19-14** (Segment Evaluation for Year 2020 Plus Project Condition). **Table 19-15** (Segment Level of Service Comparison – Year 2020 No Project and Plus Project Conditions) summarizes the volumes, level of service, and the percent change in volume-to-capacity ratio (V/C).

When traffic generated by the Project is added to the Year 2020 No Project condition, there are increases in PM peak hour volumes at most roadway segments. However, compared to the Year 2020 No Project condition, the Project contributes to an increase in traffic on some segments, and a reduction in traffic on other segments. However, no roadway segments under the Year 2020 Plus Project Condition is projected to result in significant impact (i.e., cause any link to become LOS F and or if already LOS F, project trips do not result in more than 5% increase in the volume to capacity (V/C) ratio). Therefore, for the Year 2020 Plus Project, the Project is considered to result in a Less Than Significant impact relative to conflicts with the applicable congestion management plan.

2035 BASELINE WITH PROJECT CONDITIONS – TRAFFIC VOLUMES

Impact

Trans-5 **(Congestion Management Plan – Year 2035)** The Project is projected to contribute to increase in PM peak hour volumes at most Congestion Management Plan roadway segments in the Year 2035 Plus Project condition. However, no roadway segment under the Year 2035 Plus Project condition is projected to result in an unacceptable LOS or increase in volume to capacity (V/C) ratio above 5%. Therefore, for the Year 2035 Plus Project condition, the Project would result in a ***Less Than Significant Impact***.

Year 2035 Baseline traffic volumes are shown in **Table 19-15** (Segment Evaluation for Year 2035 No Project Condition), and the Year 2035 Plus Project volumes are shown in **Table 19-16** (Segment Evaluation for Year 2035 With Project Condition). **Table 19-17** (Segment Level of Service Comparison – Year 2035 No Project and Plus Project Conditions) summarizes the volumes, level of service, and the percent change in volume-to-capacity ratio (V/C).

When traffic generated by the Project is added to the Year 2035 No Project condition, there are increases in PM peak hour volumes at most study intersections. Compared to the Year 2035 No Project Condition, the Project contributes to an increase in traffic on some segments, and a reduction in traffic on other segments. However, no roadway segments under the Year 2035 Plus Project Condition is projected to cause any link to become LOS F and/or, if already LOS F, not result in more than 5% increase in the volume to capacity (V/C) ratio). Therefore, for the Year 2035 Plus Project, the Project is considered to result in a ***Less Than Significant*** impact relative to conflicts with the applicable congestion management plan.

Table 19-13: Segment Evaluation for Cumulative Year 2020 No Project Condition

Link Location	Northbound/Eastbound					Southbound/Westbound					Facility Type
	Volume	Capacity	V/C	Lanes	LOS	Volume	Capacity	V/C	Lanes	LOS	
Interstate/State Highways											
I-880 - north of Washington St	8,716	10,500	0.83	5	D	7,394	8,400	0.88	4	D	FWY
I-880 - north of Tennyson Rd	7,522	8,400	0.90	4	D	6,869	8,400	0.82	4	D	FWY
I-880 - north of Industrial Pkwy	8,046	8,400	0.96	4	E	6,953	8,400	0.83	4	D	FWY
I-238 - east of I-880	4,703	6,300	0.75	3	C	3,510	6,300	0.56	3	C	FWY
I-580 - east of I-238	10,191	10,500	0.97	5	E	7,321	10,500	0.70	5	C	FWY
I-580 - east of Grove Way	10,304	8,400	1.23	4	F	7,885	8,400	0.94	4	E	FWY
Route 92 - west of I-880	3,205	4,200	0.76	2	D	4,361	8,400	0.52	4	B	FWY
Arterials											
Foothill Blvd - north of A St	3,247	4,121	0.79	5	B	2,466	4,121	0.60	5	B	Class 1A
Foothill Blvd - south of A St	n/a	n/a	n/a	n/a	n/a	4,606	4,121	1.12	5	F	Class 1A
Mission Blvd - north of Harder Rd	2,080	1,891	1.10	2	F	2,098	1,891	1.11	2	F	Class 1A
Mission Blvd - north of Tennyson Rd	2,129	1,891	1.13	2	F	2,069	1,891	1.09	2	F	Class 1A
Mission Blvd - north of Industrial	2,163	1,891	1.14	2	F	2,147	1,891	1.14	2	F	Class 1A
Jackson Street - west of Soto Rd.	3,098	2,710	1.14	3	F	2,601	2,710	0.96	3	E	Class 1B
Hesperian Blvd - north of A Street	3,224	2,710	1.19	3	F	2,093	2,710	0.77	3	D	Class 1B
A Street - west of Foothill Blvd.	n/a	n/a	n/a	n/a	n/a	3,228	3,320	0.97	5	B	Class 1A
A Street - east of Foothill Blvd.	1,524	1,800	0.85	2	D	927	1,800	0.52	2	C	Class 1B
B Street - east of Mission Blvd	n/a	n/a	n/a	n/a	n/a	1,905	1,800	1.06	2	F	Class 1B
Harder Rd - west of Mission Blvd	1,284	1,800	0.71	2	D	1,183	1,800	0.66	2	D	Class 1B
Tennyson Rd - west of Mission Blvd	1,690	1,800	0.94	2	E	1,267	1,800	0.70	2	D	Class 1B
Industrial Pkway - west of Huntwood Av	1,212	1,800	0.67	2	D	666	1,800	0.37	2	C	Class 1B
Winton Av - west of Soto Rd.	1,673	1,800	0.93	2	E	527	1,800	0.29	2	C	Class 1B

Note: "n/a" denotes no link due to one-way roadway

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012.

Table 19-14: Segment Evaluation for Cumulative Year 2020 Plus Project Condition

Link Location	Northbound/Eastbound					Southbound/Westbound					Facility Type
	Volume	Capacity	V/C	Lanes	LOS	Volume	Capacity	V/C	Lanes	LOS	
Interstate/State Highways											
I-880 - north of Washington St	8,734	10,500	0.83	5	D	7,421	8,400	0.88	4	D	FWY
I-880 - north of Tennyson Rd	7,548	8,400	0.90	4	D	6,883	8,400	0.82	4	D	FWY
I-880 - north of Industrial Pkwy	8,099	8,400	0.96	4	E	6,965	8,400	0.83	4	D	FWY
I-238 - east of I-880	4,739	6,300	0.75	3	D	3,532	6,300	0.56	3	C	FWY
I-580 - east of I-238	10,208	10,500	0.97	5	E	7,325	10,500	0.70	5	C	FWY
I-580 - east of Grove Way	10,336	8,400	1.23	4	F	7,930	8,400	0.94	4	E	FWY
Route 92 - west of I-880	3,267	4,200	0.78	2	D	4,396	8,400	0.52	4	B	FWY
Arterials											
Foothill Blvd - north of A St	3,327	4,121	0.81	5	B	2,538	4,121	0.62	5	B	Class 1A
Foothill Blvd - south of A St	n/a	n/a	n/a	n/a	n/a	4,715	4,121	1.14	5	F	Class 1A
Mission Blvd - north of Harder Rd	2,130	1,891	1.13	2	F	2,131	1,891	1.13	2	F	Class 1A
Mission Blvd - north of Tennyson Rd	2,183	1,891	1.15	2	F	2,117	1,891	1.12	2	F	Class 1A
Mission Blvd - north of Industrial	2,214	1,891	1.17	2	F	2,193	1,891	1.16	2	F	Class 1A
Jackson Street - west of Soto Rd.	3,137	2,710	1.16	3	F	2,634	2,710	0.97	3	E	Class 1B
Hesperian Blvd - north of A Street	3,229	2,710	1.19	3	F	2,099	2,710	0.77	3	D	Class 1B
A Street - west of Foothill Blvd.	n/a	n/a	n/a	n/a	n/a	3,356	3,320	1.01	5	B	Class 1A
A Street - east of Foothill Blvd.	1,552	1,800	0.86	2	D	983	1,800	0.55	2	C	Class 1B
B Street - east of Mission Blvd	n/a	n/a	n/a	n/a	n/a	1,959	1,800	1.09	2	F	Class 1B
Harder Rd - west of Mission Blvd	1,409	1,800	0.78	2	D	1,260	1,800	0.70	2	D	Class 1B
Tennyson Rd - west of Mission Blvd	1,705	1,800	0.95	2	E	1,283	1,800	0.71	2	D	Class 1B
Industrial Pkway - west of Huntwood Av	1,224	1,800	0.68	2	D	686	1,800	0.38	2	C	Class 1B
Winton Av - west of Soto Rd.	1,702	1,800	0.95	2	E	542	1,800	0.30	2	C	Class 1B

Note: "n/a" denotes no link due to one-way roadway

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012.

Table 19-15: Segment Evaluation for Cumulative Year 2035 No Project Condition

Link Location	Northbound/Eastbound					Southbound/Westbound					Facility Type
	Volume	Capacity	V/C	Lanes	LOS	Volume	Capacity	V/C	Lanes	LOS	
Interstate/State Highways											
I-880 - north of Washington St	9,764	10,500	0.93	5	E	7,704	8,400	0.92	4	E	FWY
I-880 - north of Tennyson Rd	9,199	8,400	1.10	4	F	7,710	8,400	0.92	4	E	FWY
I-880 - north of Industrial Pkwy	9,679	8,400	1.15	4	F	8,098	8,400	0.96	4	E	FWY
I-238 - east of I-880	6,023	6,300	0.96	3	E	4,247	6,300	0.67	3	C	FWY
I-580 - east of I-238	11,069	10,500	1.05	5	F	8,773	10,500	0.84	5	D	FWY
I-580 - east of Grove Way	11,787	8,400	1.40	4	F	9,288	8,400	1.11	4	F	FWY
Route 92 - west of I-880	3,663	4,200	0.87	2	D	5,158	8,400	0.61	4	C	FWY
Arterials											
Foothill Blvd - north of A St	3,361	4,121	0.82	5	B	2,741	4,121	0.67	5	B	Class 1A
Foothill Blvd - south of A St	n/a	n/a	n/a	n/a	n/a	5,151	4,121	1.25	5	F	Class 1A
Mission Blvd - north of Harder Rd	2,082	1,891	1.10	2	F	2,124	1,891	1.12	2	F	Class 1A
Mission Blvd - north of Tennyson Rd	2,079	1,891	1.10	2	F	2,104	1,891	1.11	2	F	Class 1A
Mission Blvd - north of Industrial	2,192	1,891	1.16	2	F	2,154	1,891	1.14	2	F	Class 1A
Jackson Street - west of Soto Rd.	3,265	2,710	1.20	3	F	2,744	2,710	1.01	3	F	Class 1B
Hesperian Blvd - north of A Street	3,268	2,710	1.21	3	F	2,629	2,710	0.97	3	E	Class 1B
A Street - west of Foothill Blvd.	n/a	n/a	n/a	n/a	n/a	3,908	3,320	1.18	5	D	Class 1A
A Street - east of Foothill Blvd.	1,762	1,800	0.98	2	E	1,139	1,800	0.63	2	D	Class 1B
B Street - east of Mission Blvd	n/a	n/a	n/a	n/a	n/a	1,948	1,800	1.08	2	F	Class 1B
Harder Rd - west of Mission Blvd	1,820	1,800	1.01	2	F	1,530	1,800	0.85	2	D	Class 1B
Tennyson Rd - west of Mission Blvd	2,084	1,800	1.16	2	F	1,796	1,800	1.00	2	E	Class 1B
Industrial Pkway - west of Huntwood Av	1,563	1,800	0.87	2	D	1,214	1,800	0.67	2	D	Class 1B
Winton Av - west of Soto Rd.	2,088	1,800	1.16	2	F	717	1,800	0.40	2	C	Class 1B

Note: "n/a" denotes no link due to one-way roadway

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012.

Table 19-16: Segment Evaluation for Cumulative Year 2035 Plus Project Condition

Link Location	Northbound/Eastbound					Southbound/Westbound					Facility Type
	Volume	Capacity	V/C	Lanes	LOS	Volume	Capacity	V/C	Lanes	LOS	
Interstate/State Highways											
I-880 - north of Washington St	9,773	10,500	0.93	5	E	7,715	8,400	0.92	4	E	FWY
I-880 - north of Tennyson Rd	9,217	8,400	1.10	4	F	7,715	8,400	0.92	4	E	FWY
I-880 - north of Industrial Pkwy	9,702	8,400	1.15	4	F	8,102	8,400	0.96	4	E	FWY
I-238 - east of I-880	6,034	6,300	0.96	3	E	4,256	6,300	0.68	3	C	FWY
I-580 - east of I-238	11,073	10,500	1.05	5	F	8,777	10,500	0.84	5	D	FWY
I-580 - east of Grove Way	11,800	8,400	1.40	4	F	9,312	8,400	1.11	4	F	FWY
Route 92 - west of I-880	3,686	4,200	0.88	2	D	5,172	8,400	0.62	4	C	FWY
Arterials											
Foothill Blvd - north of A St	3,368	4,121	0.82	5	B	2,772	4,121	0.67	5	B	Class 1A
Foothill Blvd - south of A St	n/a	n/a	n/a	n/a	n/a	5,157	4,121	1.25	5	F	Class 1A
Mission Blvd - north of Harder Rd	2,105	1,891	1.11	2	F	2,135	1,891	1.13	2	F	Class 1A
Mission Blvd - north of Tennyson Rd	2,102	1,891	1.11	2	F	2,117	1,891	1.12	2	F	Class 1A
Mission Blvd - north of Industrial	2,217	1,891	1.17	2	F	2,165	1,891	1.14	2	F	Class 1A
Jackson Street - west of Soto Rd.	3,282	2,710	1.21	3	F	2,758	2,710	1.02	3	F	Class 1B
Hesperian Blvd - north of A Street	3,266	2,710	1.21	3	F	2,631	2,710	0.97	3	E	Class 1B
A Street - west of Foothill Blvd.	n/a	n/a	n/a	n/a	n/a	3,964	3,320	1.19	5	D	Class 1A
A Street - east of Foothill Blvd.	1,760	1,800	0.98	2	E	1,163	1,800	0.65	2	D	Class 1B
B Street - east of Mission Blvd	n/a	n/a	n/a	n/a	n/a	1,966	1,800	1.09	2	F	Class 1B
Harder Rd - west of Mission Blvd	1,881	1,800	1.05	2	F	1,556	1,800	0.86	2	D	Class 1B
Tennyson Rd - west of Mission Blvd	2,092	1,800	1.16	2	F	1,799	1,800	1.00	2	E	Class 1B
Industrial Pkway - west of Huntwood Av	1,568	1,800	0.87	2	D	1,214	1,800	0.67	2	D	Class 1B
Winton Av - west of Soto Rd.	2,097	1,800	1.16	2	F	722	1,800	0.40	2	C	Class 1B

Note: "n/a" denotes no link due to one-way roadway

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012.

Table 19-17: Segment Level of Service Comparison for Cumulative Year 2020 No Project and Plus Project Conditions

Link Location	Northbound/ Eastbound								Southbound/ Westbound							
	No-Project 2020 PM Volume	Project 2020 PM Volume	% Volume Diff	Volume Diff	No-Project 2020 PM LOS	Project 2020 PM LOS	Change in V/C > 5%	Change in LOS	No-Project 2020 PM Volume	Project 2020 PM Volume	% Volume Diff	Volume Diff	No-Project 2020 PM LOS	Project 2020 PM LOS	Change in V/C > 5%	Change in LOS
Interstate/State Highways																
I-880 - north of Washington St	8,716	8,734	0.2%	19	D	D	no	no change	7,394	7,421	0.4%	27	D	D	no	no change
I-880 - north of Tennyson Rd	7,522	7,548	0.3%	26	D	D	no	no change	6,869	6,883	0.2%	14	D	D	no	no change
I-880 - north of Industrial Pkwy	8,046	8,099	0.7%	53	E	E	no	no change	6,953	6,965	0.2%	11	D	D	no	no change
I-238 - east of I-880	4,703	4,739	0.8%	36	C	D	no	change	3,510	3,532	0.6%	22	C	C	no	no change
I-580 - east of I-238	10,191	10,208	0.2%	17	E	E	no	no change	7,321	7,325	0.1%	4	C	C	no	no change
I-580 - east of Grove Way	10,304	10,336	0.3%	31	F	F	no	no change	7,885	7,930	0.6%	45	E	E	no	no change
Route 92 - west of I-880	3,205	3,267	1.9%	62	D	D	no	no change	4,361	4,396	0.8%	35	B	B	no	no change
Arterials																
Foothill Blvd - north of A St	3,247	3,327	2.4%	80	B	B	no	no change	2,466	2,538	2.9%	73	B	B	no	no change
Foothill Blvd - south of A St	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,606	4,715	2.3%	109	F	F	no	no change
Mission Blvd - north of Harder Rd	2,080	2,130	2.4%	50	F	F	no	no change	2,098	2,131	1.6%	33	F	F	no	no change
Mission Blvd - north of Tennyson Rd	2,129	2,183	2.5%	54	F	F	no	no change	2,069	2,117	2.3%	48	F	F	no	no change
Mission Blvd - north of Industrial	2,163	2,214	2.3%	51	F	F	no	no change	2,147	2,193	2.1%	47	F	F	no	no change
Jackson Street - west of Soto Rd.	3,098	3,137	1.2%	39	F	F	no	no change	2,601	2,634	1.2%	33	E	E	no	no change
Hesperian Blvd - north of A Street	3,224	3,229	0.2%	5	F	F	no	no change	2,093	2,099	0.3%	6	D	D	no	no change
A Street - west of Foothill Blvd.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3,228	3,356	3.8%	128	B	B	yes	no change
A Street - east of Foothill Blvd.	1,524	1,552	1.8%	29	D	D	no	no change	927	983	5.6%	56	C	C	yes	no change
B Street - east of Mission Blvd	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1,905	1,959	2.8%	54	F	F	yes	no change
Harder Rd - west of Mission Blvd	1,284	1,409	8.9%	125	D	D	yes	no change	1,183	1,260	6.1%	76	D	D	yes	no change
Tennyson Rd - west of Mission Blvd	1,690	1,705	0.9%	15	E	E	no	no change	1,267	1,283	1.2%	16	D	D	no	no change
Industrial Pkway - west of Huntwood Av	1,212	1,224	0.9%	12	D	D	no	no change	666	686	2.9%	20	C	C	no	no change
Winton Av - west of Soto Rd.	1,673	1,702	1.7%	29	E	E	no	no change	527	542	2.6%	14	C	C	no	no change

Note: "n/a" denotes no link due to one-way roadway

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012.

Table 19-18: Segment Level of Service Comparison for Cumulative Year 2035 No Project and Plus Project Conditions

Link Location	Northbound/ Eastbound								Southbound/ Westbound							
	No-Project 2035 PM Volume	Project 2035 PM Volume	% Volume Diff.	Volume Diff	No-Project 2035 PM LOS	Project 2035 PM LOS	Change in V/C > 5%	Change in LOS	No-Project 2035 PM Volume	Project 2035 PM Volume	% Volume Diff	Volume Diff	No-Project 2035 PM LOS	Project 2035 PM LOS	Change in V/C > 5%	Change in LOS
Interstate/State Highways																
I-880 - north of Washington St	9,764	9,773	0.1%	8	E	E	no	no change	7,704	7,715	0.1%	10	E	E	no	no change
I-880 - north of Tennyson Rd	9,199	9,217	0.2%	18	F	F	no	no change	7,710	7,715	0.1%	5	E	E	no	no change
I-880 - north of Industrial Pkwy	9,679	9,702	0.2%	23	F	F	no	no change	8,098	8,102	0.1%	4	E	E	no	no change
I-238 - east of I-880	6,023	6,034	0.2%	12	E	E	no	no change	4,247	4,256	0.2%	9	C	C	no	no change
I-580 - east of I-238	11,069	11,073	0.0%	4	F	F	no	no change	8,773	8,777	0.1%	5	D	D	no	no change
I-580 - east of Grove Way	11,787	11,800	0.1%	13	F	F	no	no change	9,288	9,312	0.3%	24	F	F	no	no change
Route 92 - west of I-880	3,663	3,686	0.6%	23	D	D	no	no change	5,158	5,172	0.3%	14	C	C	no	no change
Arterials																
Foothill Blvd - north of A St	3,361	3,368	0.2%	6	B	B	no	no change	2,741	2,772	1.1%	31	B	B	no	no change
Foothill Blvd - south of A St	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5,151	5,157	0.1%	6	F	F	no	no change
Mission Blvd - north of Harder Rd	2,082	2,105	1.1%	23	F	F	no	no change	2,124	2,135	0.5%	11	F	F	no	no change
Mission Blvd - north of Tennyson Rd	2,079	2,102	1.1%	23	F	F	no	no change	2,104	2,117	0.6%	13	F	F	no	no change
Mission Blvd - north of Industrial	2,192	2,217	1.1%	25	F	F	no	no change	2,154	2,165	0.5%	10	F	F	no	no change
Jackson Street - west of Soto Rd.	3,265	3,282	0.5%	17	F	F	no	no change	2,744	2,758	0.5%	14	F	F	no	no change
Hesperian Blvd - north of A Street	3,268	3,266	-0.1%	-3	F	F	no	no change	2,629	2,631	0.1%	2	E	E	no	no change
A Street - west of Foothill Blvd.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3,908	3,964	1.4%	56	D	D	no	no change
A Street - east of Foothill Blvd.	1,762	1,760	-0.1%	-2	E	E	no	no change	1,139	1,163	2.1%	24	D	D	no	no change
B Street - east of Mission Blvd	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1,948	1,966	1.0%	19	F	F	no	no change
Harder Rd - west of Mission Blvd	1,820	1,881	3.2%	61	F	F	no	no change	1,530	1,556	1.7%	26	D	D	no	no change
Tennyson Rd - west of Mission Blvd	2,084	2,092	0.4%	9	F	F	no	no change	1,796	1,799	0.2%	3	E	E	no	no change
Industrial Pkway - west of Huntwood Av	1,563	1,568	0.3%	4	D	D	no	no change	1,214	1,214	0.0%	0	D	D	no	no change
Winton Av - west of Soto Rd.	2,088	2,097	0.4%	9	F	F	no	no change	717	722	0.7%	5	C	C	no	no change

Note: "n/a" denotes no link due to one-way roadway

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012.

CMP – PUBLIC TRANSPORTATION

The Alameda County Transportation Commission (ACTC) staff requested, in their May 13, 2011 letter responding to the Notice of Preparation, that the EIR evaluate the Project's potential impact on CMP transit levels of service, as required. The CMP provides the following threshold for public transportation:

- Result in significantly increasing ridership on AC Transit buses and BART trains that would require a change to the transit service standard of 15-30 minute frequencies for buses and 3.75-15 minute frequencies for BART during the peak hours.

The Project's potential impact on public transportation systems was assessed using the most current version of the Alameda CTC Countywide Model. The model predicts transit ridership for all operators, including AC Transit and BART. Transit trips for the Year 2020 and 2035 No Project and Year 2020 and 2035 Plus Project conditions have been forecast using the model.

The Alameda CTC Countywide Model generates home-based work and non-work transit trips that are combined into total daily transit ridership. Since the model does not forecast PM peak hour transit trips, for the CMP analysis, it is conservatively assumed that 25% of the daily trips occur during the PM peak hour. This is conservative when compared to daily count profiles or MTC survey data.

The Project area is well served by AC Transit buses and BART train service. Portions of the Project area are located very close to BART, generally within a quarter mile to one-mile of the Hayward BART station and within 1.5 miles of the South Hayward BART station. The frequency of transit service in the Project area vicinity presently meets or exceeds the performance measures proposed in the 2011 Congestion Management Program.

AC TRANSIT SYSTEM

Year 2020 - AC Transit Bus System

AC Transit operates four (4) bus routes accessible from the Project area. A summary of AC Transit ridership for those routes is shown in **Table 19-19** (Transit Ridership Comparison – Year 2020 No Project and With Project Conditions) for Year 2020 No Project and Plus Project conditions. As shown in **Table 19-19**, the Project is projected to contribute to an increase in ridership on AC Transit buses of eighty (80) daily trips, or twenty (20) PM peak hour trips (represents a 2.0% increase) in the year 2020.

Therefore, based on the transit service performance measures established by the CMP for the routes serving Hayward, the project is not expected to result in significant impacts on any bus routes in 2020. Therefore, based on the peak hour ridership change associated with the project, future AC Transit service during the peak hour is not expected to require a change to the transit service standard of 15-30 minute bus frequencies. This is therefore considered a ***less than significant*** impact. *(Less than significant).*

Year 2035 - AC Transit Bus System

Table 19-20 (Transit Ridership Comparison – Year 2035 No Project and With Project Conditions) identifies projected AC Transit ridership for the Year 2035 No Project and Plus Project conditions. As shown in **Table 19-20**, the Project is projected to contribute to an increase in ridership on AC Transit buses of 120 daily trips, or 30 PM peak hour trips (represents a 2.0% increase) in the Year 2035 Plus Project condition.

Therefore, based on the transit service performance measures established by the CMP for the routes serving Hayward, the project is not expected to result in significant impacts on any bus routes in 2035. Therefore, based on the peak hour ridership changes associated with the project, future AC Transit service during the peak hour is not expected to require a change to the transit service standard of 15-30 minute bus frequencies. This is therefore considered a ***less than significant*** impact. *(Less than significant).*

BAY AREA RAPID TRANSIT (BART) SYSTEM

BART operates two (2) rail lines from Fremont to Richmond and Fremont to San Francisco that are accessible from the Project area from either the Hayward BART or South Hayward BART station. BART is presently constructing an extension of its rail lines to San Jose. Upon completion of construction (anticipated in Fall 2015), BART service to the Project area will be extended to San Jose.

Currently, trains operate every ten (10) minutes during the PM peak hour and fifteen (15) minutes during rest of the day. This represents a total of twelve (12) trains per hour in the PM peak hour and eight (8) trains per hour outside the PM peak hour. With an approximate capacity of 1,000 seated and standing passengers per ten (10) car train, this amounts to a maximum of 12,000 passengers per hour during the PM peak and 8,000 passengers during the off-peak hours.

Year 2020 - BART Rail System

A summary of projected BART ridership is shown in **Table 19-19** for Year 2020 No Project and Plus Project conditions. Compared to the Year 2020 No Project condition, the Project contributes to an increase in ridership on BART of 323 daily trips, or eighty-one (81) PM peak hour trips (represents a 0.4% increase). Therefore, based on the transit service performance measures established by the CMP for the routes serving Hayward , the Project is not expected to result in significant impacts on any BART routes. Therefore, based on the peak hour ridership changes associated with the Project, future BART service during the peak hour is not expected to require a change to the transit service standard of 3.75-15 minute frequencies for BART during the peak hours. This is therefore considered a ***less than significant*** impact. *(Less than significant).*

Year 2035 - BART Rail System

A summary of the BART ridership is shown in **Table 19-20** for 2035 conditions. Compared to the no-project scenario, the project alternative contributes to an increase in ridership on BART of 394 daily trips, or 99 PM peak hour trips (represents a 0.2% increase). Therefore, based on the transit service performance measures established by the CMP for the routes serving Hayward , the Project is not expected to result in significant impacts on any BART routes. Therefore, based

on the peak hour ridership changes associated with the Project, future BART service during the peak hour is not expected to require a change to the transit service standard of 3.75-15 minute frequencies for BART during the peak hours. This is therefore considered a ***less than significant*** impact. *(Less than significant).*

Table 19-19: Transit Ridership Comparison between Cumulative 2020 No-Project and Plus Project Scenarios

	2020 Ridership - Daily				2020 Ridership - PM Peak Hour				Significant
Route	**No Project**	**Project**	**Difference**	**Percent Diff**	**No Project**	**Project**	**Difference**	**Percent Diff**	**Impact**
BART									
All Routes	81,533	81,856	323	0.4%	20,383	20,464	81	0.4%	no
Total BART	81,533	81,856	323	0.4%	20,383	20,464	81	0.4%	no
AC Transit									
Route 93	1,498	1,502	4	0.3%	375	376	1	0.3%	no
Route 94	240	240	-	0%	60	60	-	0%	no
Route 95	505	505	-	0%	126	126	-	0%	no
Route 99	1,456	1,532	76	5%	364	383	19	5%	no
Total AC Transit	3,699	3,779	80	2%	925	945	20	2%	no
Grand Total	**85,232**	**85,635**	**403**	**0.5%**	**21,308**	**21,409**	**101**	**0.5%**	no

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012

Table 19-20: Transit Ridership Comparison between Cumulative 2035 No-Project and Plus Project Scenarios

	2035 Ridership - Daily				2035 Ridership - PM Peak Hour				Significant
Route	**No Project**	**Project**	**Difference**	**Percent Diff**	**No Project**	**Project**	**Difference**	**Percent Diff**	**Impact**
BART									
All Routes	228,852	229,246	394	0.2%	57,213	57,312	99	0.2%	no
Total BART	228,852	229,246	394	0.2%	57,213	57,312	99	0.2%	no
AC Transit									
Route 93	2,055	2,063	8	0.4%	514	516	2	0.4%	no
Route 94	277	277	-	0%	69	69	-	0%	no
Route 95	598	598	-	0%	150	150	-	0%	no
Route 99	2,591	2,703	112	4%	648	676	28	4%	no
Total AC Transit	5,521	5,641	120	2%	1,380	1,410	30	2%	no
Grand Total	**234,373**	**234,887**	**514**	**0.2%**	**58,593**	**58,722**	**129**	**0.2%**	no

Source: Alameda CTC P09 Countywide Model, Kittelson & Associates, Inc. 2012

AIR TRAFFIC PATTERNS

Impact

Trans-6 **(Air Traffic Patterns)** The Project does not include any component that would, either directly or indirectly, result in a change to air traffic patterns. Therefore, ***No Impact***, would result relative to air traffic patterns and safety risks.

The Project does not include any component that would, either directly or indirectly, alter any air traffic patterns. Therefore, for this topic, the Project would result in ***No Impact*** relative to air

traffic patterns and safety risks.

DESIGN FEATURE HAZARD

Impact

Trans-7 **(Design Feature Hazard associated with New Thoroughfares)** The Project includes planned new thoroughfares connecting to existing thoroughfares. Detailed engineering safety studies of each planned new thoroughfare, including their intersection with existing thoroughfares, has not been accomplished to date. However, the Project would require a detailed examination of new thoroughfares through an existing "Precise Plan Lines for Streets" review process. Implementation of this review process would ensure that the design of these new roads does not result in a roadway design hazard. Thus, a ***Less Than Significant*** impact would result under this criterion.

The Project includes a complement to the Regulating Plan consisting of a Thoroughfare Plan. The Thoroughfare Plan intends to implement the Hayward General Plan's direction to pursue opportunities for infill development and redevelopment to accommodate alternate street patterns, including shorter block lengths, interconnected streets, alleys, and cul-de-sac avoidance. This would be accomplished through the future construction of new thoroughfares either in conjunction with new private development projects or by the City of Hayward (over time) through acquisition and construction of particular thoroughfare segments, some or all of which will be public streets.

While the Thoroughfare Plan depicts the anticipated general location of new thoroughfares, the Project would provide for deviations when, for example, immovable objects prevent or render infeasible a particular segment. Also, in order to adequately determine the feasibility of extending anticipated thoroughfare segments and, amongst other reasons, examine the safety of specific new thoroughfare segments, the Project would require the processing of a Precise Plan Lines for Streets application in conformance with Municipal Code Chapter 10, Article 4. Specific safety issues that should be addressed during any such Precise Plan Lines for Streets review process include the following:

- Traffic Control Devices. Planned new thoroughfares may require traffic control at all new intersections if warrants are met.

- Pedestrian and Bicyclist Safety. New thoroughfares and their intersections with existing thoroughfares will be evaluated for pedestrian and bicyclist safety issues.

- Restricted Turn Movements. New thoroughfares intersecting with Mission Boulevard would restrict to right-in and right-out traffic movements only. This restriction exists today at select driveways onto Mission Boulevard, and is enforced via clear signage for right-turn only and a central median on the main roadway. Also, the Route 238 Corridor Improvement Project would extend a median in the Project area and, thereby, expressly not provide for left-in and left-out turn movements.

INADEQUATE EMERGENCY ACCESS

Impact

Trans-8 **(Emergency Access)** The Project would not result in inadequate emergency access. ***No Impact*** would result under this criterion.

The Project's Thoroughfare Plan (Figure 3-2) and New Thoroughfare Plan (Figure 3-3) would improve emergency access in the Project area through the construction, over time, of additional paths of ingress and egress that would meet City of Hayward standards. In doing so, the Project would enable shorter paths of travel and/or multiple points of access to lots with abutting newly constructed thoroughfares. Therefore, the Project would result in *No Impact* under this topic.

BICYCLE AND PEDESTRIAN FACILITIES

Impact

Trans-9 **(Conflict with Pedestrian and Bicycle Facilities)** The Project would not conflict with any plans or policies pertaining to existing or planned pedestrian or bicycle facilities; nor would it decrease the performance or safety of such facilities. ***No Impact*** would result under this criterion.

Under the Project, a number of pedestrian and bicycle connections and enhancements are identified in the Thoroughfare Plan (Figure 3-2) and New Thoroughfare Plan (Figure 3-3). Similarly, the Project includes Thoroughfare Assemblies (Table 2) which include design standards for changes to existing streets and the construction of new streets; of which accommodate both pedestrians and bicyclists.

The Hayward Bicycle Master Plan includes two (2) new planned bicycle routes within the Project area. A new Class II bike lane is planned at Watkins Street in the southern Project area segment (see Figure 19-6). The Project accommodates and is consistent with that planned bike lane.[10] The Hayward Bicycle Master Plan also includes a new planned Class I bike trail in the southern Project area segment – the Hayward Fault Trail – but mentions that a feasibility study by others should be completed.

The Hayward Fault Trail, also illustrated in General Plan Figure 3-3, envisions connecting the extension of Harder Road to Downtown Hayward. The Project's land and zoning changes would not materially affect the feasibility of the future study and implementation of the trail. Additionally, mandatory setback requirements under the Alquist-Priolo Act would ensure buildings on private property would not obstruct the planned trail.

With regard to the performance and safety of bicycle and pedestrian facilities, the Project would require a detailed examination of pedestrian and bicycle facilities, including sidewalks, through an existing "Precise Plan Lines for Streets" review process. Implementation of this review process would ensure that the design of these new roads and driveways does not result in

[10] See Table 2 (AV-68-36-BR) in the proposed Mission Boulevard Corridor Specific Plan.

conflicts with the performance or safety of those facilities.

Therefore, for the reasons stated above, the Project will have ***No Impact*** on bicycle and pedestrian systems. This is a *Less Than Significant* impact.

The Hayward Foothills Trail, shown in **Figure 19-7 to 11**, would provide an almost continuous walking and hiking trail in the abandoned 238 Bypass right of way. This trail is generally located east and south of the Project site and can be accessed by the Project via a number of east-west roadways, including A Street, Walpert Road, Highland Road, Carlos Bee Boulevard and Harder Road. However the Project will not directly impact the planned bicycle and pedestrian facilities of the Hayward Foothills Trail. This is therefore considered a *Less Than Significant* impact.

PUBLIC TRANSPORTATION

Trans-10 **(Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.)** New development under the Project would add new transit trips on the existing bus and rail transit system, including during peak commute hours. However, increased transit ridership resulting from implementation of the Project can be accommodated by existing or projected capacity. This is a ***Less Than Significant*** impact.

By increasing the intensity of development and promoting the use of transit, the proposed Project would increase the number of transit trips on both AC Transit buses and BART. Potential impacts to transit would be offset somewhat by the generation of new fare revenues to the transit operators and by their plans to increase capacity in the future. However, the analysis below examines the Project's impact upon AC Transit and BART in the existing and cumulative conditions.

AC TRANSIT SYSTEM

Table 19-21 displays an analysis of existing AC Transit load factors (number of passengers divided by number of seats) for routes expected to be utilized by population within the Project area. AC Transit's current standard for these lines is no more than 1.25 total passengers for each seat. For example, if there are forty (40) seats on a bus, the number of passengers (seated and standing) should be no more than fifty (50).

Table 19-21 indicates that currently eight (8) AC Transit lines serve the City of Hayward with four (4) routes serving the immediate project study area. In the No Project condition, there is currently one (1) line that exceeds the 1.25 load factor threshold: the 93 Counter-Clockwise (CCW) to Hayward BART in the morning (AM) peak hour. Under the No Project condition, the load factor on the 93 CCW is 1.76. According to AC Transit, this significant load factor does not occur in the Project vicinity. All remaining lines operate below the 1.25 load factor in the No Project condition.

Under the Existing Plus Project condition, the Project would increase the load factor on the 93

CCW from 1.76 to 1.80 (2.2%) in the AM peak hour and from 0.80 to 0.84 in the PM peak hour. While this exceeds the load factor of 1.25 during the AM peak hour, the Project would not add more that 5%, an amount reflective of daily variation in bus ridership, to the existing load factor. All remaining lines would operate, in the Existing Plus Project condition, below the 1.25 load factor. Therefore, under the Existing Plus Project condition relative to AC Transit bus service, the Project is considered to result in a ***Less Than Significant*** impact. *(Less than significant).*

Under Cumulative plus Project conditions, the Project is projected to increase the load factor on the 93 CCW from 1.76 to 1.80 (2.2%) in the AM peak hour and from 0.80 to 0.84 in the PM peak hour. While this exceeds the load factor of 1.25 during the AM peak hour, it is not adding more that 5%, an amount reflective of daily variation in bus ridership, to the existing load factor. All remaining lines would operate, in the Cumulative Plus Project condition, below the 1.25 load factor. Therefore, under the Cumulative Plus Project condition relative to AC Transit bus service, the Project is considered to result in a ***Less Than Significant*** impact. *(Less than significant).*

Table 19-21: AC Transit Segment Analysis

Route Data				Existing Maximum Load					Existing plus Project					Cumulative Plus Project				
Route	Direction	Peak Hour	Freq bus/hr	Passen-gers	Seats	Pass/ Seat	Standard	Within Std?	New Project Riders	Max Load Point plus Project	Pass/ Seat	Within Std?	Impact?	New Project Riders	Max Load Point plus Project	Pass/ Seat	Within Std?	Impact?
22	WB	AM	2	31	37	0.84	1.25	Yes	-	31	0.84	Yes	No	-	31	0.84	Yes	No
22	EB	AM	2	31	37	0.84	1.25	Yes	-	31	0.84	Yes	No	-	31	0.84	Yes	No
22	WB	PM	2	29	37	0.78	1.25	Yes	-	29	0.78	Yes	No	-	29	0.78	Yes	No
22	EB	PM	2	26	37	0.70	1.25	Yes	-	26	0.70	Yes	No	-	26	0.70	Yes	No
32	WB	AM	2	15	25	0.60	1.25	Yes	-	15	0.60	Yes	No	-	15	0.60	Yes	No
32	EB	AM	2	15	25	0.60	1.25	Yes	-	15	0.60	Yes	No	-	15	0.60	Yes	No
32	WB	PM	2	22	25	0.88	1.25	Yes	-	22	0.88	Yes	No	-	22	0.88	Yes	No
32	EB	PM	2	15	25	0.60	1.25	Yes	-	15	0.60	Yes	No	-	15	0.60	Yes	No
48	NB	AM	2	17	25	0.68	1.25	Yes	-	17	0.68	Yes	No	-	17	0.68	Yes	No
48	SB	AM	2	13	25	0.52	1.25	Yes	-	13	0.52	Yes	No	-	13	0.52	Yes	No
48	NB	PM	2	15	25	0.60	1.25	Yes	-	15	0.60	Yes	No	-	15	0.60	Yes	No
48	SB	PM	2	16	25	0.64	1.25	Yes	-	16	0.64	Yes	No	-	16	0.64	Yes	No
60	EB	AM	2	15	37	0.41	1.25	Yes	-	15	0.41	Yes	No	-	15	0.41	Yes	No
60	WB	AM	2	11	37	0.30	1.25	Yes	-	11	0.30	Yes	No	-	11	0.30	Yes	No
60	EB	PM	2	13	37	0.35	1.25	Yes	-	13	0.35	Yes	No	-	13	0.35	Yes	No
60	WB	PM	2	25	37	0.68	1.25	Yes	-	25	0.68	Yes	No	-	25	0.68	Yes	No
93	CW	AM	2	14	25	0.56	1.25	Yes	2	15	0.60	Yes	No	2	15	0.60	Yes	No
93	CCW	AM	2	44	25	1.76	1.25	**No**	2	45	1.80	**No**	No	2	45	1.80	**No**	No
93	CW	PM	2	28	25	1.12	1.25	Yes	2	29	1.16	Yes	No	2	29	1.16	Yes	No
93	CCW	PM	2	20	25	0.80	1.25	Yes	2	21	0.84	Yes	No	2	21	0.84	Yes	No
94	EB	AM	2	20	37	0.54	1.25	Yes	-	20	0.54	Yes	No	-	20	0.54	Yes	No
94	WB	AM	2	17	37	0.46	1.25	Yes	-	17	0.46	Yes	No	-	17	0.46	Yes	No
94	EB	PM	2	8	37	0.22	1.25	Yes	-	8	0.22	Yes	No	-	8	0.22	Yes	No
94	WB	PM	2	7	37	0.19	1.25	Yes	-	7	0.19	Yes	No	-	7	0.19	Yes	No
95	NB	AM	2	5	25	0.20	1.25	Yes	-	5	0.20	Yes	No	-	5	0.20	Yes	No
95	SB	AM	2	17	25	0.68	1.25	Yes	-	17	0.68	Yes	No	-	17	0.68	Yes	No
95	NB	PM	2	14	25	0.56	1.25	Yes	-	14	0.56	Yes	No	-	14	0.56	Yes	No
95	SB	PM	2	5	25	0.20	1.25	Yes	-	5	0.20	Yes	No	-	5	0.20	Yes	No
99	NB	AM	2	35	37	0.95	1.25	Yes	21	46	1.23	Yes	No	21	46	1.23	Yes	No
99	SB	AM	2	25	37	0.68	1.25	Yes	7	29	0.77	Yes	No	7	29	0.77	Yes	No
99	NB	PM	2	29	37	0.78	1.25	Yes	7	33	0.88	Yes	No	7	33	0.88	Yes	No
99	SB	PM	2	26	37	0.70	1.25	Yes	21	37	0.99	Yes	No	21	37	0.99	Yes	No

Note: CW is clockwise, CCW is counter clockwise

Source: Kittelson & Associates, based on AC Transit planning department data.

BART

BART defines its loading standard during the AM peak hour as a maximum of ninety (90) passengers per car, seated and standing. The AM peak is used for planning purposes, since it is usually worse than the PM peak, when trips are less concentrated temporally. BART applies this loading standard at segments where transit ridership is highest.

Table 19-22 indicates that BART currently operates two (2) rail routes that serve the City of Hayward and can be accessed by the immediate project study area. These are the Fremont-Richmond line and the Fremont-San Francisco line. Therefore both lines were selected for the transit analysis.

For the Fremont-San Francisco line, BART's maximum load point is between the West Oakland and Embarcadero stations. On the Richmond-Fremont Line, the maximum load point occurs just south of the Lake Merritt station, between the Lake Merritt and Fruitvale stations. Because of the large concentrations of employment in San Francisco and Oakland, BART's passenger demand tends to be highly directional; the peak direction in the AM is northbound and westbound, and in the PM peak is southbound and eastbound.

Although each of these segments is located outside the Project area, a portion of transit riders resulting from the Project could be expected to pass through those segments mentioned above during peak and non-peak periods. **Table 19-22** indicates that the existing lines serving Hayward are just below the 90-passenger/car standard.

Table 19-22: BART Transit Segment Analysis.

Line	*Segment where max. load occurs (AM)*	*1-hour passenger volume*	*Number of Cars (total all trains in peak hour)*	*Existing Pass./ car*	*Within Std?*	*Project added passengers (AM Peak Hour)*	*Project added pass./ car*	*Existing Plus Project Pass./ car*	*Within Std w/ Project?*	*Cumulative Plus Project Pass./ car*	*Within Std w/ Project?*
Fremont-Richmond	Fruitvale > Lake Merritt	2,284	26	88	Yes	26	1.0	89	Yes	89	Yes
Fremont-Daly City	W. Oakland > Embarcadero	4,110	46	89	Yes	61	1.3	91	**No**	91	**No**
Note:											
Source: Kittelson & Associates, based on BART Revenue Vehicle Fleet Management Plan FY 12 to FY 13											

Under Existing plus Project conditions, the Project would increase the load factor on the Fremont to Daly City line to ninety-one (91) passengers per car in the AM peak hour. Similarly, under Cumulative plus Project conditions, the Project would increase the load factor on the Fremont to Daly City line to ninety-one (91) passengers per car in the AM peak hour. Although these Project-related passenger estimates exceed BART's loading standard by one (1) passenger, this is not considered substantial as it is not adding more that 5%, an amount reflective of daily

variation in BART ridership, to the existing load factor, therefore this is considered a ***less than significant impact***. *(Less than significant).*

Under the Existing Plus Project and Cumulative plus Project conditions, the Project is projected to increase the load factor on the Fremont to Richmond line to eighty-nine (89) passengers per car in the AM peak hour. This however does not exceed the established capacity of ninety (90) passengers per car.

Therefore, given the above, the Project is considered to result in a ***Less Than Significant*** impact *(Less than significant).*

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UTILITIES & SERVICE SYSTEMS

INTRODUCTION

This chapter describes existing public utilities within and in the vicinity of the Project area and evaluates the impact of the Project on the provision of public utilities and possible adverse physical impacts to the environment that could result. Information used in preparation of this chapter is largely drawn from the Infrastructure and Utility Plan prepared for and contained within the proposed Mission Boulevard Corridor Specific Plan (See Specific Plan Section 5.2). Additional documents from applicable regulatory agencies were utilized, as citied herein.

PHYSICAL SETTING

Wastewater

The City of Hayward conveys and treats wastewater from residential, commercial and industrial facilities throughout Hayward to protect public health and the environment. However, the City also treats limited portions of adjacent unincorporated areas, and several small areas within the city are served by the Oro Loma Sanitary District.

Wastewater conveyance facilities within the Project area are owned and maintained by the City of Hayward. These conveyance facilities consist of gravity pipe lines of various materials including vitrified clay (VCP), cast iron, asbestos cement, and reinforced concrete (RCP). All conveyance facilities utilized by the Project area lead to the City's Water Pollution Control Facility (WPCF) located at 3700 Enterprise Avenue in Hayward.

The City of Hayward has separate wastewater and stormwater conveyance systems. While some elements of the wastewater conveyance system were constructed as early as 1910, the majority was developed in the post-World War II years. The problems of root intrusion and the buildup of solids and grease that are common to most wastewater conveyance systems are experienced in the city's system. No substantial problems of silting or excessive groundwater infiltration have been experienced in the system.

Wastewater Conveyance

Existing wastewater conveyance lines within the Project area vicinity are illustrated in **Figure 20-1** (Wastewater Conveyance: Existing & Proposed). The following text summarizes primary lines in proximity to the Project Area.

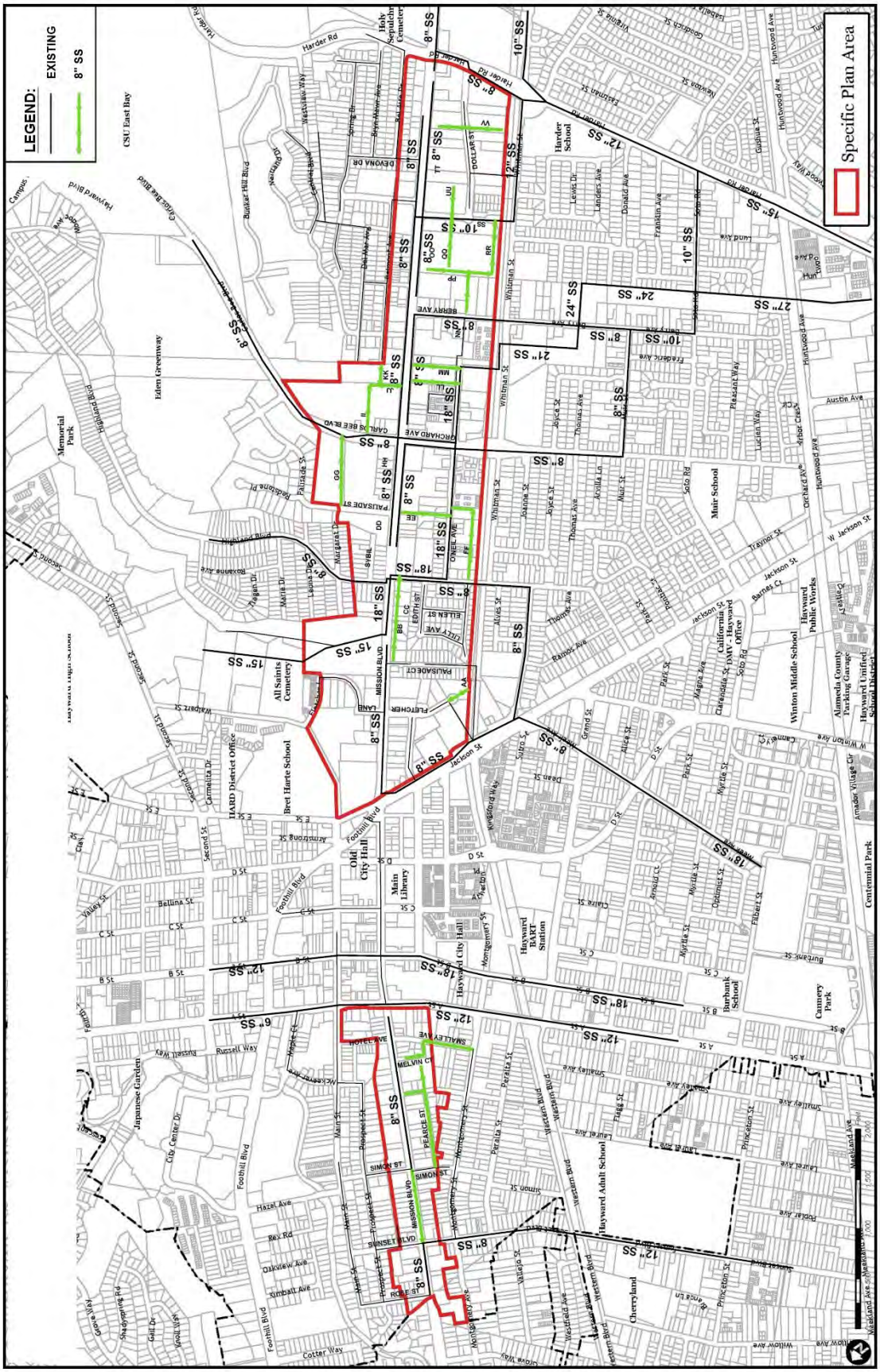

Figure 20-1 (Wastewater Convevance: Existing & Proposed).

Wastewater discharge from the southern segment of the Project area (i.e., south of Jackson Street) flows to the west through a number of different lines, including a ten (10) inch VCP line in Torrano Avenue, an eight (8) inch VCP line in Berry Avenue, an eighteen (18) inch RCP line in O'Neil Avenue, an eight (8) inch VCP line in Orchard Avenue, an eight (8) inch VCP line in Sycamore Avenue, and eight (8) inch lines in Mission Boulevard.

Wastewater discharge from the northern segment of the Project area (i.e., north of A Street) flows to the west through an eight (8) inch VCP line in Sunset Boulevard which transitions to a larger, twelve (12) inch VCP line. Flows are also conveyed southerly through a twelve (12) inch VCP line in A Street. From there, flows are conveyed through a series of gravity lines to the Hayward Water Pollution Control Facility located at 3700 Enterprise Avenue in Hayward.

Wastewater Treatment

The City's Wastewater Pollution Control Facility (WPCF) utilizes biological and technological processes to treat and dispose of domestic and industrial wastewater. The facility currently treats an estimated average of 13.5 million gallons of wastewater per day (mgd) and has a rated capacity of 16.5 mgd. Treated effluent from the plant is disposed of in the San Francisco Bay through East Bay Dischargers Authority deep outfall facilities, including one located west of the City of San Leandro. The WPCF's rated capacity is sufficient to meet the wastewater treatment needs of the City for the development anticipated under the 2002 General Plan.

Water

The City of Hayward purchases all water from the San Francisco Regional Water System which is owned and operated by the San Francisco Public Utilities Commission (SFPUC). Most of the water is soft snow water from the high Sierras. The water is captured in the Hetch-Hetchy watershed and piped, entirely by gravity, one hundred and fifty miles from their reservoirs in northern Yosemite Park to the Bay Area. A local source, Calaveras Reservoir, is occasionally blended with this snow water to an average content of five (5) percent of the total. The City delivers water obtained from the San Francisco Regional Water System through two (2) aqueducts along Mission Boulevard and Hesperian Boulevard that have a total capacity of thirty-two (32) million gallons per day. The water system is generally in good condition.

Local emergency wells have been developed as emergency water supply sources in the event of a disruption in water supply, such as might result from an earthquake. Five (5) existing wells can theoretically provide up to 13.6 mgd. Additionally, the City has established agreements with the East Bay Municipal Utility District (EBMUD) and Alameda County Water District (ACWD), to receive or deliver water in the event of an emergency. Delivery from these agencies would be of a short duration only and would depend upon each agency's ability to provide water without negatively impacting supplies or their own customer and emergency requirements.

Water Supply Assessment (SB 610)

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amends the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910 et seq. The foundation document for

compliance with SB 610 is the Urban Water Management Plan (UWMP), which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as WSAs required under SB 610.

Water supply planning under SB 610 and SB 221 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next twenty (20) years, under a broad range of water conditions. This information is typically found in the current UWMP for the Plan Area. As for this Project, the City of Hayward prepared a Water Supply Assessment (WSA), in accordance with the requirements of SB 610.[1] The WSA deems that the existing water supply is sufficient to satisfy the demands of the Project, taking into consideration both existing and planned future uses.

Water Conveyance

Existing water conveyance lines within the Project area vicinity are illustrated in **Figure 20-2** (Water Conveyance: Existing & Proposed).

STORMWATER DRAINAGE FACILITIES

Public stormwater drainage facilities in the City of Hayward are owned and maintained by two governmental entities. Storm drain pipes larger than thirty (30) inches are typically owned and maintained by Alameda County Flood Control District (ACFCD). The City of Hayward typically owns those facilities smaller than thirty (30) inches.

Within the Project area, the stormwater drainage system generally consists of the curb/gutters within public streets leading to gravity pipe lines which are predominantly made of reinforced concrete and which eventually discharge to underground pipes or manmade open channels owned and maintained by the ACFCD. Collected flows in the Project area eventually discharge into Mt. Eden Creek and Old Alameda Creek; both of which drain to the San Francisco Bay.

Stormwater collected from the northern segment of the Project area (i.e., North of A Street) is routed to the west through a twenty-four (24) inch/thirty (30) inch main along Sunset Boulevard and also a twenty-one (21) inch/thirty-six (36) inch main along Grace Street. Both of these lines drain into an ACFCD facility identified as “Line M.”

Stormwater collected from the southern segment of the Project area (i.e., south of Jackson Street) flows to the west through several mains of various sizes, ranging from fifteen (15) inch to seventy-two (72) inch pipes; all of which discharge into either the ACFCD “Line E” or “Line B.”

The location of existing and proposed stormwater drainage facilities, in relation to the Project area, is shown in **Figure 20-3** (Stormwater Facilities: Existing & Proposed).

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[1] See Appendix City of Hayward, *Water Supply Assessment for Mission Boulevard Corridor Specific Plan*, dated October 17, 2012.

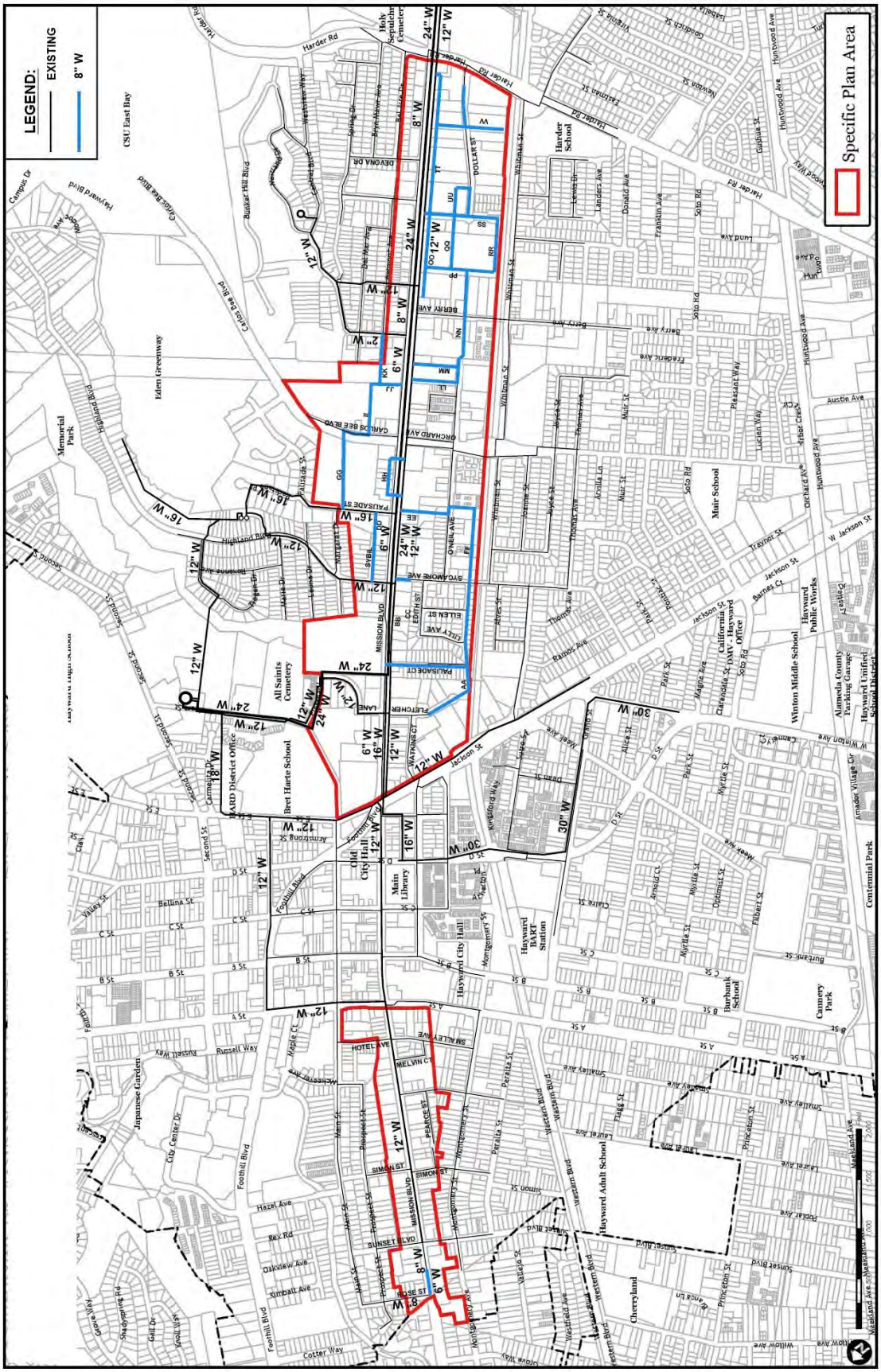

Figure 20-2 (Water Convevance: Existing & Proposed).

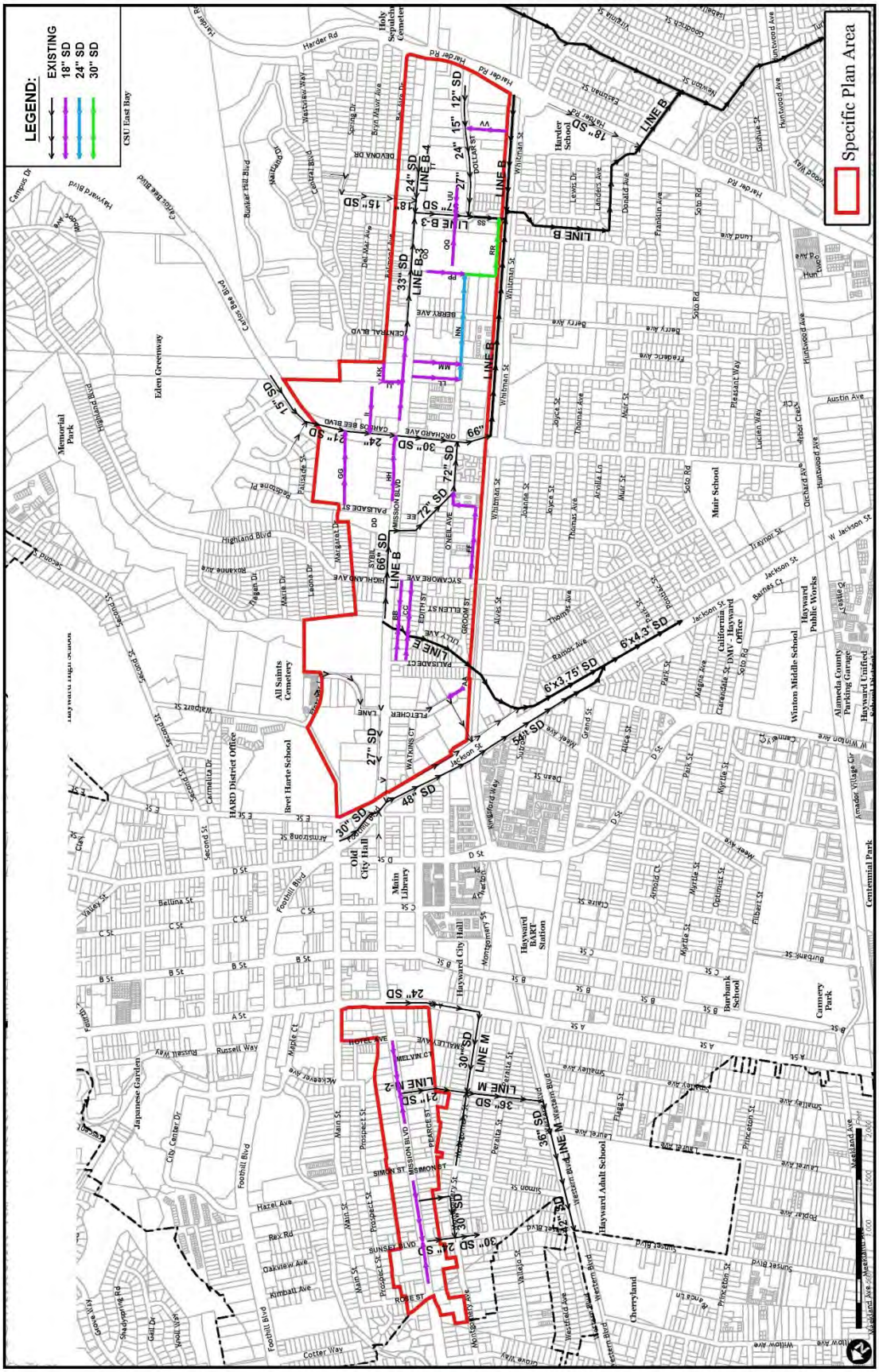

Figure 20-3 (Stormwater Convevance: Existing & Proposed).

SOLID WASTE

Landfill Disposal

The disposal facility used by the City of Hayward is Altamont Landfill, which is owned and operated by Waste Management, Inc., and is located in the eastern part of Alameda County. The estimated closure date of Altamont is 2040. Solid waste is transferred first to the Davis Street Transfer Center in San Leandro and then to the Altamont Landfill. Both the transfer center and landfill are owned and operated by Waste Management Inc., which serves the City under a franchise agreement. The landfill is permitted to accept a maximum of 11,150 tons of waste per day.

Recycling Programs

The City has adopted a Source Reduction and Recycling Element that addresses recycling issues and establishes recycling programs. The California Integrated Waste Management Act of 1989 (AB 939) requires that all jurisdictions in California reduce the amount of material that is landfilled by 50% by the year 2000. According to the Hayward General Plan, it is estimated that the City is achieving the state mandated 50% diversion rate. The City is not, however, achieving the 75% solid waste diversion goal set to begin being achieved in 2010.[2]

The City has executed a contract with Waste Management, Inc., a private company, to provide weekly garbage and recycling services. Single-family residents are provided with weekly collection of a variety of recyclables, including yard trimmings, newspaper, mixed paper, glass jars and bottles, aluminum and steel containers, juice/drink boxes, plastic bottles marked #1 - 7, cardboard, and used motor oil. Multi-family residents can recycle all of these materials, except motor oil. Christmas trees are also collected following the holiday from single- and multi-family residences. Educational materials are regularly disseminated to residents regarding all of these services.

In order to reduce the amount of waste disposed by businesses, City staff offers its assistance to implement waste reduction and recycling programs, including educational materials for employees. In an effort to comply with the state law, the City requires recycling of construction and demolition debris. As construction activities have increased in the Bay Area, construction and demolition debris has become a significant component of the waste stream and is a targeted material for diversion.

REGULATORY SETTING

Federal Regulations

Clean Water Act (CWA)

The Clean Water Act (CWA) was enacted by Congress in 1972 and amended several times since

[2] Ibid; see Page V-5.

its inception. It is the primary federal law regulating water quality in the United States, and forms the basis for several state and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribed the basic federal laws for regulating discharges of pollutants as well as set minimum water quality standards for all waters of the United States.

At the Federal level, the CWA is administered by the U.S. Environmental Protection Agency (EPA). At the state and regional level, the CWA is administered and enforced by the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs). The State of California has developed a number of water quality laws, rules, and regulations to assist in the implementation of the CWA and related Federally mandated water quality requirements. In many cases, the Federal requirements set minimum standards, and the laws, rules, and regulations adopted by the State and Regional Boards are more restrictive (i.e., more protective of the environment).

National Pollution Discharge Elimination System

The Hayward Water Pollution Control Facility (WPCF) operates under an NPDES permit issued by RWQCB under the authority of the State of California.[3]

One of the requirements of the NPDES permit is that the WPCF implement a Pretreatment Program to regulate the collection of toxic and hazardous wastes in municipal sewers. Under the Pretreatment Program, dischargers of industrial wastewater are required to abide by specific wastewater discharge limits and prohibitions. Industrial dischargers are also required to submit self-monitoring reports on the total volume and pollutant concentrations of their wastewater, and to allow for inspections by the City of Hayward.

The NPDES permit requires the continual study of discharges and reporting of findings on monthly and annual basis. Effluent and discharge specifications are also provided in order to determine compliance.

State Regulations

In 1989, Assembly Bill 939 (AB 939), known as the Integrated Waste Management Act, was passed into law. Enactment of AB 939 established the California Integrated Waste Management Board (CIWMB), and set forth aggressive solid waste diversion requirements. Under AB 939, every city and county in California is required to reduce the volume of waste sent to landfills through recycling, reuse, composting, and other means.

AB 939 requires counties to prepare a Countywide Integrate Waste Management Plan (CIWMP). An adequate CIWMP contains management issues and problems identified in the incorporated and unincorporated areas of the county, a summary of waste management programs and infrastructure, existing and proposed solid waste facilities, and an overview of specific steps that will be taken to achieve the goals outlined in the components of the CIWMP. In Alameda County, the responsibility for preparing the CIWMP is accorded the Alameda County Waste

[3] RWQCB Order No. R2-2012-0004, NPDES No. CA0037869.

Management Authority, pursuant to a Joint Exercise of Powers Agreement between the County of Alameda, the incorporated cities in the county, and the three special districts in the county.

State law requires that the CIWMP describe local waste diversion programs that divert 25% of its waste by 1995 and 50% by the year 2000, using 1990 as the base year. The City of Hayward was able to achieve 25% diversion in 1995 and the 50% diversion rate required by 2000. The City is not, however, achieving the 75% solid waste diversion goal set to be achieved by 2010.[4]

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act establishes the State Water Resources Control Board (SWRCB) and the RWQCB as the principal state agencies having primary responsibility for coordinating and controlling water quality in California. The Porter-Cologne Act establishes the responsibility of the RWQCBs for adopting, implementing, and enforcing water quality control plans (Basin Plans), which set forth the state's water quality standards (i.e. beneficial uses of surface waters and groundwater) and the objectives or criteria necessary to protect those beneficial uses.

San Francisco Bay Water Quality Control Plan (Basin Plan)

The San Francisco Bay RWQCB is responsible for the development, adoption, and implementation of the Water Quality Control Plan (Basin Plan) for the San Francisco Bay region. The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Francisco Bay Region. The Basin Plan identifies beneficial uses of surface waters and groundwater within its region and specifies effluent limitations, discharge prohibitions, and water quality objectives to maintain the existing potential beneficial uses of the waters. The Project, and future developments authorized in accordance with it, are required to adhere to all applicable requirements of the Basin Plan.

Local Regulations

Hayward General Plan

The City of Hayward General Plan Public Utilities and Services Element contains the following polices and strategies relevant to the Project and issue of utilities and service systems:

- Public facilities will be maintained and operated in a manner that protects and enhances the environment. (Strategy 4) (Page 8-12)
- Control waste discharge to avoid contamination of water resources, damage to bay ecology and hill erosion. (Policy 1) (Page 8-12)
- Ensure that activities such as dredging and grading do not contribute to sedimentation of sloughs or marshes, and that the disposal of treated sewage does not result in the release of toxic metallic wastes into Bay muds. (Policy 8) (Page 7-022)

[4] Alameda County Integrated Waste Management Plan, Page V-5, adopted February 26, 2003

- Protect existing watercourses and enhance water quality in surface water and groundwater sources. (Strategy 3) (Page 7-22)

- Retain surface watercourses in their natural condition to the greatest extent possible. (Policy 1) (Page 7-22)

- Explore opening (or daylighting) water channels in selected areas to increase visibility to the public, enhance the aesthetics of the creekside environment, and provide for limited public access as appropriate. (Policy 2) (Page 7-22)

- Concentrate development in those areas least susceptible to erosion, and minimize grading and the introduction of impervious ground surfaces; where appropriate, consider including retention basins onsite. (Policy 3) (Page 7-22)

- Maintain continuity of creekside vegetation, with sufficient setback of development from creek slopes, with sensitive flood control designs, and with maintenance or reestablishment of native trees. (Policy 4) (Page 7-22)

- Protect riparian plant communities from direct encroachment of development and from the adverse effects of increased storm water runoff, sedimentation, or erosion that may occur from improper development in adjacent areas. (Policy 5) (Page 7-22)

Municipal Code

The following provisions of the City of Hayward Municipal Code are germane to the environmental topic addressed in this chapter:

- Codified at Chapter 10, Article 12, the "Bay-Friendly Water Efficient Landscape Ordinance" promotes the conservation and efficient use of water through measures applicable, generally and in summary, to new construction involving 2,500 square feet or more in landscape area or 5,000 square feet or more of landscape area for homeowner initiated projects.

- Codified at Chapter 11, Article 3, the Municipal Code provides a comprehensive system for the administration, design and operation of the city sanitation system. The City of Hayward Municipal Code mandates that new development connect to the public sanitation system. This article also provides procedures for enforcement.

- Codified at Chapter 11, Article 5, the "City of Hayward Stormwater Management and Urban Runoff Control Ordinance" provides additional standards and administrative procedures for the application and enforcement of the City's NPDES Permit No. CA0029831.

- Codified at Chapter 5, Article 10, the "Construction and Demolition Debris Waste Reduction and Recycling Requirements" applies to all construction, demolition and renovation projects valued at over $75,000 and in order to advance the requirements of the aforementioned California Integrated Waste Management Act mentioned above.

IMPACT ANALYSIS

THRESHOLD OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of effects that may be considered significant. Concerning the topic of utilities and service systems, implementation of the Project would have a significant effect on the environment if it were to:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- 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.
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Comply with federal, state, and local statutes and regulations related to solid waste.

WASTEWATER TREATMENT REQUIREMENTS & CAPACITY

Impact Util-1 **(Exceed RWQCB Wastewater Treatment Requirements).** The Project can be adequately served by the City of Hayward Water Pollution Control Facility (WPCF). The WPCF is operated in conformance with the standards of the RWQCB. The Project's contribution of wastewater to the WPCF would not cause it to result in non-conformance with RWQCB standards. (***No Impact***)

The Hayward Water Pollution Control Facility (WPCF) processes and treats all wastewater collected within the Project area. As mentioned, the facility currently treats an estimated average of 13.5 million gallons of wastewater per day (mgd) and has a rated capacity of 16.5 mgd. The Project would incrementally, over time, contribute wastewater flows to the WPCF. However, the City of Hayward Public Works Department, the agency which operates and maintains the WPCF, indicates the Project's contribution would not cause the WPCF to operate above its rated capacity. Therefore, for this environmental topic, the Project would result in ***No Impact***.

WATER & WASTEWATER TREATMENT FACILITIES

Impact Util-2 **(Require New 'Major' Wastewater Conveyance Facilities).** The Project will generate increased demand upon existing water and sewer conveyance facilities. With regard to major conveyance lines outside the Project area, the Project will contribute flows to lines which, under existing conditions are deficient. However, the payment of mandatory fees in conjunction with Project-related development assures that a fair-share contribution towards current and future capital improvement projects to relieve those deficiencies. (***Less Than Significant Impact)***

Impact Util-3 **(Require New 'Minor' Wastewater Conveyance Facilities). S**ome existing sewer lines within the Project area are smaller than the present meet minimum City standard. Future development project would, however, have to comply with the mandatory upgrade requirements of Municipal Code Chapter 11, Article 8 (Sanitary Sewer System) and thereby ensure line segments affected by Project-related development are upsized to meet current City standards. (***Less Than Significant Impact***)

Impact Util-4 **(Require New Water Conveyance Facilities).** The Project will generate increased demand upon existing water conveyance facilities. Though some existing conveyance lines within the Project area do not presently meet the minimum city standard, they will adequately support Project-related development; including through the incremental upgrade requirements of Municipal Code Chapter 11, Article 2 (Hayward Municipal Water System). (***Less Than Significant Impact***)

Impact Util-5 **(Result in New Water & Wastewater Facilities).** The Project would, over time, include the installation of new water and wastewater conveyance lines that would accompany the construction of proposed new thoroughfares. However, the installation of those lines would largely occur at urbanized properties and, consequently, would not be expected to result in significant effects. (***Less Than Significant Impact***)

Existing Wastewater Conveyance System

The City of Hayward's 2002 Wastewater Collection System Master Plan Update evaluates the (then) current and future (year 2020) flows within about three-hundred (300) miles of sewers and force mains, two major lift stations and six (6) smaller lift stations. The plan focuses primarily on hydraulic capacity-related issues (i.e., conveyance within lines), and identifies a number of capital improvement projects to both ameliorate existing deficiencies and accommodate projected future flows. Three (3) capital improvement projects are identified to address issues of significant surcharging or capacity limitations during dry weather or for a significant portion of wet weather events.[5] Those projects have since been constructed.

[5] See Table ES-2 of 2002 Wastewater Collection System Master Plan Update.

However, despite the construction of those capital improvement projects, the 2002 Wastewater Collection System Master Plan Update identifies other existing and future deficiencies at major conveyance lines located downstream and outside of the Project area that the current Project would contribute flows towards.[6] Additionally, the following existing six (6) inch diameter minor conveyance lines within the Project area do not meet the current eight (8) inch minimum diameter standard: (a) Mission Boulevard from Simon to Sunset; (b) Pearce Street; (c) Grace Street; (d) Melvin Court; (e) and Smalley Avenue.

Development projects authorized under the Project are subject to the mandatory the payment of connection and user fees under the City of Hayward Municipal Code; including those under the Building Construction and Improvement Tax[7] and Supplemental Construction and Improvement Tax.[8] Payment of those feeds adequately addresses the Project's effect upon existing and projected deficiencies at major conveyance lines identified in the 2002 Wastewater Collection System Master Plan Update through the payment of their fair-share towards capital improvement project to relieve such existing deficiencies.

For the existing minor conveyance lines within the Project area, the upgrade of portions related to future development under the Project will be compelled by Municipal Code Chapter 11, Article 8 (Sanitary Sewer System).

Existing Water Conveyance System

The City of Hayward water conveyance system is supported by fifteen (15) water storage tanks and seven (7) pump stations delivering water to upper pressure zones. At least one storage tank is located within each pressure zone. Within the Project area, pipelines within Mission Boulevard serve as the backbone for the conveyance system.

The Project's northern segment contains a twelve (12) inch main in Mission Boulevard and six (6) inch and eight (8) inch distribution lines in surrounding streets. Within the Project's southern area, Mission Boulevard contains three parallel water lines, a twenty-four (24) inch line that delivers water to nearby reservoirs and two main lines (12-inch and 6-inch/8-inch) that distribute water to surrounding properties on each side of Mission Boulevard. Remaining aspects of the conveyance system are localized lines on interior streets and consist of six (6) inch, eight (8) inch, and twelve (12) inch lines. Conveyance lines within the project area are a combination of asbestos cement, steel, plastic (PVC), and cast iron pipe.

For the existing substandard conveyance lines within the Project area, the upgrade of portions related to future development under the Project will be compelled by Municipal Code Chapter 11, Article 2 (Hayward Municipal Water System).

Proposed Project-related Changes to Existing Water & Wastewater Collection System

As mentioned in Chapter 3 (Project Description), the Project includes a proposed Thoroughfare

[6] See Figures 3-2 and 3-3 of 2002 Wastewater Collection System Master Plan Update for location of deficiencies.

[7] Municipal Code Chapter 8, Article 8.

[8] Municipal Code Chapter 8, Article 15.

Plan (see Figures 3-2 and 3-3 of Specific Plan). New thoroughfares indicated on the Thoroughfare Plan would be constructed over time in conjunction with private development projects on abutting property. When future developments are proposed (under the Project) and include fulfillment of the Thoroughfare Plan, the Project intends for certain new thoroughfares to also include new water and sewer lines to serve the subject development and create a looped network by connecting to existing lines.

Proposed new lines, as depicted on Figure 20-1 and 20-2, would largely occur on already-developed properties without the potential for potentially significant environmental effects. However, some proposed segments would occur at properties that are considered sensitive with regard to biological resources and cultural resources. For these locations, the potentially significant impacts associated with reasonably foreseeable Project-related development, including supporting infrastructure (i.e., water/sewer conveyance lines), is adequately addressed by analyses in Chapter 7 (Biological Resources) and Chapter 8 (Cultural Resources).

STORMWATER DRAINAGE FACILITIES

Impact Util-6 **(Require or Result in New or Expanded Stormwater Facilities).** Future development within the Project area may, on a parcel-specific and cumulative basis, increase impervious area above that existing and, thereby, result in increased stormwater flows and/or runoff not meeting treatment requirements, without appropriate on-site controls. However, the potential for increased flows will be adequately mitigated through mandatory compliance with the City of Hayward's NPDES permit. While improvement to existing facilities through, for example, increased conveyance capacity, may be necessary to accommodate certain future developments, additional new storm water facilities are not necessary to meet treatment requirements. (***Less Than Significant Impact***)

Potential storm drainage impacts resulting from Project-related development fall into three categories: system conveyance, treatment quality, and hydro-modification flow control. According to the City of Hayward Public Works Department, existing conveyance facilities are adequate to serve the Project. Additionally, given that much of the existing Project consists of impervious surfaces, future development will not significantly increase the overall quantity of storm runoff. Though some portions of the Project area may be developed in ways that will intensify runoff, other areas will be converted to civic park uses. The net impact to the conveyance system should be minimal.

With regard to treatment quality and hydro-modification flow control, the mandatory application of NPDES requirements ensures the Project-related development does not result in significant impacts. New development and redevelopment areas must comply with Provision C.3 of the revised Municipal Regional Stormwater NPDES Permit (MRP) adopted by the San Francisco Regional Water Quality Control Board on November 28, 2011. The current Alameda County MRP requires post-construction stormwater runoff treatment at the source by implementing low-impact development (LID) practices for projects creating or replacing more than 5,000 SF of impervious surface. LID practices require infiltration, reuse, and/or landscape based treatment facilities. Adequate treatment will be required to be provided within each parcel, or regionally by

agreement between the City and the developers involved.

In addition to quality treatment requirements, the Alameda County MRP also has flow control requirements to mitigate the erosion impact of stormwater runoff on existing drainage channels. Hydro-modification requirements apply to projects proposing to create or replace one (1) acre or more of impervious surface, and which are located in sensitive areas. When required, flow control measures must be implemented in the storm drainage design to reduce the runoff to pre-project levels. Alameda County has provided access to the Bay Area Hydrology Model (BAHM) to assist in the planning and design of hydro-modification measures that meet the flow control requirements of the MRP.

WATER SUPPLY

Impact Util-7 **(Sufficient Water Supplies).** As demonstrated by the Water Supply Assessment (WSA) prepared for the Project, sufficient supplies exist to serve the Project area, including anticipated future businesses and residents. (***Less Than Significant Impact***)

In 2005, Hayward provided SFPUC with the amounts of water that Hayward expected to purchase for the next twenty-five (25) years. The City estimated that demands would gradually increase from a projected 21.8 million gallons per day (24.4 thousand acre feet per year) in 2010 to about 27.9 million gallons per day (31.3 thousand acre-feet per year) by 2030. In 2005, SFPUC validated the City's analyses with written water availability projections, verifying its ability to meet Hayward's projected demand under normal operating conditions.

More recently (for this Project), the City of Hayward prepared a Water Supply Assessment (WSA), in accordance with the requirements of SB 610.[9] The WSA deems that the existing water supply is sufficient to satisfy the demands of the Project, taking into consideration both existing and planned future uses.

LANDFILL CAPACITY & SOLID WASTE REGULATIONS

Impact Util-8 **(Landfill Capacity & Solid Waste Regulations)** The Project can be adequately served by the Altamont Landfill. (***Less Than Significant Impact***)

The Project would be served by a landfill with the capacity of handle solid wastes generated by the demolition, construction, and operational phases of Project-related development. As referenced at Table 3-1 (Build-Out Assumptions), the Project is assumed to result in a net increase of 213 dwelling units and 331,083 square feet of commercial floor area. The California Integrated Waste Management Board (CIWMB) provides estimates of average waste generation rates. Waste generation rates include all materials discarded, whether or not they are later recycled or disposed in a landfill. Waste generation rates for residential and commercial activities can be used to estimate the impact of new developments on the local waste stream. For Project-related development, waste generation rates of 10.53 pounds per 1,000 square feet per

[9] City of Hayward, *Water Supply Assessment for Mission Boulevard Corridor Specific Plan*, dated October 17, 2012.

day for commercial retail uses and 12.23 pounds per dwelling unit per day are assumed in this EIR.[10]

Although solid waste generation rates can vary substantially by specific use, the aforementioned generation rates are used to approximate the additional amount of waste that would be generated by the Project. An increase of 331,083 square feet of commercial space is estimated to generate approximately 3,486 pounds of solid waste per day. An increase of 213 dwelling units is estimated to result in 2,604 pounds of solid waste per day.

The Project area would rely on the Davis Street Transfer Station in San Leandro and which has a daily capacity of 5,600 tons per day. The Project, at assumed build-out, would add an estimated 3.045 tons or 0.04% of the total daily permitted throughput for the Davis Street Transfer Station. As to Altamont Landfill capacity, the Project is estimated, again at assumed build-out, to result in a 0.027% contribution to the facilities maximum daily disposal rate. Consequently, given this information, the amount of solid waste generated by Project-related operations would not exceed the capacity of the Davis Street Transfer Station or the Altamont Landfill, and would not require the construction or expansion of landfill facilities.

With regard to demolition and construction-related wastes, Project-related development would also be subject to Chapter 5, Article 10 of the Hayward Municipal Code, which requires the submission and approval of a Debris Recycling Statement prior to the commencement of demolition and construction. Increased solid waste resulting from the Project from the construction and occupancy of new dwellings and businesses can be accommodated by the existing disposal services and facilities. While the current 75% solid waste diversion goal is not being met, compliance is not mandatory.

CUMULATIVE UTILITIES IMPACTS

The geographic context for a discussion of cumulative impacts to utilities is the service area of the utility in question. For instance, the geographic context for cumulative impacts to water supply is the SFPUC service areas; to wastewater, it is the City of Hayward; and to the storm drainage system, the geographic context is the local watershed. The cumulative impacts analysis for each utility includes all cumulative growth within its respective service area, as identified by the providers demand projections.

Water

The surplus SFPUC supply identified under the analysis above takes into account assumed cumulative increases in system-wide water demand and would accommodate anticipated development in the area including that occurring in the future within the Project area. This assumes increased demand management and/or conservation system-wide over time. The cumulative impact related to water supply would be less-than significant.

[10] The most current and conservative rates are used. (www.calrecycle.ca.gov/wastechar/).

Stormwater

The geographic area considered for the cumulative analysis of stormwater drainage collection systems is the City of Hayward, since the City is responsible for the local storm drainage system and the Alameda County Flood Control and Water Control District (ACFCWCD) operates the major trunk lines and flood control facilities. Cumulative Project-related development would occur in urbanized areas and primarily involve redevelopment of previously developed properties, so there would be limited change in impervious surface area and stormwater runoff. In addition, with required compliance of individual development projects with the Alameda Countywide Clean Water Program National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit, cumulative stormwater drainage system impacts would be less than significant.

Wastewater

The geographic area considered for the cumulative analysis of wastewater collection systems is the City of Hayward, as the City owns, operates and maintains the wastewater collection system within the City. The City has determined that Project-related development would not exceed the capacity of the Water Pollution Control Facility to treat wastewater in the cumulative condition. Though portions of the existing conveyance system are presently deficient in capacity, the payment of mandatory fees and application of Municipal Code requirements ensure that Project-related effects are mitigated on a fair-share basis. The capacity of the wastewater transport and treatment system is adequate to serve past, present, existing, pending and reasonably foreseeable future development projects.

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MANDATORY CEQA TOPICS

As required by CEQA, this chapter discusses the following types of impacts that could result from development under the proposed Project: growth-inducing impacts; significant irreversible changes; cumulative impacts; effects found not to be significant; and significant unavoidable effects.

GROWTH INDUCEMENT

A project is considered growth-inducing if it would directly or indirectly foster economic or population growth or the construction of additional housing, if it would remove obstacles to population growth or tax community service facilities to the extent that the construction of new facilities would be necessary, or if it would encourage or facilitate other activities that cause significant environmental effects.

The Project site is located within the City of Hayward and would not result in an expansion of urban services or the pressure to expand beyond the City's existing incorporated limits or Sphere of Influence. Construction within the Project area would not open additional undeveloped land to future growth or provide expanded utility capacity that would be available to serve future development. Instead, it would facilitate the anticipated development of vacant properties and redevelopment of underutilized land in an existing urban setting that is conveniently served by transit facilities and services. The Project would facilitate population and employment growth, but the environmental effects of such growth would, as examined in this EIR, not result in significant effects upon the environment.

In addition, the Project would encourage transit and pedestrian-oriented redevelopment activity and associated growth in the vicinity of the Hayward BART Station and a major north/south corridor (i.e., Mission Boulevard). This would benefit the region by promoting the redevelopment and revitalization of the area with infill development. In addition to benefiting the Project area, the Project would benefit the City as a whole by expanding housing choices and business activities within the City.

SIGNIFICANT IRREVERSIBLE CHANGES

An EIR must identify any significant irreversible environmental changes that would be caused by the proposed project being analyzed. Irreversible environmental changes may include current or future commitments to the use of non-renewable resources, or secondary or growth-inducing impacts that commit future generations to similar uses. Irreversible commitments of resources should be evaluated to assure that such current consumption is justified. The CEQA Guidelines describe three categories of significant irreversible changes that should be considered, as further detailed below.

Changes in Land Use Which Would Commit Future Generations

The Project would allow for the redevelopment and intensification of land uses in an area that is already developed. The Project area is urbanized. Land use changes would occur as infill development on urbanized parcels that have been developed since the early 1900s. In the same manner that the current uses and structures are being considered for redevelopment after years of usefulness, so too could development projects authorized under the Project undergo renovation or change after another fifty (50) to one-hundred (100) years. In this way, the Project would commit two (2) to three (3) generations to this land use change. Such a commitment would not constitute a significant adverse effect.

Consumption of Nonrenewable Resources

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands to urban uses, and lost access to mineral reserves. No agricultural lands would be converted and no access to mining reserves would be lost with construction under the Project. The Project would facilitate redevelopment of underutilized parcels and construct new civic spaces (e.g., linear park, park). While this would require additional energy of several types for construction and for on-going use, it would not require the construction of major new lines to deliver energy, and service providers anticipate being able to provide the capacity to serve these levels of development. Furthermore, to the extent that growth throughout Hayward is partly an expression of regional demand, redevelopment of existing neighborhoods represents a more efficient allocation of non-renewable resources than would suburban expansion into undeveloped "green field" lands in other jurisdictions or locations.

SIGNIFICANT AND UNAVOIDABLE IMPACTS

The EIR identifies one potentially significant impact in Chapter 19 (Transportation), as follows:

- Impact Trans-2 (Cumulative 2035 Plus Project - Mission Boulevard and Sunset Boulevard) Under the Cumulative 2035 Plus Project condition, traffic generated by the Project would have a cumulatively considerable impact on the delay at the intersection Mission Boulevard and Sunset Boulevard intersection through an increase of 12.1 seconds of average delay during the PM peak-hour.

The EIR also identifies a feasible mitigation measure for Impact Trans-2 but observes that its implementation would result in the removal of on-street parking spaces. The Hayward General Plan contains policy language that directs the City Council to balance the needs of traffic, turning and parking. It is possible that the City Council may view the removal of on-street parking spaces as having adverse economic impact on neighboring businesses which may rely on those spaces for customers. The City Council may also view the removal of on-street parking spaces as resulting in a negative pedestrian environment the indirect result of which may cause adverse economic effects on neighboring business through decreased pedestrian activity.

If the City of Hayward determines that the benefits of retaining on-street parking outweigh those achievable through implementation of Mitigation Measure Trans-2, Impact Trans-2 would be considered ***Significant and Unavoidable***. In that circumstance, the City of Hayward would need

to adopt one or more of the findings required by CEQA Guidelines §21081.

CUMULATIVE IMPACTS

Cumulative impacts are those which taken individually may be minor but, when combined with similar impacts associated with existing development, proposed development projects and planned but not built projects, have the potential to generate more substantial impacts. CEQA requires that cumulative impacts be evaluated when they are significant and that the discussion describe the severity of the impacts and the estimated likelihood of their occurrence.

CEQA also states that the discussion of cumulative impacts contained in an EIR need not be as detailed as that provided for the project alone. CEQA Guidelines §15130(b)(1) provides that cumulative impacts may be addressed using one of two methods:

- A listing of past, present and reasonable anticipated future and probable projects, within or adjacent to the community containing the project site, which could produce related or cumulative impacts; or

- A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projects may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency.

For purposes of this EIR, the latter approach has been chosen to address cumulative impacts. Cumulative impacts identified in the certified City of Hayward 2002 General Plan Update EIR were used as the basis of cumulative impacts in this DEIR.

Additionally, cumulative impacts related to traffic and transportation impacts and air quality impacts are addressed within the body of this EIR. The transportation analysis of this EIR utilizes a year 2035 Baseline condition to analyze the Project's potential effects. Also, the air quality analysis identifies whether the Project's contribution is cumulatively considerable.

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ALTERNATIVES

INTRODUCTION

In accordance with CEQA Guidelines §15126.6, an EIR must evaluate a "range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project." The discussion of alternatives should focus on "alternatives capable of eliminating any significant adverse impacts or reducing them to below a level of significance, even if these alternatives could impede to some degree the attainment of the project objectives or would be more costly."

CEQA further directs that "the significant effects of an alternative shall be discussed, but in less detail than the significant effects of the project as proposed." The factors that may be taken into account when addressing the feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site or area.

The decision to select alternatives needs to be based on whether alternatives would avoid or substantially lessen any of the significant effects of the project. The lead agency also must determine whether feasible alternatives exist and disclose the reasons for this assessment. The final decision regarding the feasibility of alternatives lies with the decision-maker for a given project who must make the necessary findings addressing the potential feasibility of reducing the severity of significant environmental effects (CEQA §21081; CEQA Guidelines §15091).

The CEQA Guidelines define "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." When making the decision as to whether an alternative is feasible or infeasible, the decision-making body may consider the stated project objectives in an EIR in light of any relevant economic, environmental, social, and technological factors."

PROJECT GOAL AND OBJECTIVES

The Mission Boulevard Corridor Specific Plan ("Project") intends to provide opportunities for new development in the Mission Boulevard Corridor that respects the existing character of the area and its surroundings, and includes vibrant commercial uses, pedestrian-friendly neighborhoods that are safe, desirable, and at sufficient densities to support public transportation, and a built form that will encourage such uses, and complements the natural and historic amenities existing in the Project area.

The primary objectives of the Mission Boulevard Corridor Specific Plan are as follows:

- Revitalize an economic spine that provides services to the eastern portion of the City while addressing the current deterioration of the existing uses, including distressed auto-related uses;
- Establish a vision for transit-oriented development that incorporates economic and environmental sustainability; offers housing options and civic functions;
- Strengthen the City's economy;
- Create a vibrant pedestrian-oriented environment;
- Foster a safe public realm;
- Improve circulation and streetscapes; and
- Support environmentally sustainable forms of development, while enhancing Hayward's existing character and quality of life.

PROPOSED PROJECT

The Project consists of a Specific Plan, prepared in accordance with Government Code §65450 et al., which would enact a Form-Based Code that replaces the majority of existing Zoning Regulation provisions applicable to the Project area. Other regulatory actions are included within the Specific Plan, as described in detail below.

REGULATING PLAN

The Project would insert a new Article 25 in Chapter 10 (Planning, Zoning and Subdivision Regulations) of the Hayward Municipal Code. In doing so, the Project would supplant many existing development standards applicable to the Project area and as primarily expressed through existing, mapped Zoning Districts. However, other existing development standards exclusive of those particular to Zoning Districts would remain applicable to the Project area, except for those provisions specifically defined by the Mission Boulevard Corridor Specific Plan Form-Based Code §10-25.100 et al.

THOROUGHFARE PLAN

The Project would also include a complement to the Figure 3-4 (Regulating Plan) consisting of Figure 3-9 (Thoroughfare Plan). The Thoroughfare Plan intends to implement the Hayward General Plan's direction to pursue opportunities for infill development and redevelopment to accommodate alternate street patterns, including shorter block lengths, interconnected streets, alleys, and cul-de-sac avoidance. New thoroughfares indicated on the Thoroughfare Plan would be constructed over time in conjunction with private development projects on abutting property (see Figure 3-10). Any such projects which construct these planned new thoroughfares would be eligible to receive a density bonus corresponding to the length of street dedication (see §10-25.275).

OTHER STANDARDS

While the Specific Plan's Form-Based Code includes proposed standards for new Zoning Districts, it also includes new standards that would apply throughout the Project area. These include new standards (§10-25.245 through 10-25.290) under the following topics: Parking, Architectural, Fence and Wall, Landscape, Visitability, Sustainability, Subdivision, Sign and Telecommunication Facility.

MOBILITY PLAN

The Specific Plan contains parking and transportation demand management policies (see Mobility Plan, Chapter 5). Travel modes addressed in the Mobility Plan include: automobiles, bicycles, pedestrians and transit (e.g., BART, AC Transit). These modes are addressed within a Parking and Transportation Demand Management Strategy that sets forth a comprehensive management strategy for both public and private parking as well as the generation of vehicle trips and which would be carried out through separate subsequent discretionary actions by the City of Hayward after approval of the Specific Plan.

INFRASTRUCTURE PLAN

The Specific Plan includes an Infrastructure & Utility Plan (see Section 5.2) for new and upgraded stormwater, water and wastewater conveyance lines. As thoroughfares indicated on the Thoroughfare Plan are constructed over time in conjunction with private development projects on abutting property, new stormwater, water and wastewater lines must also be installed to serve the subject development and, for example, create a looped network by connecting to existing lines.

GENERAL PLAN AMENDMENTS

The Project would change the General Plan Land Use Map designations for most parcels within the Project Boundary to Sustainable Mixed Use. Existing and/or planned public schools, parks or mass-transit facilities would receive, as shown on Figure 3-16, the Parks and Recreation or Public/Quasi-Public designations.

IMPACTS OF THE PROPOSED PROJECT

CEQA Guidelines §15126.6(f) states “alternative shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.” As such, alternatives that do not avoid or substantially lessen significant effects of the project do not need to be analyzed in an EIR. The analysis in this EIR identifies the following environmental effects.

- **Aesthetics** - The Project would have a beneficial effect on the visual character of the Project area. The Project would have no impact upon scenic resources. The Project would contribute to cumulative light and glare, though the resulting impact would be considered less than significant through application of existing lighting standards.

- **Agricultural & Forestry Resources** – The EIR identifies no impacts under this environmental topic.

- **Air Quality** – Future development projects implemented in accordance with the proposed Specific Plan have the potential to result in increased criteria pollutant emissions and fugitive dust. However, this impact would be reduced to less than significant with implementation of Bay Area Air Quality Management District (BAAQMD) feasible control measures. The Project has the potential to locate sensitive receptors in proximity to toxic air contaminants. However, through application of BAAQMD recommended overlay zones, potential impacts are reduced to a less than significant level.

- **Biological Resources** – The Project area is predominately urbanized, though a few pockets of naturalized properties occur in hillside locations. Though no scarce or unique sensitive habitat would be removed, future development projects implemented in hillside locations have the potential to impact one sensitive animal and one sensitive plant species. Potentially significant impacts would, however, be reduced to a less than significant level through mitigation provided herein.

- **Cultural Resources** – The Project would regulate future development projects in harmony with the City's current Historic Preservation Ordinance. Application of that ordinance ensures the Project would not adversely impact above-ground historic resources. Additionally, with regard to belowground and unknown archaeological and paleontological resources, the EIR provides mitigation to ensure such resources are appropriately addressed if accidently discovered during construction.

- **Geology & Soils** – The Project area is subject to seismic-related hazards. Compared to the no-project condition, the Project would not increase the severity of those impacts since existing regulatory programs and standards to reduce seismic hazards (e.g., fault rupture, ground shaking, ground failure, landslides, expansive soils, soil erosion) would be continued to be applied. The Project would, however, reduce seismic hazards over the no-project condition through the designation of "Civic Space" at certain properties north of A Street, east of Mission Boulevard, that are known to include the Hayward Fault.

- **Greenhouse Gas Emissions** – The Project would not conflict with a plan for the reduction of greenhouse gas emissions since it is consistent with the land use and development-related strategies presented in the Assembly Bill 32 Scoping Plan, Bay Area 2010 Clean Air Plan, and Hayward Climate Action Plan. Also, though the Project would generate long-term greenhouse gas emissions, the estimated increase attributable to the Project is not considered significant.

- **Hazards & Hazardous Materials** – Because of the urbanized nature of the Project area and its prior use for commercial land uses, a number of properties may contain hazardous materials. Additionally, existing commercial uses may utilize hazardous materials that could be released. The Project would, however, require pre-development site assessments to ensure hazardous materials are identified and, if located, properly evaluated and treated. Those portions of the Project area located south of Jackson Street and east of

Mission Boulevard are located within a locally designated urban wildland interface fire hazard area. However, the Project would operate in harmony with the City's existing Hillside Design and Urban/Wildland Interface Guidelines and Hayward Fire Code and, thereby, result in less than significant impact for that issue.

- **Hydrology & Water Quality** – The Project's hydrology and water quality impacts and cumulative contributions would be reduced to a less than significant impact through mitigation in the EIR which applies existing NPDES requirements. Each development under the Project has the potential to generate additional stormwater runoff to the existing stormwater system. However, the EIR would require site-specific drainage plans to ensure that existing downstream facilities may accommodate increased flows.

- **Land Use & Planning** – The EIR identifies no impact under this environmental topic.

- **Mineral Resources** – The EIR identifies no impacts under this environmental topic.

- **Noise** - The Project area consists of a corridor aligned with a major noise source (i.e., vehicular traffic). For the cumulative condition, Project area occupants are expected to be exposed to noise levels in excess of acceptable levels; largely through growth in traffic from the region (i.e., outside the Project area). Also, the existing railroad tracks present a potential source of ground vibration that may adversely affect sensitive land uses. However, for future developments in these locations, the EIR prescribes mitigation requiring construction techniques that result in noise levels considered to be less than significant.

- **Population & Housing** – The Project would not induce substantial population growth. Though the Project includes new thoroughfares that, in a few locations, would result in the removal of existing dwellings, their removal is not considered substantial and, in any event, the Project is expected to result in replacement housing that is an increase amount above that existing.

- **Public Services** – With implementation of a new policy requiring a mechanism for financing public safety staffing prior to construction of the first dwelling unit under the Project, no impacts would be expected to result. Potential impacts related to schools would be adequately mitigated through payment of the mandatory fee under Government Code §65995(b).

- **Recreation** – The EIR identifies no impact under this environmental topic.

- **Transportation** – The Project would, over time as development projects are constructed and occupied, contribute traffic along the corridor that, at two (2) intersections, are estimated to operate at an unacceptable Level of Service (LOS). However, the EIR identified feasible mitigation measures that would cause each intersection to operate at an acceptable LOS. At the Mission Boulevard/Sunset Boulevard intersection though, the City Council may decide that the resulting removal of on-street parking spaces caused by implementation of Mitigation Measure Trans-2 is not desirable due to negative economic effects on nearby businesses relying on those on-street spaces and a more pedestrian-oriented environment.

- **Utilities & Service Systems** – The Project area is currently served by utility and service systems that, with regard to backbone conveyance lines, are sufficient to also serve future Project-related occupants. Adequate water supplies and landfill capacity also exist to serve the Project area.

- **Growth Inducement** - The Project would not result in an expansion of urban services or the pressure to expand beyond the City's existing incorporated limits or Sphere of Influence. Construction within the Project area would not open additional undeveloped land to future growth or provide expanded utility capacity that would be available to serve future development.

ALTERNATIVES ANALYZED IN EIR

Alternatives considered in this EIR are discussed below and summarized in **Table 22-1** (EIR Alternatives) below. They were initially evaluated for their feasibility and their ability to achieve most of the project objectives while avoiding, reducing, or minimizing significant impacts identified for the proposed Project. All of these alternatives were determined to be feasible (or potentially feasible) and would meet at least some of the project objectives (though not necessarily all of the objectives).

The ability of these alternatives to substantially lower the significant impacts identified for the proposed project is discussed below. However, it should be noted that not all the 'variables' identified in **Table 22-1** (EIR Alternatives) were identified for purposes of avoiding or reducing adverse environmental effects. Rather, most variables were identified by city staff in anticipation that decision-makers may want to make slight adjustments to the proposed Project's regulating plan and cross-section for Mission Boulevard. As such, this EIR chapter seeks to also identify whether those variables would result in new or different environmental effects, as compared to the proposed Project.

All environmental topics are analyzed for each alternative determined to be potentially feasible, though at a much more general level than in Chapters 4 to 20 of this EIR.

TABLE 22-1: EIR ALTERNATIVES

	Variable	Proposed Project	Alternative 'A' (See **Figure 22-1** below)	Alternative 'B' (See **Figure 22-2** below)
1.	Cross-section for Mission Blvd (North of A Street).	Install four (4) foot wide landscape median, reduce parking lane lanes from eight (8) feet to seven (7) feet, reduce sidewalks from ten (10) feet to nine (9) feet, maintain existing travel lanes. (See Figures 3-11 to 3-14 of EIR)	Maintain existing cross-section, but add new paving, lighting, undergrounding of utilities, and new street furniture.	Install five (5) foot wide landscape median, reduce parking lanes from eight (8) feet to seven (7) feet, reduce sidewalk width from ten (10) feet to 8.5 feet, maintain existing travel lanes.
2.	Building heights and Zoning designation North of A Street.	T5 Zone on properties fronting A Street; remainder with T4-1 Zone and Height Overlay.	T5 Zone from A Street to Simon Street with Height Overlay 1: (2 to 3 story) and Height Overlay 2: (2 to 4 story).	Proposed Project but without Height Overlay.
3.	Zoning Designation for properties south of Jackson St., east of Mission Blvd., north of Fletcher Ave.	T5 Zone	T4 Zone	T4 Zone
4.	Zoning of APN 445-001-002 (23950 Mission Blvd.)	T4 Zone	Civic Space	Civic Space
5.	Slip lane on west side of Mission Blvd. from Torrano Ave. to Harder Rd.	As proposed (see **Figure 3-4**).	No slip lane.	As proposed (see **Figure 3-4**).
6.	Zoning for area between Mission Blvd., Harder Rd., Torrano Ave., and BART tracks.	T4-2 Zone	T4-2 Zone	T4-1 Zone
7.	Commercial Overlay between Berry Ave. and Harder Rd.	As proposed (see **Figure 3-4**).	250 foot depth, as measured from Mission Blvd.	Commercial Overlay at intersection of Carlos Bee and Mission Blvds.

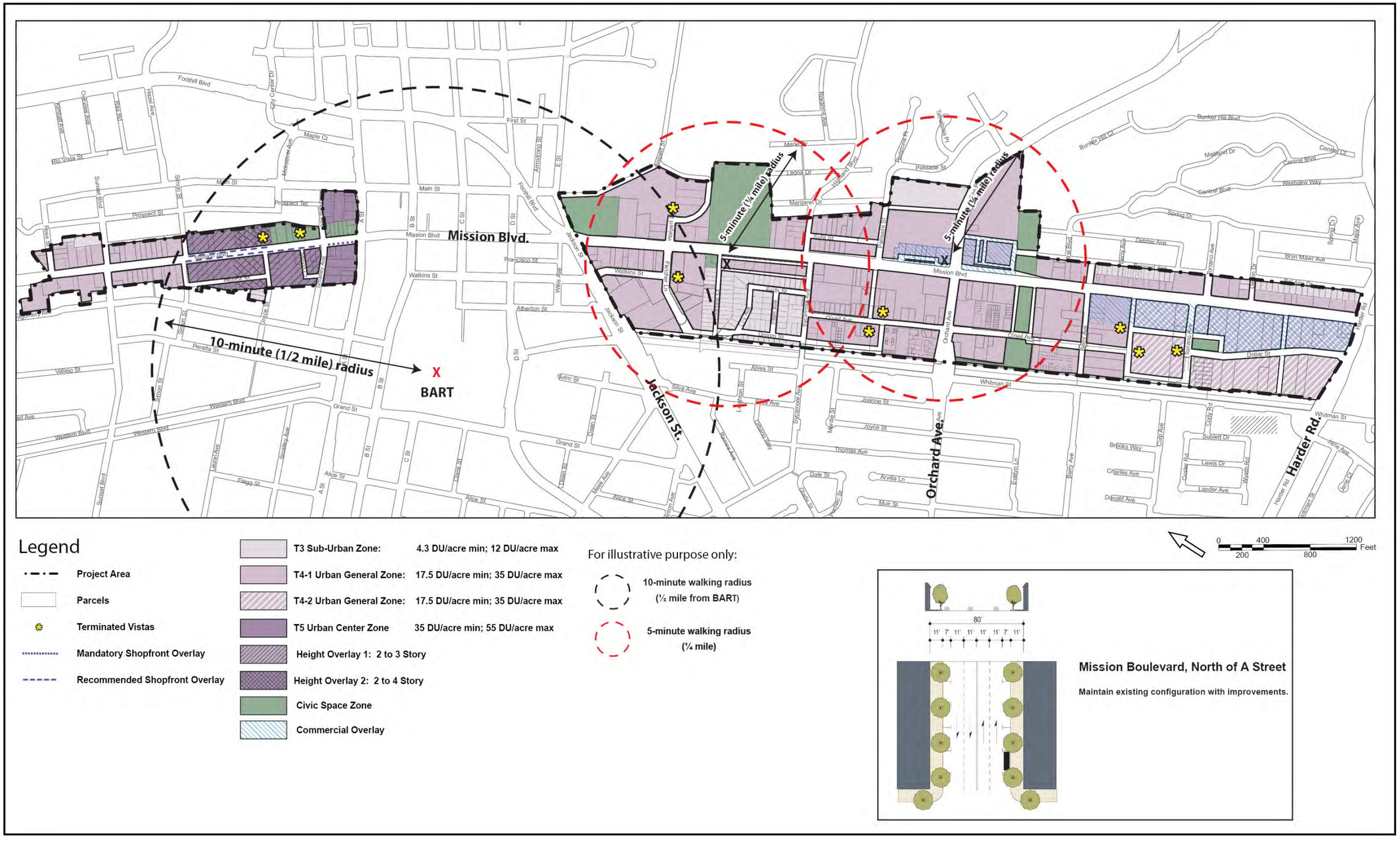

Figure 22-1: Alternative 'A' Regulating Plan & Mission Blvd Cross-Section.

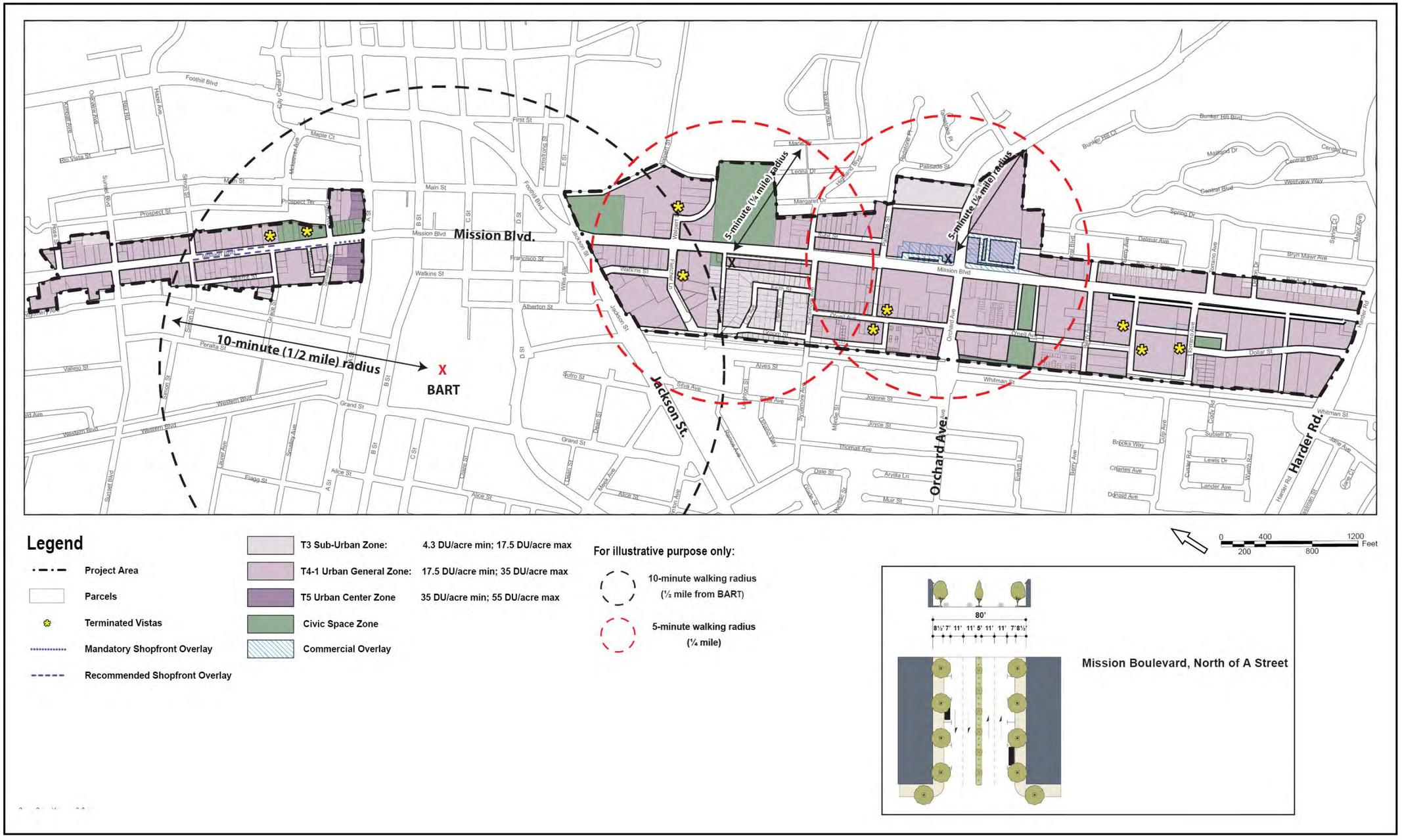

Figure 22-2: Alternative 'B' Regulating Plan & Mission Blvd Cross-Section

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ALTERNATIVE #1: NO PROJECT ALTERNATIVE

Alternative Characteristics

CEQA requires analysis of a "no-project" alternative. The "no-project" alternative would retain all existing land use and development policies (e.g., General Plan) and regulations (e.g., Zoning Ordinance). Most properties along the corridor (fronting Mission Blvd.) would retain commercial land use designations. No new thoroughfares would be constructed.

Impact Analysis

- **Aesthetics** – For aesthetics, there would be no measurable difference in impacts between the "no-project" alternative and the proposed Project. It is assumed that, under the "no-project" alternative, development proposals will come forward over time and that their aesthetic qualities would be evaluated in accordance with the Site Plan Review process; as would occur under the proposed Project.

- **Agricultural & Forestry Resources** – The EIR identifies no impacts under this environmental topic.

- **Air Quality** – The "no-project" alternative would not result in the adoption of a Highway Overlay Zone, as included under Mitigation Measure Air-2a for the proposed Project. This would increase the exposure of sensitive receptors to toxic air contaminants resulting from mobile and stationary sources. As such, the "no-project" alternative would have more sever cumulative impacts relative to air quality.

- **Biological Resources** – For biological resources, there would be no measurable difference in impacts between the "no-project" alternative and proposed Project. Each essentially maintains land use and zoning designations to urbanize properties within the Project area. Though the EIR prepared for the proposed Project includes mitigation measures reflecting current information on potential impacts to sensitive species, it is also possible that the CEQA review of future development proposals under the "no-project" alternative could, likewise, include similar mitigation measures.

- **Cultural Resources** – For cultural resources, there would be no measurable difference in impacts between the "no-project" alternative and proposed Project. Under the "no-project" alternative the Historic Preservation Ordinance would continue to apply; as it would under the proposed Project. Also, neither the "no-project" alternative nor proposed Project includes a specific proposal that would materially affect a known and identifiable cultural resource.

- **Geology & Soils** – The "no-project" alternative would have increased adverse cumulative effects, as compared to the proposed Project, due to its retention of commercial land use designations at some properties underlain by the Hayward Fault. In contrast, the proposed Project seeks to minimize adverse effects from seismic hazards at those properties by designating them as Civic Space.

- **Greenhouse Gas Emissions** – The "no-project" alternative may have reduced greenhouse gas emission impacts since the proposed Project includes an increase in jobs and households over that assumed in the General Plan EIR. However, it is possible that, since the "no-project" alternative would retain commercial-only land use designations that are separated from residential areas of Hayward, the "no-project" alternative would result in slightly increased greenhouse gas emissions. This potential increase may result from increased vehicle trips between households and businesses. In contrast, the Project seeks to locate households and businesses in closer proximity to enable walking and biking between destinations.

- **Hazards & Hazardous Materials** – For hazards and hazardous materials, there would be no measurable difference in impacts between the "no-project" alternative and proposed Project. Through the evaluation of development proposals under the "no-project" alternative, the City may, as it customarily does, require Phase 1 environmental site assessments to identify and remediate hazards. Also, the "no-project" alternative would include the continued application, as is the case under the proposed Project, of the Hillside Design and Urban/Wildland Interface Guidelines.

- **Hydrology & Water Quality** – For hydrology and water quality, there would be no measurable difference in impacts between the "no-project" alternative and proposed Project. Under both options, the application of mandatory measures addressing construction and operational-related aspects of water quality would continue to be applied.

- **Land Use & Planning** – The EIR identifies no impact under this environmental topic.

- **Mineral Resources** – The EIR identifies no impacts under this environmental topic.

- **Noise** – As compared to the proposed Project, the "no-project" may have slightly less impacts related to cumulative noise levels resulting from vehicular traffic since it would not increase the number of residents and commercial floor area above that contemplated by the existing General Plan. It is also possible that, as individual development projects come forward under the "no-project" alternative, the City may identify the need for project-specific noise and ground-vibration mitigation measures; as is recommended in this EIR for the proposed Project.

- **Population & Housing** – For population and housing, there would be only a minor difference in impacts between the "no-project" alternative and proposed Project. Under the proposed Project, a slight increase in population would result as compared to the existing General Plan. However, that increase in population is not considered substantial.

- **Public Services** – For public services, there would be no measurable difference in impacts between the "no-project" alternative and proposed Project. Each option would be implemented over many years and budgetary cycles. Under each option, the City Council would balance its constitutional obligation to provide fire/police protection services against General Fund revenues and the multiple competing priorities for those revenues.

- **Recreation** – For recreation, there would be no measurable difference in impacts between the "no-project" alternative and proposed Project. Each option would continue to be provided with sufficient park land.

- **Transportation** – The "no-project" alternative would have slightly reduced cumulative impacts on Level of Service (LOS) at two (2) intersections, as compared to the proposed Project. However, those two intersections would continue to operate at an unacceptable LOS without the Project.

- **Utilities & Service Systems** – For utilities and service systems, there would be no measurable difference in impacts between the "no-project" alternative and proposed Project. Under existing conditions, sufficient utility capacity would remain. Though the proposed Project would generate increased demand, there is also sufficient capacity to serve it. The "no-project" alternative would retain existing deficiencies in conveyance of water and wastewater in certain locations. However, the City has been incrementally improving them over time; that may continue into the future under both the "no-project" alternative and proposed Project.

- **Growth Inducement** - For growth inducement, there would be no measurable difference in impacts between the "no-project" alternative and proposed Project.

ALTERNATIVE #2: ALTERNATE REGULATING PLAN 'A'

Alternative Characteristics

As described in Table 22-1 above, Alternative 'A" primarily consists of variations in zoning designations on the proposed Project regulating plan. However, no change would occur to the existing cross-section of Mission Blvd. north of A Street, except that new streetscape amenities would be provided.

Impact Analysis

- **Aesthetics** - For aesthetics, there would be no measurable difference in impacts between the Alternative 'A' and the proposed Project. It is assumed that, under Alternative 'A', development proposals will come forward over time and that their aesthetic qualities would be evaluated in accordance with the Site Plan Review process; as would occur under the proposed Project.

- **Agricultural & Forestry Resources** – The EIR identifies no impacts under this environmental topic for the proposed Project. Alternative 'A' would not result in any new or different impacts as compared to the proposed Project.

- **Air Quality** – For air quality, there would be no measurable difference in impacts between the Alternative 'A' and the proposed Project.

- **Biological Resources** – For biological resources, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project. Each essentially maintains land use and zoning designations to urbanize properties within the Project area.

Though the EIR prepared for the proposed Project includes mitigation measures reflecting current information on potential impacts to sensitive species, it is also possible that the CEQA review of future development proposals under this alternative could, likewise, include similar mitigation measures.

- **Cultural Resources** – For cultural resources, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project. Under Alternative 'B,' the Historic Preservation Ordinance would continue to apply; as it would under the proposed Project. Also, neither Alternative 'A' nor the proposed Project includes a specific proposal that would materially affect a known and identifiable cultural resource.

- **Geology & Soils** – Alternative 'A' would have decreased adverse effects, as compared to the proposed Project, due to its Civic Zone designation for a property underlain by the Hayward Fault.

- **Greenhouse Gas Emissions** – For greenhouse gas emissions, there would be no measurable difference in impacts between the Alternative 'A' and the proposed Project.

- **Hazards & Hazardous Materials** – For hazards and hazardous materials, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project.

- **Hydrology & Water Quality** – For hydrology and water quality, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project.

- **Land Use & Planning** – The EIR identifies no impacts under this environmental topic for the proposed Project. Alternative 'A' would not result in any new or different impacts as compared to the proposed Project.

- **Mineral Resources** – The EIR identifies no impacts under this environmental topic for the proposed Project. Alternative 'A' would not result in any new or different impacts as compared to the proposed Project.

- **Noise** - For noise, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project.

- **Population & Housing** – For population and housing, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project.

- **Public Services** – For public services, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project.

- **Recreation** – For recreation, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project. Alternative 'A' would, in the cumulative scenario, increase the amount of park land in Hayward by 3.14 acres over the proposed Project. However, both Alternative 'A' and the proposed Project would continue to be provided with sufficient park land.

- **Transportation** – For transportation, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project.

- **Utilities & Service Systems** – For utilities and service systems, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project.

- **Growth Inducement** – With regard to growth inducement, there would be no measurable difference in impacts between Alternative 'A' and the proposed Project.

ALTERNATIVE #3: ALTERNATE REGULATING PLAN 'B'

Alternative Characteristics

As described in Table 22-1 above, Alternative 'B" also primarily consists of variations in zoning designations on the proposed Project regulating plan. However, with regard to the cross-section of Mission Blvd. north of A Street, Alternative 'B' would increase the landscaped median by one (1) foot and decrease the sidewalk width by one (1) foot.

Impact Analysis

- **Aesthetics** - For aesthetics, there would be no measurable difference in impacts between the Alternative 'B' and the proposed Project. It is assumed that, under Alternative 'B', development proposals will come forward over time and that their aesthetic qualities would be evaluated in accordance with the Site Plan Review process; as would occur under the proposed Project.

- **Agricultural & Forestry Resources** – The EIR identifies no impacts under this environmental topic for the proposed Project. Alternative 'B' would not result in any new or different impacts as compared to the proposed Project.

- **Air Quality** – For air quality, there would be no measurable difference in impacts between the Alternative 'B' and the proposed Project.

- **Biological Resources** – For biological resources, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project. Each essentially maintains land use and zoning designations to urbanize properties within the Project area.

- **Cultural Resources** – For cultural resources, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project. Under Alternative 'B,' the Historic Preservation Ordinance would continue to apply; as it would under the proposed Project. Also, neither Alternative 'B' nor the proposed Project includes a specific proposal that would materially affect a known and identifiable cultural resource.

- **Geology & Soils** – Like Alternative 'A,' Alternative 'B' would also have decreased adverse effects, as compared to the proposed Project, due to its Civic Zone designation for a property underlain by the Hayward Fault.

- **Greenhouse Gas Emissions** – For greenhouse gas emissions, there would be no measurable difference in impacts between the Alternative 'B' and the proposed Project.

- **Hazards & Hazardous Materials** – For hazards and hazardous materials, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project.

- **Hydrology & Water Quality** – For hydrology and water quality, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project.

- **Land Use & Planning** – The EIR identifies no impact under this environmental topic for the proposed Project. Alternative 'B' would not result in any new or different impacts as compared to the proposed Project.

- **Mineral Resources** – The EIR identifies no impacts under this environmental topic for the proposed Project. Alternative 'B' would not result in any new or different impacts as compared to the proposed Project.

- **Noise** - For noise, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project.

- **Population & Housing** – For population and housing, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project.

- **Public Services** – For public services, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project.

- **Recreation** – For recreation, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project. Alternative 'B' would, in the cumulative scenario, increase the amount of park land in Hayward by 3.14 acres over the proposed Project. However, both Alternative 'B' and the proposed Project would continue to be provided with sufficient park land.

- **Transportation** – For transportation, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project.

- **Utilities & Service Systems** – For utilities and service systems, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project.

- **Growth Inducement** - With regard to growth inducement, there would be no measurable difference in impacts between Alternative 'B' and the proposed Project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Alternatives 'A' and 'B' would be the environmentally superior alternatives because they would put in place a Highway Overlay Zone that would reduce cumulative air quality impacts related to sensitive receptors exposure to toxic air contaminants, and since they would also reduce cumulative seismic hazards at a property underlain by the Hayward Fault.

PROJECT OBJECTIVES SCREEN

Of the alternatives listed above, the following alternatives do not have the potential to meet most of the project objectives:

- "No-Project" Alternative – the proposed Project seeks to advance the Hayward General Plan, as articulated at General Plan Pages 2-11 to 2-12. Adoption of the "No-Project" would not fulfill that policy direction, which is an integral objective of the proposed Project.

FEASIBILITY SCREEN

Of the alternatives listed above all of them have the potential to meet most of the project objectives and may be considered feasible. CEQA defines "feasibility" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

IMPACT AVOIDANCE/REDUCTION SCREEN

Of the alternatives listed above that have the potential to meet most of the project objectives and that are considered feasible, the following alternatives would avoid or substantially reduce one or more potentially significant impacts of the proposed Project.

- Alternative 'A' – this alternative would reduce cumulative seismic hazards at a property underlain by the Hayward Fault.

- Alternative 'B' – this alternative would reduce cumulative seismic hazards at a property underlain by the Hayward Fault.

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REFERENCES

REPORT PREPARERS

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Kittelson & Associates

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Appendix A

Notice of Preparation (NOP) & Comments

Notice of Preparation

To: State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044
(Address)

From: City of Hayward
777 B Street
Hayward, CA 94541
(Address)

Subject: Notice of Preparation of a Draft Environmental Impact Report

The City of Hayward will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Erik Pearson, Senior Planner at the address shown above. We will need the name for a contact person in your agency.

Project Title: Mission Boulevard Corridor Specific Plan

Project Applicant, if any: City of Hayward

Date April 21, 2011

Signature

Title Senior Planner

Telephone 510-583-4210

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Daily Review
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Debbie Summers/Accts Payable,777 B St.
Hayward CA 94541

PROOF OF PUBLICATION

FILE NO. Mission Blvd Cor

In the matter of

Daily Review

The Daily Review

I am a citizen of the United States; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the Legal Advertising Clerk of the printer and publisher of The Daily Review, a newspaper published in the English language in the City of Hayward, County of Alameda, State of California.

I declare that the Daily Review is a newspaper of general circulation as defined by the laws of the State of California as determined by this court's decree, dated March 2, 1950, in the action entitled In the Matter of the Ascertainment and Establishment of the Standing of The Daily Review as a Newspaper of General Circulation, case number 221938. Said decree states that "'The Daily Review' has been established, printed, and published daily in the City of Hayward, County of Alameda, State of California, for one year or more next preceding the date of the filing of said petition; that it is a newspaper published for the dissemination of local and telegraphic news and intelligence of a general character and has a bona fide subscription list of paying subscribers; ... [ ] [and] THEREFORE, ... 'The Daily Review' is hereby determined and declared to be a newspaper of general circulation [within the meaning of Government Code §§ 6000 et seq.]" Said decree has not been revoked, vacated or set aside.

I declare that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

5/22/2010

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Public Notice Advertising Clerk

NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT AND NOTICE OF SCOPING MEETING AND WORK SESSIONS

pursuant to the California Environmental Quality Act, as amended.

MISSION BOULEVARD CORRIDOR SPECIFIC PLAN

HAYWARD CITY COUNCIL

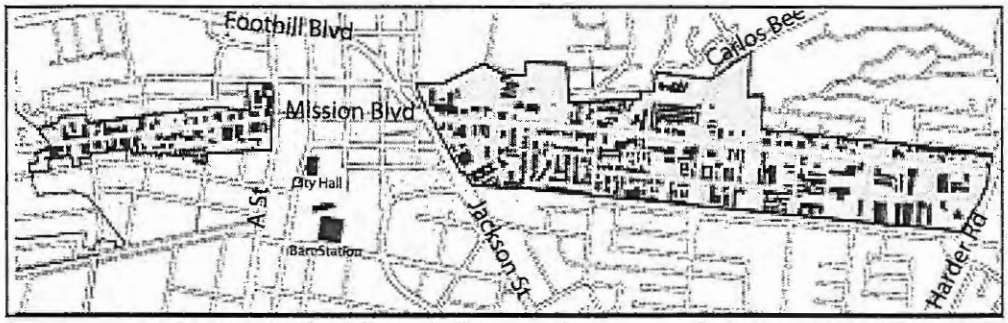
DATE:	**JUNE 22, 2010**
TIME:	**7:00 P.M.**
MEETING TYPE:	**WORK SESSION**

HAYWARD PLANNING COMMISSION

DATE:	**JUNE 24, 2010**
TIME:	**7:00 P.M.**
MEETING TYPE:	**WORK SESSION AND EIR SCOPING MEETING**

The above meetings will be held in the Council Chambers, 2nd Floor, City Hall, 777 B Street, Hayward, CA 94541.

The City of Hayward is preparing the Mission Boulevard Corridor Specific Plan, which will include a form-based code to replace the current zoning. The Plan will also include a long-term economic strategy for the area. Three land use alternatives will be studied in an Environmental Impact Report.



Serving as the Lead Agency, the City of Hayward will be preparing a Program Environmental Impact Report (EIR), which will examine at a general program level, the potentially significant environmental effects of potential development that could occur as a result of the study and Specific Plan, as well as providing alternatives and/or mitigation measures to reduce or avoid those significant impacts. Rather than prepare an Initial Study identifying probable environmental effects, the City of Hayward has instead chosen to prepare a Program EIR addressing all environmental factors identified in the CEQA Guidelines Environmental Checklist (Appendix G of Title 14, Chapter 3, California Code of Regulations). A Draft EIR will be published for public review and comment and a Final EIR will be prepared to respond to comments received during the review period. The City of Hayward City Council must certify the EIR as a complete, accurate, and objective analysis prior to approving the proposed project.

The Lead Agency needs to know your views as to the scope and content of the EIR. If you represent a public agency, please provide information that is germane to your statutory responsibilities as they may be affected by this project. Responsible and trustee agencies are encouraged to use the EIR that will be prepared by the City when considering approvals they may grant related to the project.

Due to the time limits mandated by State law, your response must be sent **no later than 30 days after posting of this notice.** Please send your response to:

Erik Pearson, AICP, Senior Planner
Planning Division
City of Hayward
777 B Street, Hayward, CA 94541
510-583-4210
Email: erik.pearson@hayward-ca.gov

Please provide the name, mailing address, telephone number and e-mail address of a contact person with your response.

Copies of the staff reports for the above-listed meetings may be reviewed at the Main City Library, 835 C Street, or Weekes Branch Library, 27300 Patrick Avenue, or Hayward Planning Division, or Office of the City Clerk, 777 B Street, Hayward, California, or on the City's website at www.hayward-ca.gov. Staff reports are available the Friday before the meeting.

ASSISTANCE will be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Persons needing accommodation should contact the Planning Division 48 hours in advance of the meeting at (510) 583-4200, or by using the TDD line for those with speech and hearing disabilities at (510) 247-3340.

DR #3508167

May 22, 2010

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

JERRY BROWN
GOVERNOR

Notice of Preparation

April 22, 2011

RECEIVED
APR 27 2011
PLANNING DIVISION

To: Reviewing Agencies

Re: Mission Boulevard Corridor Specific Plan
SCH# 2011042076

Attached for your review and comment is the Notice of Preparation (NOP) for the Mission Boulevard Corridor Specific Plan draft. Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Erik Pearson
City of Hayward
777 B Street
Hayward, CA 94541

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2011042076
Project Title Mission Boulevard Corridor Specific Plan
Lead Agency Hayward, City of

Type NOP Notice of Preparation

Description This project consists of a Specific Plan which includes a Form-Based Code and Economic Strategy covering properties along the northern portion of the Mission Boulevard Corridor from Harder Road to the northern City limit with the exception of the Downtown. The project area comprises approximately 600 parcels on 240 acres and has a total length of approximately two (2) miles.

Lead Agency Contact

Name Erik Pearson
Agency City of Hayward
Phone (510) 583-4210 **Fax**
email
Address 777 B Street
City Hayward **State** CA **Zip** 94541

Project Location

County Alameda
City Hayward
Region
Cross Streets Mission Blvd. (North & South of Downtown Hayward)
Lat / Long
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways Hwy 80
Airports Hayward Executive
Railways
Waterways
Schools
Land Use Multiple

Project Issues

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Sen Francisco Bay Conservation and Development Commission; Department of Fish and Game, Region 3; State Clearinghouse; Native American Heritage Commission; State Lands Commission; Caltrans, Division of Aeronautics; Department of Housing and Community Development; Caltrans, District 4; Air Resources Board, Transportation Projects; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 2

Date Received 04/22/2011 **Start of Review** 04/22/2011 **End of Review** 05/23/2011

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: Alameda

SCH# 2011042017

Resources Agency

- ■ **Resources Agency**
  Nadell Gayou
- ☐ **Dept. of Boating & Waterways**
  Mike Sotelo
- ☐ **California Coastal Commission**
  Elizabeth A. Fuchs
- ☐ **Colorado River Board**
  Gerald R. Zimmerman
- ☐ **Dept. of Conservation**
  Rebecca Salazar
- ☐ **California Energy Commission**
  Eric Knight
- ☐ **Cal Fire**
  Allen Robertson
- ☐ **Central Valley Flood Protection Board**
  James Herota
- ■ **Office of Historic Preservation**
  Ron Parsons
- ■ **Dept of Parks & Recreation**
  Environmental Stewardship Section
- ☐ **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- ■ **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- ☐ **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou
- ☐ _____
  Conservancy

Fish and Game

- ☐ **Depart. of Fish & Game**
  Scott Flint
  Environmental Services Division
- ☐ **Fish & Game Region 1**
  Donald Koch
- ☐ **Fish & Game Region 1E**
  Laurie Harnsberger
- ☐ **Fish & Game Region 2**
  Jeff Drongesen
- ■ **Fish & Game Region 3**
  Charles Armor
- ☐ **Fish & Game Region 4**
  Julie Vance
- ☐ **Fish & Game Region 5**
  Don Chadwick
  Habitat Conservation Program
- ☐ **Fish & Game Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- ☐ **Fish & Game Region 6 I/M**
  Brad Henderson
  Inyo/Mono, Habitat Conservation Program
- ☐ **Dept. of Fish & Game M**
  George Isaac
  Marine Region

Other Departments

- ☐ **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture
- ☐ **Depart. of General Services**
  Public School Construction
- ☐ **Dept. of General Services**
  Anna Garbeff
  Environmental Services Section
- ☐ **Dept. of Public Health**
  Bridgette Binning
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- ☐ **Delta Protection Commission**
  Linda Flack
- ☐ **Cal EMA (Emergency Management Agency)**
  Dennis Castrillo
- ■ **Governor's Office of Planning & Research**
  State Clearinghouse
- ■ **Native American Heritage Comm.**
  Debbie Treadway
- ☐ **Public Utilities Commission**
  Leo Wong
- ☐ **Santa Monica Bay Restoration**
  Guangyu Wang
- ■ **State Lands Commission**
  Marina Brand
- ☐ **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- ■ **Caltrans - Division of Aeronautics**
  Philip Crimmins
- ☐ **Caltrans - Planning**
  Terri Pencovic
- ☐ **California Highway Patrol**
  Scott Loetscher
  Office of Special Projects
- ■ **Housing & Community Development**
  CEQA Coordinator
  Housing Policy Division

Dept. of Transportation

- ☐ **Caltrans, District 1**
  Rex Jackman
- ☐ **Caltrans, District 2**
  Marcelino Gonzalez
- ☐ **Caltrans, District 3**
  Bruce de Terra
- ■ **Caltrans, District 4**
  Lisa Carboni
- ☐ **Caltrans, District 5**
  David Murray
- ☐ **Caltrans, District 6**
  Michael Navarro
- ☐ **Caltrans, District 7**
  Elmer Alvarez
- ☐ **Caltrans, District 8**
  Dan Kopulsky
- ☐ **Caltrans, District 9**
  Gayle Rosander
- ☐ **Caltrans, District 10**
  Tom Dumas
- ☐ **Caltrans, District 11**
  Jacob Armstrong
- ☐ **Caltrans, District 12**
  Chris Herre

Cal EPA

Air Resources Board

- ☐ Airport Projects
  Jim Lerner
- ■ Transportation Projects
  Douglas Ito
- ☐ Industrial Projects
  Mike Tollstrup
- ☐ **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- ☐ **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- ☐ **State Water Resouces Control Board**
  Steven Herrera
  Division of Water Rights
- ■ **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- ☐ **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- ☐ **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- ■ **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- ☐ **RWQCB 3**
  Central Coast Region (3)
- ☐ **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- ☐ **RWQCB 5S**
  Central Valley Region (5)
  - ☐ **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - ☐ **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- ☐ **RWQCB 6**
  Lahontan Region (6)
  - ☐ **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- ☐ **RWQCB 7**
  Colorado River Basin Region (7)
- ☐ **RWQCB 8**
  Santa Ana Region (8)
- ☐ **RWQCB 9**
  San Diego Region (9)

☐ **Other** _____

_____

_____

Last Updated on 01/10/11

ALAMEDA County Transportation Commission
1333 Broadway, Suites 220 & 300 ▪ Oakland, CA 94612 ▪ PH: (510) 208-7400
www.AlamedaCTC.org

RECEIVED
MAY 18 2011
PLANNING DIVISION

May 13, 2011

Mr. Erik Pearson
City of Hayward
777 B Street
Hayward, CA 94541

SUBJECT: Comments on the Notice to Preparation (NOP) for the Mission Boulevard Corridor Specific Plan

Dear Mr. Pearson:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) for the City of Hayward. This project consists of a Specific Plan which includes a Form-Based Code and Economic Strategy covering properties along the northern portion of the Mission Boulevard Corridor from Harder Road to the northern City limit with the exception of the Downtown. The project area compromises approximately 600 parcels on 240 acres and has a total length.

From the information submitted in the NOP for the DEIR, it is not clear if the project will generate more than 100 p.m. peak hour trips above that which is allowable under the existing general plan. Please include information in the DEIR that shows the number of trips that would be generated with the project compared to the existing general plan.

If the project would generate more than 100 p.m. peak hour trips, the Alameda County Transportation Commission (Alameda CTC), on behalf of the Alameda County Congestion Management Agency (ACCMA) through the powers delegated to Alameda CTC by the joint powers agreement which created Alameda CTC, respectfully submits the following comments:

- The City of Hayward adopted Resolution No. 92-269 on September 22, 1992 establishing guidelines for reviewing the impacts of local land use decisions consistent with the Alameda County Congestion Management Program (CMP). If the proposed project is expected to generate at least 100 p.m. peak hour trips over existing conditions, the CMP Land Use Analysis Program requires the City to conduct a traffic analysis of the project using the Countywide Transportation Demand Model for projection years 2020 and 2035 conditions. Please note the following paragraph as it discusses the responsibility for modeling.
    - The CMP was amended on March 26th, 1998 so that local jurisdictions are responsible for conducting the model runs themselves or through a consultant. The Alameda CTC and ACCMA have a Countywide model that is available for this purpose. The City of Hayward and the ACCMA signed a Countywide Model Agreement on December 3,

2007. Before the model can be used for this project, a letter must be submitted to the Alameda CTC requesting use of the model and describing the project. A copy of a sample letter agreement is available upon request.

Potential impacts of the project on the Metropolitan Transportation System (MTS) need to be addressed. (See 2009 CMP Figure 3). The MTS roads in the city of Hayward located in the project study area are; Rte. 238, Rte 92, I-880, Mission Boulevard, Hesperian Boulevard, Foothill Boulevard, A Street, B Street, Winton Avenue, Jackson Street, Harder Road, Tennyson Road, and Industrial Parkway.

- The DEIR should address all potential impacts of the project on the MTS roadway and transit systems. These include MTS roadways as shown in the attached map as well as BART and AC Transit. Potential impacts of the project must be addressed for 2020 and 2035 conditions.

  - Please note that the ACCMA and Alameda CTC have *not* adopted any policy for determining a threshold of significance for Level of Service for the Land Use Analysis Program of the CMP. Professional judgment should be applied to determine the significance of project impacts (Please see chapter 6 of 2009 CMP for more information).

  - For the purposes of CMP Land Use Analysis, 2000 Highway Capacity Manual is used.

- The adequacy of any project mitigation measures should be discussed. On February 25, 1993, the ACCMA Board adopted three criteria for evaluating the adequacy of DEIR project mitigation measures:

  - Project mitigation measures must be adequate to sustain CMP service standards for roadways and transit;
  - Project mitigation measures must be fully funded to be considered adequate;
  - Project mitigation measures that rely on state or federal funds directed by or influenced by the CMA must be consistent with the project funding priorities established in the Capital Improvement Program (CIP) section of the CMP or the Regional Transportation Plan (RTP).

  The DEIR should include a discussion on the adequacy of proposed mitigation measures relative to these criteria. In particular, the DEIR should detail when proposed roadway or transit route improvements are expected to be completed, how they will be funded, and what would be the effect on LOS if only the funded portions of these projects were assumed to be built prior to project completion.

- Potential impacts of the project on CMP transit levels of service must be analyzed. (See 2009 CMP, Chapter 4). Transit service standards are 15-30 minute headways for bus service and 3.75-15 minute headways for BART during peak hours. The DEIR should

address the issue of transit funding as a mitigation measure in the context of the Alameda CTC / ACCMA policies discussed above.

- The DEIR should also consider demand-related strategies that are designed to reduce the need for new roadway facilities over the long term and to make the most efficient use of existing facilities (see 2009 CMP, Chapter 5). The DEIR should consider the use of TDM measures, in conjunction with roadway and transit improvements, as a means of attaining acceptable levels of service. Whenever possible, mechanisms that encourage ridesharing, flextime, transit, bicycling, telecommuting and other means of reducing peak hour traffic trips should be considered. The Site Design Guidelines Checklist may be useful during the review of the development proposal. A copy of the checklist is enclosed.

- The EIR should consider opportunities to promote countywide bicycle and pedestrian routes identified in the Alameda Countywide Bicycle and Pedestrian Plan, which were approved in 2006. The approved Countywide Bike Plan is and Pedestrian Plan are available at http://www.actia2022.com/app_pages/view/58

- For projects adjacent to state roadway facilities, the analysis should address noise impacts of the project. If the analysis finds an impact, then mitigation measures (i.e., soundwalls) should be incorporated as part of the conditions of approval of the proposed project. It should not be assumed that federal or state funding is available.

- Local jurisdictions are encouraged to consider a comprehensive Transit Oriented Development (TOD) Program, including environmentally clearing all access improvements necessary to support TOD development as part of the environmental documentation.

Once again, thank you for the opportunity to comment. Should you have any questions or require any additional information, please do not hesitate to contact me at (510) 208-7405.

Sincerely,

Elizabeth A Walukas

Beth Walukas
Deputy Director of Planning

Cc: Laurel Poeton, Assistant Transportation Planner
File: CMP – Environmental Review Opinions – Responses - 2011

Attachment

Design Strategies Checklist
for the
Transportation Demand Management Element
of the
Alameda County CMP

The Transportation Demand Management Element included in the Congestion Management Program requires each jurisdiction to comply with the "" Required Program". This requirement can be satisfied in three ways: 1) adoption of "Design Strategies for encouraging alternatives to auto use through local development review" prepared by ABAG and the Bay Area Quality Management District; 2) adoption of new design guidelines that meet the individual needs of the local jurisdictions and the intent of the goals of the TDM Element or 3) evidence that existing policies and programs meet the intent of the goals of the TDM Element.

For those jurisdictions who have chosen to satisfy this requirement by Option 2 or 3 the following checklist has been prepared. In order to insure consistency and equity throughout the County, this checklist identifies the components of a design strategy that should be included in a local program to meet the minimum CMP conformity requirements. The required components are highlighted in bold type and are shown at the beginning of each section. A jurisdiction must answer Yes to each of the required components to be considered consistent with the CMP. Each jurisdiction will be asked to annually certify that it is complying with the TDM Element. Local jurisdictions will not be asked to submit the back-up information to the CMA justifying its response; however it should be available at the request of the public or neighboring jurisdictions.

Questions regarding optional program components are also included. You are encouraged but not required to answer these questions. ACTAC and the TDM Task Force felt that it might be useful to include additional strategies that could be considered for implementation by each jurisdiction.

CHECKLIST

Bicycle Facilities

Goal: To develop and implement design strategies that foster the development of a countywide bicycle program that incorporates a wide range of bicycle facilities to reduce vehicle trips and promote bicycle use for commuting, shopping and school activities. (Note: an example of facilities are bike paths, lanes or racks.)

Note: Bold type face indicates those components that must be included the "Required Program" in order to be found in compliance with the Congestion Management Program.

Local Responsibilities:

1a. In order to achieve the above goal, does your jurisdiction have design strategies or adopted policies that include the following:

1a.1 provides a system of bicycle facilities that connect residential and/or non-residential development to other major activity centers?

Yes No

1a.2 bicycle facilities that provide access to transit?

Yes No

1a.3 that provide for construction of bicycle facilities needed to fill gaps, (i.e. gap clure), not provided through the development review process?

Yes No

1a.4 that consider bicycle safety such as safe crossing of busy arterials or along bike trails?

Yes No

1a.5 that provide for bicycle storage and bicycle parking for (A) multi-family residential and/or (B) non-residential developments?

Yes No

1b. How does your jurisdiction implement these strategies? Please identify.

Zoning ordinance
Design Review
Standard Conditions of Approval
Capital Improvement Program
Specific Plan
Other

Pedestrian Facilities

Goal: To develop and implement design strategies that reduce vehicle trips and foster walking for commuting, shopping and school activities.

Local Responsibilities

2a. In order to achieve the above goal, does your jurisdiction have design strategies or adopted policies that incorporate the following:

2a.1 that provides reasonably direct, convenient, accessible and safe pedestrian connections to major activity centers, transit stops or hubs parks/open space and other pedestrian facilities?

Yes No

Note: Bold type face indicates those components that must be included the "Required Program" in order to be found in compliance with the Congestion Management Program.

2a.2 that provide for construction of pedestrian paths needed to fill gaps, (i.e. gap closure), not provided through the development process?

Yes No

2a.3 that include safety elements such as convenient crossing at arterials?

Yes No

2a.4 that provide for amenities such as lighting, street trees, trash receptacles that promote walking?

Yes No

2a.5 that encourage uses on the first floor that are pedestrian oriented, entrances that are conveniently accessible from the sidewalk or transit stops or other strategies that promote pedestrian activities in commercial areas?

Yes No

2b. How does your jurisdiction implement these strategies? Please identify.

Zoning ordinance
Design Review, such as ADA Accessibility Design Standards
Standard Conditions of Approval
Capital Improvement Program
Specific Plan
Other

Transit

Goal: To develop and implement design strategies in cooperation with the appropriate transit agencies that reduce vehicle trips and foster the use of transit for commuting, shopping and school activities.

Local Responsibilities

3a. In order to achieve the above goal, does your jurisdiction have design strategies or adopted policies that include the following:

3a.1 provide for the location of transit stops that minimize access time, facilitate intermodal transfers, and promote reasonably direct, accessible, convenient and safe connections to residential uses and major activity centers?

Yes No

Note: Bold type face indicates those components that must be included the "Required Program" in order to be found in compliance with the Congestion Management Program.

3a.2 provide for transit stops that have shelters or benches, trash receptacles, street trees or other street furniture that promote transit use?

Yes No

3a.3 that includes a process for including transit operators in development review?

Yes No

3a.4 provide for directional signage for transit stations and/or stops?

Yes No

3a.5 that include specifications for pavement width, bus pads or pavement structure, length of bus stops, and turning radii that accommodates bus transit?

Yes No

3.b How does your jurisdiction implement these strategies? Please identify.

Zoning ordinance
Design Review
Standard Conditions of Approval
Capital Improvement Program
Specific Plan
Other

Carpools and Vanpools

Goal: To develop and implement design strategies that reduce the overall number of vehicle trips and foster carpool and vanpool use.

Local Responsibilities:

4a. In order to achieve the above goal, does your jurisdiction have design strategies or adopted policies that include the following:

4a.1 For publicly owned parking garages or lots, are there preferential parking spaces and/or charges for carpools or vanpools?

Yes No

4a.2 that provide for convenient or preferential parking for carpools and vanpools in non-residential developments?

Yes No

Note: Bold type face indicates those components that must be included the "Required Program" in order to be found in compliance with the Congestion Management Program.

4.b How does your jurisdiction implement these strategies? Please identify.

Zoning ordinance
Design Review
Standard Conditions of Approval
Capital Improvement Program
Specific Plan
Other

Park and Ride

Goal: To develop design strategies that reduce the overall number of vehicle trips and provide park and ride lots at strategic locations.

Local Responsibilities:
5a. In order to achieve the above goal, does your jurisdiction have design strategies or adopted policies that include the following:

5a.1 promote park and ride lots that are located near freeways or major transit hubs?

Yes No

5a.2 a process that provides input to Caltrans to insure HOV by-pass at metered freeway ramps?

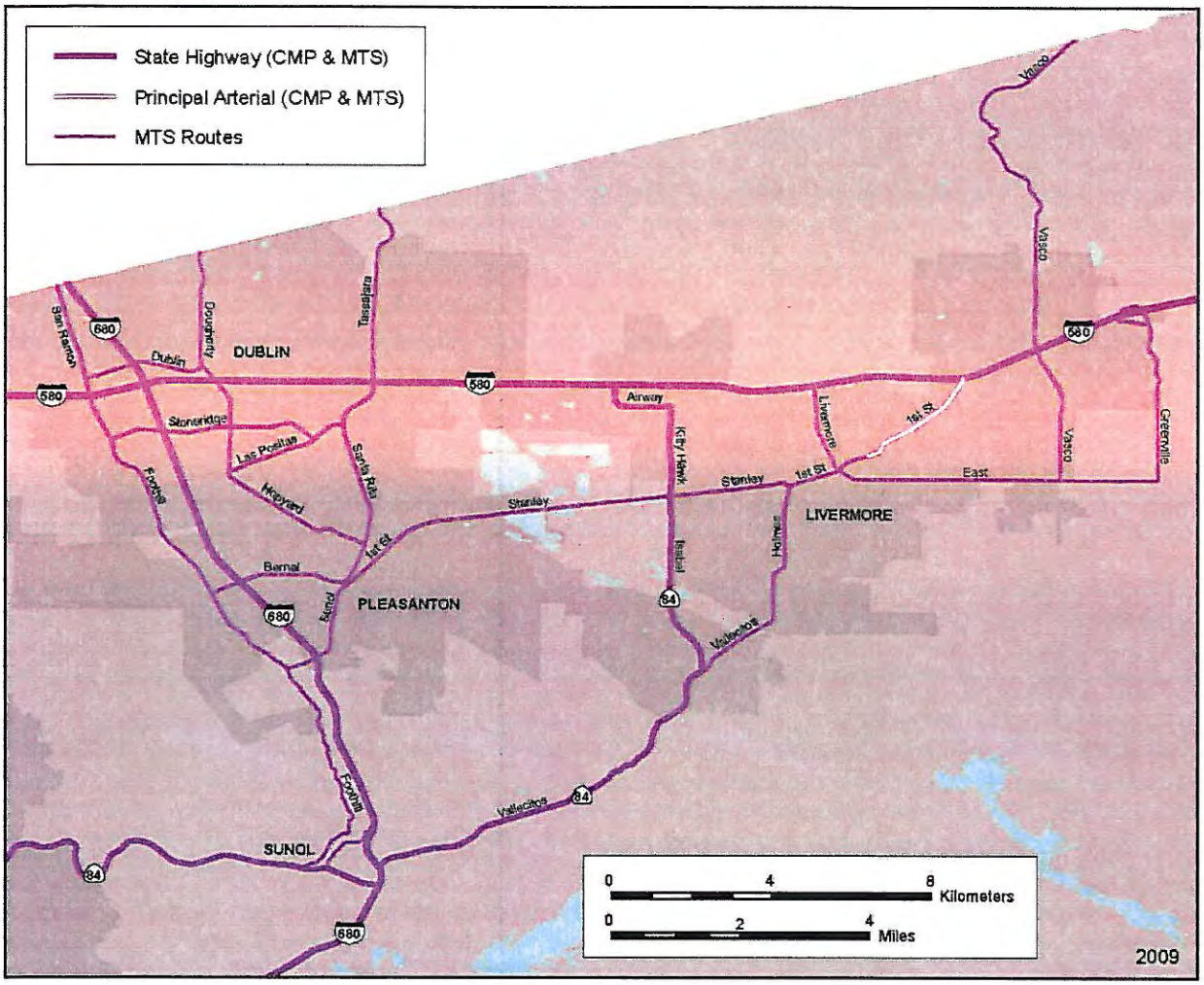
Yes No

5b. How does your jurisdiction implement these strategies? Please identify.

Zoning ordinance
Design Review
Standard Conditions of Approval
Capital Improvement Program
Specific Plan
Other

Note: Bold type face indicates those components that must be included the "Required Program" in order to be found in compliance with the Congestion Management Program.

Figure 5 — Designated System Map for Dublin, Livermore and Pleasanton



DEPARTMENT OF TRANSPORTATION
111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5536
FAX (510) 286-5559
TTY 711

Flex your power!
Be energy efficient!

May 23, 2011

RECEIVED
MAY 25 2011
PLANNING DIVISION

ALAVAR011
ALA-VAR
SCH#2011042076

Mr. Erik Pearson
City of Hayward
777 B Street
Hayward, CA 94541

Dear Mr. Pearson:

Mission Boulevard Corridor Specific Plan – Notice of Preparation

Thank you for including the California Department of Transportation (Department) in the environmental review process for the Mission Boulevard Corridor Specific Plan. The following comments are based on the Notice of Preparation. As lead agency, the City of Hayward is responsible for all project mitigation, including any needed improvements to State highways. The project's fair share contribution, financing, scheduling, and implementation responsibilities as well as lead agency monitoring should be fully discussed for all proposed mitigation measures and the project's traffic mitigation fees should be specifically identified in the environmental document. Any required roadway improvements should be completed prior to issuance of project occupancy permits. An encroachment permit is required when the project involves work in the State's right of way (ROW). The Department will not issue an encroachment permit until our concerns are adequately addressed. Therefore, we strongly recommend that the lead agency ensure resolution of the Department's CEQA concerns prior to submittal of the encroachment permit application; see the end of this letter for more information regarding the encroachment permit process.

Community Planning

In order to lessen potential traffic impacts on the State highways, consider various measures for reducing the motorized vehicle trip generation from your project. These measures could include, providing transit passes to all residents as a benefit included with the housing units, instituting a Transportation Demand Management (TDM) program in which future employees at the project site can receive transit passes at a reduced rate in lieu of free parking and reducing the parking requirements. The latter could make housing units more affordable and attractive to households with lower rates of auto ownership who are more likely to use mass transit and make fewer vehicle trips.

Please consider developing and applying pedestrian, bicycling and transit performance or level/quality of service measures and modeling pedestrian, bicycle and transit trips that your project will generate. Mitigation measures resulting from the analysis could improve pedestrian and bicycle access to transit facilities, thereby reducing traffic impacts on State highways.

In addition, please analyze secondary impacts on pedestrians and bicyclists that may result from any traffic impact mitigation measures. Describe any pedestrian and bicycle mitigation measures that would in turn be needed as a means of maintaining and improving access to transit facilities and reducing traffic impacts on state highways.

Traffic Impact Study
The environmental document should include an analysis of the impacts of the proposed project on State highway facilities in the vicinity of the project site. Please ensure that a Traffic Impact Study (TIS) is prepared providing the information detailed below:

1. Information on the plan's traffic impacts in terms of trip generation, distribution, and assignment. The assumptions and methodologies used in compiling this information should be addressed. The study should clearly show the percentage of project trips assigned to State facilities.

2. Current Average Daily Traffic (ADT) and AM and PM peak hour volumes on all significantly affected streets, highway segments and intersections.

3. Schematic illustration and level of service (LOS) analysis for the following scenarios: 1) existing, 2) existing plus project, 3) cumulative and 4) cumulative plus project for the roadways and intersections in the project area.

4. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect the State highway facilities being evaluated.

5. The procedures contained in the 2000 update of the Highway Capacity Manual should be used as a guide for the analysis. We also recommend using the Department's *"Guide for the Preparation of Traffic Impact Studies"*; it is available on the following web site: http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf .

6. Mitigation measures should be identified where plan implementation is expected to have a significant impact. Mitigation measures proposed should be fully discussed, including financing, scheduling, implementation responsibilities, and lead agency monitoring.

We encourage the City of Hayward to coordinate preparation of the study with our office, and we would appreciate the opportunity to review the scope of work.

We look forward to reviewing the TIS, including Technical Appendices, and environmental document for this project. Please send two copies to the address at the top of this letterhead, marked ATTN: Yatman Kwan, Mail Stop #10D.

Encroachment Permit
Any work or traffic control within the State's ROW requires an encroachment permit that is issued by the Department. Traffic-related mitigation measures will be incorporated into the construction plans during the encroachment permit process. See the following website link for more information: http://www.dot.ca.gov/hq/traffops/developserv/permits/

To apply for an encroachment permit, submit a completed encroachment permit application, environmental documentation, and five (5) sets of plans which clearly indicate State's ROW to the address at the top of this letterhead, marked ATTN: Michael Condie, Mail Stop #5E.

Should you have any questions regarding this letter, please call Yatman Kwan of my staff at (510) 622-1670.

Sincerely,

Becky Frank

BECKY FRANK
District Branch Chief
Federal Grants / Rail Coordination

c: State Clearinghouse

RECEIVED
JUN 14 2010
PLANNING DIVISION

EAST BAY
MUNICIPAL UTILITY DISTRICT

June 11, 2010

Erik Pearson, AICP, Senior Planner
City of Hayward
Planning Division
777 B Street
Hayward, CA 94541

Re: Notice of Preparation of an Environmental Impact Report – Mission Boulevard Corridor Specific Plan, Hayward

Dear Mr. Pearson:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Notice of Preparation of an Environmental Impact Report (EIR) for the Mission Boulevard Corridor Specific Plan (Specific Plan) located in the City of Hayward. EBMUD has the following comments.

WATER SERVICE

A majority of the Specific Plan area is located outside of EBMUD's Ultimate Service Boundary (USB). EBMUD will not provide water service to customers outside its USB. A small portion of the Specific Plan area (i.e. area to the northwest of Mission Boulevard and Rose Street intersection and to the northwest of Montgomery Avenue and Sunset Boulevard) is located within EBMUD's USB. Future development projects associated with the Specific Plan that are located within the area inside EBMUD USB will be subject to the following general requirements:

Main extensions that may be required to serve any specific development projects to provide adequate domestic water supply, fire flows, and system redundancy will be at the project sponsor's expense. Pipeline and fire hydrant relocations and replacements due to modifications of existing streets, and off-site pipeline improvements, also at the project sponsor's expense, may be required depending on EBMUD metering requirements and fire flow requirements set by the local fire department. All project sponsors should contact EBMUD's New Business Office and request a water service estimate to determine costs and conditions of providing water service to the development. Engineering and installation of new and relocated pipeline and services requires substantial lead-time, which should be provided for in the project sponsor's development schedule.

The project sponsor should be also be aware that EBMUD will not inspect, install or maintain pipeline in contaminated soil or groundwater (if groundwater is present at any time during the

year at the depth piping is to be installed) that must be handled as a hazardous waste or that may pose a health and safety risk to construction or maintenance personnel wearing Level D personal protective equipment. Nor will EBMUD install piping in areas where groundwater contaminant concentrations exceed specified limits for discharge to sanitary sewer systems or sewage treatment plants. Applicants for EBMUD services requiring excavation in contaminated areas must submit copies of existing information regarding soil and groundwater quality within or adjacent to the project boundary. In addition, the applicant must provide a legally sufficient, complete and specific written remedial plan establishing the methodology, planning and design of all necessary systems for the removal, treatment, and disposal of all identified contaminated soil and/or groundwater.

EBMUD will not design the installation of pipelines until such time as soil and groundwater quality data and remediation plans are received and reviewed and will not install pipelines until remediation has been carried out and documentation of the effectiveness of the remediation has been received and reviewed. If no soil or groundwater quality data exists or the information supplied by the applicant is insufficient EBMUD may require the applicant to perform sampling and analysis to characterize the soil being excavated and groundwater that may be encountered during excavation or perform such sampling and analysis itself at the applicant's expense.

WATER CONSERVATION

The proposed project presents an opportunity to incorporate water conservation measures. EBMUD would request that the City of Hayward include in its conditions of approval a requirement that project sponsors for individual projects comply with Assembly Bill 325, Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). Project sponsors should be aware that Section 31 of EBMUD's Water Service Regulations requires that water service shall not be furnished for new or expanded service unless all the applicable water-efficiency measures described in the regulation are installed at the project sponsor's expense.

If you have any questions concerning this response, please contact David J. Rehnstrom, Senior Civil Engineer, Water Service Planning at (510) 287-1365.

Sincerely,

William R. Kirkpatrick
Manager of Water Distribution Planning

WRK:AMW:sb
sb10_123.doc

Appendix B

Air Quality Calculations

Bay Area Air Quality Management District Greenhouse Gas Model (BGM) Version: 1.1.9 Beta

Summary Results

Project Name: Hayward Misison Blvd
Project and Baseline Years: 2025 2012

Results	Unmitigated Project-Baseline CO2e (metric tons/year)	Mitigated Project-Baseline CO2e (metric tons/year)
Transportation:	1,270.57	1,270.57
Area Source:	981.68	981.68
Electricity:	6,564.25	6,564.25
Natural Gas:	3,915.68	3,915.68
Water & Wastewater:	298.33	298.33
Solid Waste:	3,701.91	3,701.91
Agriculture:	0.00	0.00
Off-Road Equipment:	0.00	0.00
Refrigerants:	0.00	0.00
Sequestration:	N/A	0.00
Purchase of Offsets:	N/A	0.00
Total:	16,732.42	16,732.42

Note that no mitigation was included in the modeling and hence Unmitigated and Mitigated values are the same.

Baseline is currently: **ON**
Baseline Project Name: Hayward Mission Blvd Existing

Detailed Results

Unmitigated/Mitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation:				132,724.38	69.75%
Area Source:	2,439.85	8.73	0.04	2,636.12	1.39%
Electricity:	26,746.62	0.22	0.12	26,789.43	14.08%
Natural Gas:	12,379.96	1.17	0.02	12,411.69	6.52%
Water & Wastewater:	910.67	0.01	0.00	912.13	0.48%
Solid Waste:	102.88	700.54	N/A	14,814.19	7.79%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				190,287.94	100.00%

Baseline	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation:				131,453.81	75.74%
Area Source:	1,531.28	5.48	0.03	1,654.44	0.95%
Electricity:	20,192.86	0.17	0.09	20,225.18	11.65%
Natural Gas:	8,474.30	0.80	0.02	8,496.02	4.90%
Water & Wastewater:	612.81	0.01	0.00	613.80	0.35%
Solid Waste:	81.24	525.29	N/A	11,112.29	6.40%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				173,555.52	100.00%

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Users\bruce\AppData\Roaming\Urbemis\Version9a\Projects\HaywardMissionBlvdExisting.urb924

Project Name: Hayward Mission Blvd Existing

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	56.00	9.20	78.20	0.20	10.64	10.25	11,639.99

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	118.11	181.94	1,477.78	1.41	260.44	50.11	142,167.33

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	174.11	191.14	1,555.98	1.61	271.08	60.36	153,807.32

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.60	7.92	4.26	0.00	0.01	0.01	9,952.52
Hearth	18.39	1.20	67.28	0.20	10.61	10.22	1,676.68
Landscape	1.16	0.08	6.66	0.00	0.02	0.02	10.79
Consumer Products	28.30						
Architectural Coatings	7.55						
TOTALS (tons/year, unmitigated)	56.00	9.20	78.20	0.20	10.64	10.25	11,639.99

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	19.28	27.85	232.60	0.22	40.01	7.71	21,992.68
Apartments mid rise	14.63	20.31	169.63	0.16	29.18	5.62	16,039.01
Supermarket	74.63	119.70	960.03	0.92	171.06	32.89	93,081.63
General office building	9.57	14.08	115.52	0.11	20.19	3.89	11,054.01
TOTALS (tons/year, unmitigated)	118.11	181.94	1,477.78	1.41	260.44	50.11	142,167.33

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	518.33	9.57	dwelling units	1,555.00	14,881.35	127,231.08
Apartments mid rise	42.50	6.72	dwelling units	1,615.00	10,852.80	92,788.18
Supermarket		102.24	1000 sq ft	720.00	73,612.80	544,219.41
General office building		11.01	1000 sq ft	720.00	7,927.20	64,230.14
					107,274.15	828,468.81

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Supermarket				2.0	1.0	97.0
General office building				35.0	17.5	47.5

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Users\bruce\AppData\Roaming\Urbemis\Version9a\Projects\HaywardMissionBlvdProjPlusExisting.urb924

Project Name: Hayward Mission Blvd Project Plus Existing

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	88.30	13.73	123.06	0.31	16.97	16.34	17,429.73

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	57.22	55.12	633.79	1.84	342.75	64.81	186,028.56

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	145.52	68.85	756.85	2.15	359.72	81.15	203,458.29

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.89	11.71	6.08	0.00	0.02	0.02	14,741.02
Hearth	29.32	1.91	107.26	0.31	16.92	16.29	2,673.01
Landscape	1.71	0.11	9.72	0.00	0.03	0.03	15.70
Consumer Products	45.12						
Architectural Coatings	11.26						
TOTALS (tons/year, unmitigated)	88.30	13.73	123.06	0.31	16.97	16.34	17,429.73

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	10.38	9.49	111.90	0.32	59.31	11.23	32,397.83
Apartments mid rise	8.94	7.88	92.89	0.27	49.23	9.32	26,894.79
Supermarket	33.62	33.78	383.00	1.12	209.48	39.58	113,282.19
General office building	4.28	3.97	46.00	0.13	24.73	4.68	13,453.75
TOTALS (tons/year, unmitigated)	57.22	55.12	633.79	1.84	342.75	64.81	186,028.56

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2035 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	772.00	9.57	dwelling units	2,316.00	22,164.12	189,496.57
Apartments mid rise	72.05	6.72	dwelling units	2,738.00	18,399.36	157,309.01
Supermarket		102.24	1000 sq ft	886.00	90,584.64	669,692.22
General office building		11.01	1000 sq ft	886.00	9,754.86	79,038.75
					140,902.98	1,095,536.55

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.7	0.0	100.0	0.0
Light Truck < 3750 lbs	12.1	0.0	100.0	0.0
Light Truck 3751-5750 lbs	19.8	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.4	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	23.1	76.9
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	34.5	65.5	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)			
Supermarket	2.0	1.0	97.0
General office building	35.0	17.5	47.5

Health Risk from High Volume Roadways within the Mission Boulevard Corridor Specific Plan area

Source: BAAQMD, Highway Screening Analysis Tool, Alameda County, April 2011 datasets for 6ft and 20ft elevations

Btwn Jackson and Orchard

Link 447 (6ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.327	37.551	0.041	0.052
25 ft W	0.262	30.363	0.033	0.039
50 ft W	0.199	23.353	0.025	0.027
75 ft W	0.162	19.113	0.02	0.021
100 ft W	0.137	16.273	0.017	0.018
200 ft W	0.086	10.394	0.011	0.013
300 ft W	0.062	7.601	0.008	0.009
400 ft W	0.048	5.955	0.006	0.007
500 ft W	0.039	4.848	0.005	0.006
750 ft W	0.025	3.19	0.003	0.005
1000 ft W	0.018	2.285	0.002	0.004
10 ft E	0.498	49.025	0.059	0.036
25 ft E	0.403	39.667	0.047	0.031
50 ft E	0.31	30.505	0.036	0.025
75 ft E	0.254	25.07	0.03	0.021
100 ft E	0.217	21.383	0.025	0.019
200 ft E	0.137	13.472	0.016	0.013
300 ft E	0.099	9.742	0.011	0.01
400 ft E	0.076	7.556	0.009	0.008
500 ft E	0.062	6.097	0.007	0.006
750 ft E	0.039	3.922	0.004	0.004
1000 ft E	0.028	2.775	0.003	0.003

Link 447 (20ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.207	23.503	0.026	0.041
25 ft W	0.188	21.549	0.023	0.034
50 ft W	0.159	18.494	0.02	0.024
75 ft W	0.137	16.029	0.017	0.019
100 ft W	0.12	14.121	0.015	0.016
200 ft W	0.08	9.569	0.01	0.012
300 ft W	0.059	7.16	0.007	0.009
400 ft W	0.046	5.677	0.006	0.007
500 ft W	0.038	4.656	0.004	0.006
750 ft W	0.025	3.096	0.003	0.004
1000 ft W	0.018	2.23	0.002	0.004
10 ft E	0.282	28.045	0.033	0.027
25 ft E	0.271	26.837	0.032	0.024
50 ft E	0.242	23.88	0.028	0.021
75 ft E	0.214	21.075	0.025	0.019
100 ft E	0.19	18.717	0.022	0.017
200 ft E	0.128	12.6	0.015	0.012
300 ft E	0.095	9.321	0.011	0.009
400 ft E	0.074	7.31	0.008	0.008
500 ft E	0.06	5.936	0.007	0.006
750 ft E	0.039	3.852	0.004	0.004
1000 ft E	0.027	2.738	0.003	0.003

Orchard and south

Link 441 (6ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.262	38.13	0.037	0.03
25 ft W	0.206	30.268	0.029	0.025
50 ft W	0.158	23.401	0.022	0.021
75 ft W	0.131	19.415	0.018	0.018
100 ft W	0.113	16.766	0.016	0.016
200 ft W	0.075	11.25	0.01	0.011
300 ft W	0.057	8.668	0.008	0.008
400 ft W	0.047	7.108	0.006	0.007
500 ft W	0.039	6.037	0.005	0.006
750 ft W	0.028	4.406	0.004	0.005
1000 ft W	0.022	3.451	0.003	0.003
10 ft E	0.394	50.467	0.052	0.031
25 ft E	0.313	40.149	0.041	0.023
50 ft E	0.238	30.561	0.031	0.017
75 ft E	0.194	25.048	0.026	0.014
100 ft E	0.166	21.4	0.022	0.012
200 ft E	0.107	13.92	0.014	0.009
300 ft E	0.081	10.506	0.01	0.007
400 ft E	0.065	8.494	0.008	0.006
500 ft E	0.055	7.152	0.007	0.005
750 ft E	0.039	5.143	0.005	0.004
1000 ft E	0.03	3.984	0.004	0.003

Link 441 (20ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.173	24.964	0.024	0.027
25 ft W	0.155	22.576	0.022	0.023
50 ft W	0.131	19.27	0.018	0.02
75 ft W	0.114	16.792	0.016	0.017
100 ft W	0.101	14.926	0.014	0.016
200 ft W	0.07	10.535	0.01	0.011
300 ft W	0.055	8.276	0.007	0.008
400 ft W	0.045	6.856	0.006	0.007
500 ft W	0.038	5.86	0.005	0.006
750 ft W	0.028	4.314	0.004	0.004
1000 ft W	0.022	3.393	0.003	0.003
10 ft E	0.236	30.465	0.031	0.028
25 ft E	0.222	28.534	0.029	0.022
50 ft E	0.193	24.834	0.025	0.016
75 ft E	0.168	21.688	0.022	0.013
100 ft E	0.149	19.195	0.019	0.011
200 ft E	0.102	13.202	0.013	0.008
300 ft E	0.078	10.149	0.01	0.007
400 ft E	0.064	8.279	0.008	0.006
500 ft E	0.054	7.007	0.007	0.005
750 ft E	0.039	5.072	0.005	0.004
1000 ft E	0.03	3.942	0.004	0.003

A Street and north

Link 410 (6ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.124	10.27	0.013	0.025
25 ft W	0.099	8.263	0.01	0.022
50 ft W	0.076	6.451	0.008	0.018
75 ft W	0.063	5.381	0.006	0.018
100 ft W	0.054	4.652	0.006	0.018
200 ft W	0.035	3.089	0.003	0.019
300 ft W	0.026	2.359	0.002	0.018
400 ft W	0.021	1.918	0.002	0.016
500 ft W	0.018	1.611	0.002	0.013
750 ft W	0.012	1.14	0.001	0.006
1000 ft W	0.009	0.856	0.001	0.004
10 ft E	0.24	17.718	0.025	0.044
25 ft E	0.195	14.427	0.02	0.041
50 ft E	0.15	11.137	0.015	0.038
75 ft E	0.123	9.166	0.012	0.036
100 ft E	0.105	7.849	0.011	0.034
200 ft E	0.068	5.117	0.007	0.029
300 ft E	0.051	3.838	0.005	0.027
400 ft E	0.041	3.095	0.004	0.025
500 ft E	0.034	2.586	0.003	0.023
750 ft E	0.024	1.807	0.002	0.018
1000 ft E	0.018	1.36	0.001	0.013

Link 410 (20ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.08	6.675	0.008	0.025
25 ft W	0.073	6.076	0.007	0.022
50 ft W	0.062	5.242	0.006	0.018
75 ft W	0.054	4.601	0.005	0.018
100 ft W	0.048	4.103	0.005	0.018
200 ft W	0.033	2.88	0.003	0.019
300 ft W	0.025	2.246	0.002	0.018
400 ft W	0.02	1.846	0.002	0.016
500 ft W	0.017	1.562	0.001	0.013
750 ft W	0.012	1.115	0.001	0.006
1000 ft W	0.009	0.841	0.001	0.004
10 ft E	0.135	10.028	0.014	0.044
25 ft E	0.13	9.656	0.013	0.041
50 ft E	0.117	8.665	0.012	0.038
75 ft E	0.104	7.691	0.01	0.036
100 ft E	0.093	6.875	0.009	0.034
200 ft E	0.064	4.801	0.006	0.029
300 ft E	0.049	3.685	0.005	0.027
400 ft E	0.04	3.004	0.004	0.025
500 ft E	0.034	2.526	0.003	0.023
750 ft E	0.023	1.779	0.002	0.018
1000 ft E	0.017	1.344	0.001	0.013

W Jackson Street, west of Mission Blvd.

Link 440 (6ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.304	31.408	0.036	0.059
25 ft W	0.256	26.502	0.03	0.049
50 ft W	0.205	21.398	0.024	0.039
75 ft W	0.174	18.155	0.021	0.033
100 ft W	0.152	15.884	0.018	0.028
200 ft W	0.104	10.991	0.012	0.017
300 ft W	0.081	8.575	0.009	0.014
400 ft W	0.067	7.125	0.008	0.013
500 ft W	0.058	6.165	0.007	0.011
750 ft W	0.043	4.641	0.005	0.008
1000 ft W	0.034	3.734	0.004	0.006
10 ft E	0.53	48.717	0.06	0.056
25 ft E	0.447	41.009	0.051	0.047
50 ft E	0.355	32.671	0.04	0.038
75 ft E	0.297	27.375	0.034	0.033
100 ft E	0.257	23.711	0.029	0.028
200 ft E	0.172	15.95	0.019	0.019
300 ft E	0.131	12.227	0.015	0.014
400 ft E	0.107	10.032	0.012	0.012
500 ft E	0.092	8.574	0.01	0.01
750 ft E	0.067	6.32	0.007	0.008
1000 ft E	0.054	5.029	0.006	0.006

Link 440 (20ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.165	17.064	0.019	0.053
25 ft W	0.162	16.76	0.019	0.046
50 ft W	0.151	15.637	0.018	0.037
75 ft W	0.138	14.366	0.016	0.031
100 ft W	0.126	13.199	0.015	0.027
200 ft W	0.094	9.948	0.011	0.017
300 ft W	0.076	8.014	0.009	0.014
400 ft W	0.064	6.77	0.007	0.012
500 ft W	0.055	5.915	0.006	0.011
750 ft W	0.042	4.512	0.005	0.008
1000 ft W	0.034	3.654	0.004	0.006
10 ft E	0.23	22.282	0.027	0.049
25 ft E	0.245	23.237	0.028	0.043
50 ft E	0.242	22.645	0.028	0.036
75 ft E	0.226	21.09	0.026	0.031
100 ft E	0.209	19.443	0.024	0.027
200 ft E	0.156	14.497	0.018	0.018
300 ft E	0.123	11.507	0.014	0.013
400 ft E	0.103	9.6	0.011	0.011
500 ft E	0.089	8.283	0.01	0.01
750 ft E	0.066	6.181	0.007	0.008
1000 ft E	0.053	4.947	0.006	0.006

Foothill Blvd, east of Mission Blvd.

Link 449 (6ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.262	28.244	0.032	0.043
25 ft W	0.22	23.828	0.027	0.037
50 ft W	0.175	19.104	0.021	0.032
75 ft W	0.147	16.057	0.018	0.029
100 ft W	0.127	13.907	0.015	0.026
200 ft W	0.083	9.145	0.01	0.012
300 ft W	0.061	6.818	0.007	0.01
400 ft W	0.048	5.399	0.006	0.009
500 ft W	0.039	4.434	0.004	0.009
750 ft W	0.026	2.989	0.003	0.008
1000 ft W	0.018	2.158	0.002	0.005
10 ft E	0.539	55.04	0.065	0.061
25 ft E	0.463	47.309	0.056	0.048
50 ft E	0.374	38.224	0.045	0.03
75 ft E	0.315	32.132	0.038	0.026
100 ft E	0.272	27.774	0.032	0.027
200 ft E	0.179	18.167	0.021	0.027
300 ft E	0.134	13.613	0.016	0.027
400 ft E	0.107	10.821	0.012	0.028
500 ft E	0.089	8.957	0.01	0.028
750 ft E	0.062	6.176	0.007	0.027
1000 ft E	0.046	4.572	0.005	0.025

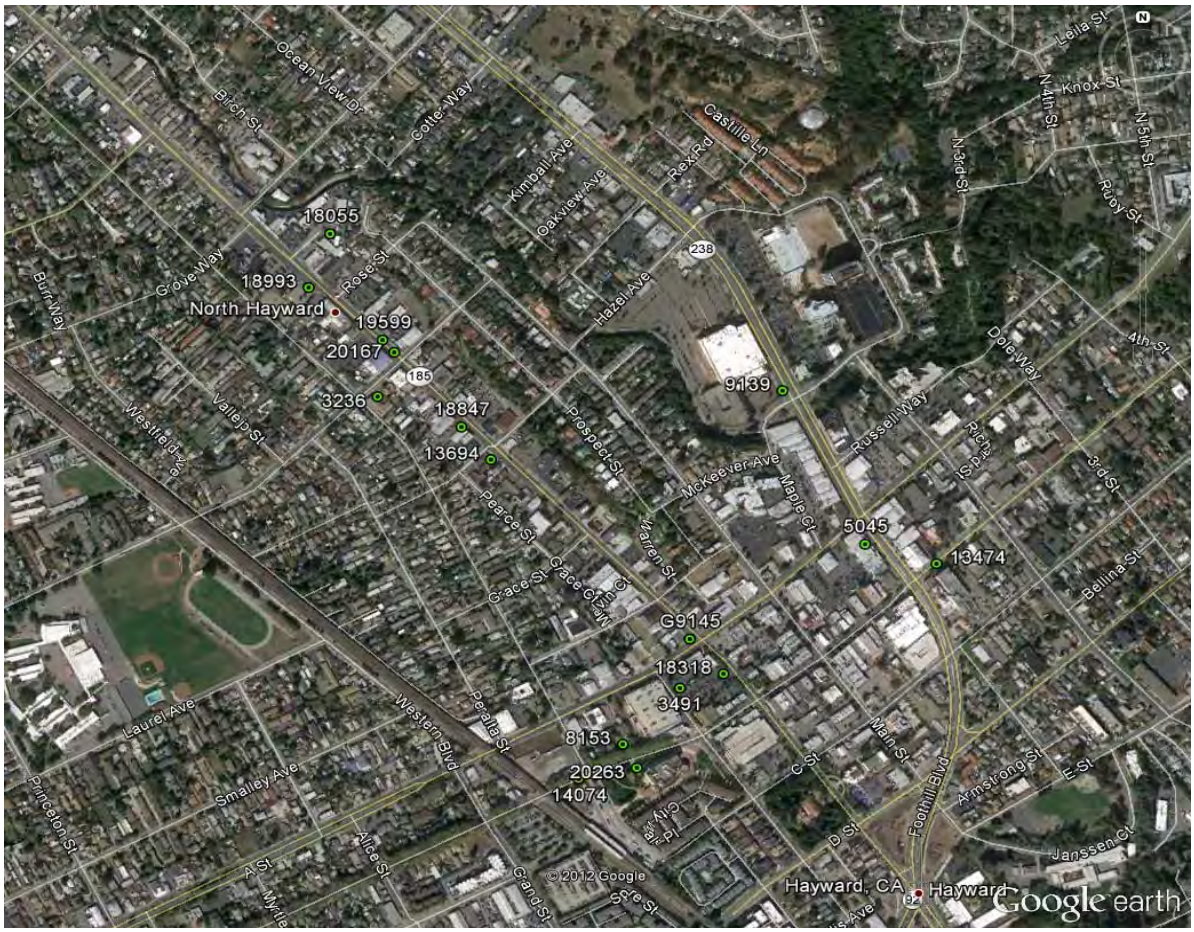
Link 449 (20ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.131	14.062	0.016	0.031
25 ft W	0.129	13.918	0.016	0.029
50 ft W	0.121	13.093	0.015	0.027
75 ft W	0.111	12.057	0.013	0.026
100 ft W	0.102	11.055	0.012	0.024
200 ft W	0.073	8.058	0.009	0.011
300 ft W	0.056	6.248	0.007	0.01
400 ft W	0.045	5.051	0.005	0.009
500 ft W	0.037	4.201	0.004	0.009
750 ft W	0.025	2.881	0.003	0.008
1000 ft W	0.017	2.099	0.002	0.005
10 ft E	0.224	23.894	0.027	0.047
25 ft E	0.239	25.191	0.029	0.04
50 ft E	0.24	24.999	0.029	0.027
75 ft E	0.228	23.545	0.027	0.026
100 ft E	0.212	21.813	0.025	0.027
200 ft E	0.158	16.09	0.019	0.027
300 ft E	0.124	12.583	0.014	0.027
400 ft E	0.101	10.221	0.012	0.028
500 ft E	0.085	8.566	0.01	0.028
750 ft E	0.06	5.999	0.007	0.027
1000 ft E	0.045	4.476	0.005	0.025

Stationary Health Risk Sources within the Mission Boulevard Corridor Specific Plan area or 1000 feet from it.
Northern Portion of Plan Area

Source: BAAQMD's Stationary Source Risk & Hazard Analysis Tool, Google Earth, Alameda County May 2012 data set

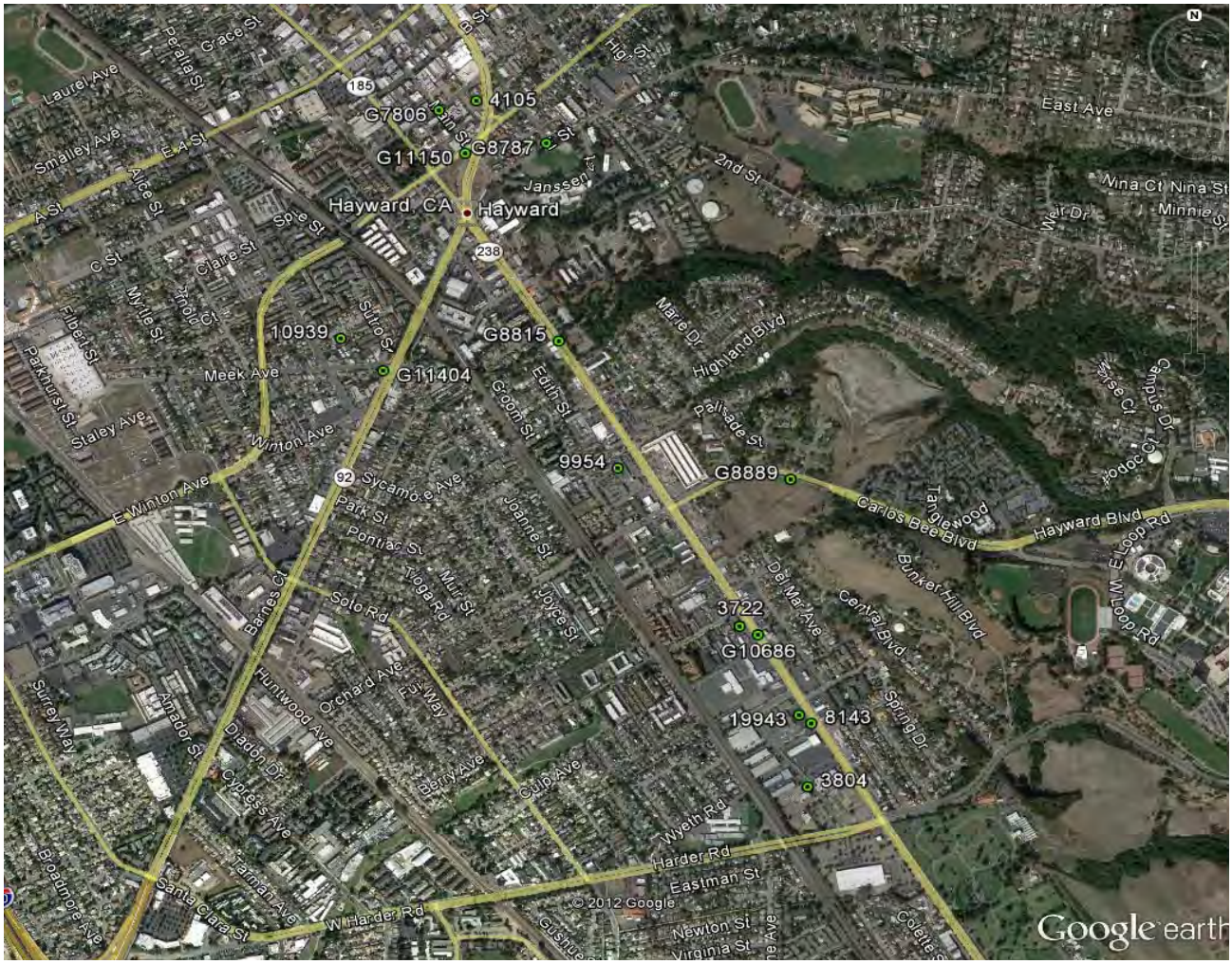
Alameda_2010_schema:FID	634	2176	650	664	668	2122	106	687	696	681	1921	2028	2018	675	584	2182
Alameda_2010_schema:PlantNo	18993	19599	20167	18847	13694	G9145	13474	5045	18318	3491	14074	20263	8153	9139	3236	18055
Alameda_2010_schema:Plant	1st Choice Cleaners	SCR Collision Services	Mission Investment Group, LLC	The Best Auto Body	Sun Autobody	Ashraf Ali #256049	Pacific Bell	Selix Formalwear	Albertsons #7138	King Kovers Inc	S F Bay Area Rapid Transit District	City of Hayward	Automotive Collision Service, Inc	Alpine Cleaners	Bay Ram Collision Center, Inc	Artistic Auto Collision
Alameda_2010_schema:Address	21642 MISSION BLVD	965 RUFUS COURT	21994 MISSION BLVD	22145 MISSION BLVD	22205 MISSION BLVD	898 A Street	1129 B STREET	22423 FOOTHILL BLVD	22555 MISSION BLVD	22357 MISSION BLVD	699 B STREET	777 B STREET	760 SMALLEY AVENUE	22286 FOOTHILL BLVD	20531 MISSION STREET	980 RUFUS COURT
Alameda_2010_schema:City	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward
Alameda_2010_schema:UTM_East	580000	580129.5	580150	580268	580319.9	580668	581092	580968.383	580727.11	580652.1	580478	580579	580554.2	580823.1	580121.8	580037
Alameda_2010_schema:UTM_North	4170600	4170502	4170479	4170339	4170278	4169943	4170090	4170125	4169877.9	4169850	4169677	4169699	4169743.2	4170412	4170395	4170701
Alameda_2010_schema:Risk	0	0	No data	0	0	14.151	59.68	115	0	0	16.63	No data	0	23.6	0	0
Alameda_2010_schema:Hazard	0	0.005	No data	0	0	0.021	0.021	0.305	0	0	0.006	No data	0.005	0.063	0	0
Alameda_2010_schema:PM25	0	0	No data	0	0	na	0.106	0	0	0	0.03	No data	0	0	0	0
							Generator		Generator		Generator	Generator				



Stationary Health Risk Sources within the Mission Boulevard Corridor Specific Plan area or 1000 feet from it.
Southern Portion of Plan Area

Source: BAAQMD's Stationary Source Risk & Hazard Analysis Tool, Google Earth, Alameda County May 2012 data set

Alameda_2010_schema:FID	816	808	807	804	793	2105	742	702	1687	74	701	84	704	820
Alameda_2010_schema:PlantNo	3804	8143	19943	G10686	3722	9954	G8815	10939	G11404	4105	G7806	G8787	G11150	G8889
Alameda_2010_schema:Plant	Wilma's Collision Repair	Shanklin's Body Shop	TKO Collision Repair	ARCO Facility #09536 - DHILLON & DHILLON	Hayward Body Shop Inc	Silktech Cleaners	Mission Chevron	Grand Collision Center	Caltrans	Buffalo Bill's Brewery	City of Hayward	Hayward Area Recreation & Park Dist	Foothill Shell #135353	California State University, Hayward
Alameda_2010_schema:Address	25571 DOLLAR STREET	25486 MISSION BLVD	25401 MISSION BLVD	25225 Mission Blvd	25087 MISSION BLVD	853 SYCAMORE AVENUE	24086 Mission Blvd	22765 GRAND STREET	5500 Jackson Street	1082 B STREET	22700 Main Street	1099 'E' Street	22810 Foothill Blvd	25800 Carlos Bee Blvd
Alameda_2010_schema:City	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward	Hayward
Alameda_2010_schema:UTM_East	582089.477	582098.4	582062	581938	581883.8	581519.9	581343	580701.48	580826.72	581093.5	580984	581300	581062	582022
Alameda_2010_schema:UTM_North	4167623.05	4167828	4167855	4168114	4168141	4168650	4169058	4169061	4168957.9	4169830	4169799	4169695	4169661	4168618
Alameda_2010_schema:Risk	0	0	0	36.045	0	37.5	28.518	0	na	0	na	0.384	15.031	na
Alameda_2010_schema:Hazard	0.006	0	0	0.054	0.001	0.1	0.043	0.002	na	0	na	0.001	0.022	na
Alameda_2010_schema:PM25	0	0	0	na	0.005	0	na	0	na	0.001	na	na	na	na



Appendix C

Transportation LOS Calculations

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Scenario Report

Scenario:	Existing_plus_238_AM
Command:	Existing_plus_238_AM
Volume:	Existing_plus_238_AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	B	9.3	0.426	B	9.3	0.426	+ 0.000
# 2 Mission & A St	D	36.4	0.969	D	36.4	0.969	+ 0.000
# 3 Mission & B St	C	15.2	0.700	C	15.2	0.700	+ 0.000
# 4 Mission & C St	A	3.6	0.513	A	3.6	0.513	+ 0.000
# 5 Mission & D St	C	18.4	0.711	C	18.4	0.711	+ 0.000
# 6 Mission & Jackson-Foothill	B	11.4	0.588	B	11.4	0.588	+ 0.000
# 7 Mission & Fletcher	C	15.7	0.614	C	15.7	0.614	+ 0.000
# 8 Mission & Highland	B	12.5	0.560	B	12.5	0.560	+ 0.000
# 9 Mission & Carlos Bee	D	30.6	0.594	D	30.6	0.594	+ 0.000
# 10 Mission & Berry (signal)	A	4.1	0.470	A	4.1	0.470	+ 0.000
# 11 Mission & Harder	C	21.9	0.651	C	21.9	0.651	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	B	657.7	28.8	B	657.7	28.8	+ 0.0
# 2 Mission Blvd. (SB)	SB	C	713.8	24.9	C	713.8	24.9	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	D	254.1	20.3	D	254.1	20.3	+ 0.0
# 5 Mission no proj (NB)	NB	B	586.9	30.3	B	586.9	30.3	+ 0.0
# 6 Mission SB no-proj	SB	C	713.8	24.9	C	713.8	24.9	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec): 100 Critical Vol./Cap.(X): 0.426
Loss Time (sec): 9 Average Delay (sec/veh): 9.3
Optimal Cycle: 30 Level Of Service: B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	23	300	1	3	712	104	109	36	62	11	38	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	300	1	3	712	104	109	36	62	11	38	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	300	1	3	712	104	109	36	62	11	38	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	300	1	3	712	104	109	36	62	11	38	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	315	1	3	748	109	109	36	62	11	38	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.75	0.75	0.75	0.94	0.94	0.94	0.74	0.74	0.74	0.81	0.81	0.81
Lanes:	0.14	1.85	0.01	0.01	1.74	0.25	0.53	0.17	0.30	0.19	0.64	0.17
Final Sat.:	202	2639	9	13	3108	454	740	244	421	287	991	261
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.24	0.24	0.24	0.15	0.15	0.15	0.04	0.04	0.04
Crit Moves:					****			****				
Green/Cycle:	0.56	0.56	0.56	0.56	0.56	0.56	0.35	0.35	0.35	0.35	0.35	0.35
Volume/Cap:	0.21	0.21	0.21	0.43	0.43	0.43	0.43	0.43	0.43	0.11	0.11	0.11
Delay/Veh:	7.0	7.0	7.0	8.2	8.2	8.2	16.6	16.6	16.6	14.4	14.4	14.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.0	7.0	7.0	8.2	8.2	8.2	16.6	16.6	16.6	14.4	14.4	14.4
DesignQueue:	4	4	4	11	11	11	8	8	8	2	2	2

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.969
Loss Time (sec): 9 Average Delay (sec/veh): 36.4
Optimal Cycle: 180 Level Of Service: D

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	2 0	0 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	408	123	225	0	580	2177	688	283
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	408	123	225	0	580	2177	688	283
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	408	123	225	0	580	2177	688	283
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	408	123	225	0	580	2177	688	283
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.05
FinalVolume:	0	0	0	0	449	135	232	0	580	2242	722	297
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	0.93	1.00	0.83	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.31	0.69	2.00	0.00	1.00	3.00	1.42	0.58
Final Sat.:	0	0	0	0	4165	1256	3539	0	1583	5309	2534	1042
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.11	0.11	0.07	0.00	0.37	0.42	0.29	0.29
Crit Moves:					****				****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.13	0.13	0.37	0.00	0.37	0.43	0.43	0.43
Volume/Cap:	0.00	0.00	0.00	0.00	0.86	0.86	0.18	0.00	0.99	0.99	0.67	0.67
Delay/Veh:	0.0	0.0	0.0	0.0	46.9	46.9	19.3	0.0	53.7	37.6	21.6	21.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	46.9	46.9	19.3	0.0	53.7	37.6	21.6	21.6
DesignQueue:	0	0	0	0	12	12	5	0	26	32	21	21

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.700
Loss Time (sec):	6	Average Delay (sec/veh):	15.2
Optimal Cycle:	43	Level Of Service:	C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	0	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3105	42	0	0	0	620	317	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3105	42	0	0	0	620	317	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3105	42	0	0	0	620	317	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3105	42	0	0	0	620	317	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	3416	46	0	0	0	651	333	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	0.88	0.88	1.00
Lanes:	0.00	0.00	0.00	0.00	4.93	0.07	0.00	0.00	0.00	1.32	0.68	0.00
Final Sat.:	0	0	0	0	9189	124	0	0	0	2219	1134	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.37	0.37	0.00	0.00	0.00	0.29	0.29	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.53	0.53	0.00	0.00	0.00	0.42	0.42	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.70	0.70	0.00	0.00	0.00	0.70	0.70	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	13.9	13.9	0.0	0.0	0.0	19.6	19.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	13.9	13.9	0.0	0.0	0.0	19.6	19.6	0.0
DesignQueue:	0	0	0	0	24	24	0	0	0	20	20	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.513
Loss Time (sec):	6	Average Delay (sec/veh):	3.6
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	589	3128	0	0	142	51	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	589	3128	0	0	142	51	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	589	3128	0	0	142	51	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	589	3128	0	0	142	51	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	648	3441	0	0	156	56	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.96	0.96	1.00	1.00	0.94	0.94	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.79	4.21	0.00	0.00	2.21	0.79	0.00	0.00	0.00
Final Sat.:	0	0	0	1446	7681	0	0	3947	1418	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.45	0.45	0.00	0.00	0.04	0.04	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.13	0.13	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.54	0.54	0.00	0.00	0.32	0.32	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	2.2	2.2	0.0	0.0	31.0	31.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	2.2	2.2	0.0	0.0	31.0	31.0	0.0	0.0	0.0
DesignQueue:	0	0	0	11	11	0	0	4	4	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.711
Loss Time (sec):	9	Average Delay (sec/veh):	18.4
Optimal Cycle:	54	Level Of Service:	C

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	11	3063	169	0	212	22	771	471	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	3063	169	0	212	22	771	471	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	3063	169	0	212	22	771	471	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	3063	169	0	212	22	771	471	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	12	3369	186	0	233	24	794	495	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.02	4.72	0.26	0.00	2.72	0.28	2.00	2.00	0.00
Final Sat.:	0	0	0	31	8709	481	0	5012	520	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.39	0.39	0.39	0.00	0.05	0.05	0.22	0.13	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.51	0.51	0.51	0.00	0.13	0.13	0.29	0.42	0.00
Volume/Cap:	0.00	0.00	0.00	0.76	0.76	0.76	0.00	0.37	0.37	0.76	0.32	0.00
Delay/Veh:	0.0	0.0	0.0	16.0	16.0	16.0	0.0	31.3	31.3	27.3	15.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.0	16.0	16.0	0.0	31.3	31.3	27.3	15.1	0.0
DesignQueue:	0	0	0	26	26	26	0	5	5	20	10	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec):	75	Critical Vol./Cap.(X):	0.588
Loss Time (sec):	6	Average Delay (sec/veh):	11.4
Optimal Cycle:	31	Level Of Service:	B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	1689	0	1943	1973	0	1250	41	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	1689	0	1943	1973	0	1250	41	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1943	0	0	1250	41	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1943	0	0	1250	41	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2137	0	0	1375	45	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.98	0.98	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.90	0.10	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5411	177	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.25	0.25	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.43	0.43	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.59	0.00	0.00	0.59	0.59	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	10.7	0.0	0.0	12.6	12.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	10.7	0.0	0.0	12.6	12.6	0.0	0.0	0.0
DesignQueue:	0	0	0	0	12	0	0	12	12	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.614
Loss Time (sec): 9 Average Delay (sec/veh): 15.7
Optimal Cycle: 44 Level Of Service: C

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	184	1601	39	75	1931	32	21	38	137	89	94	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	184	1601	39	75	1931	32	21	38	137	89	94	27
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	184	1601	39	75	1931	32	21	38	137	89	94	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	1601	39	75	1931	32	21	38	137	89	94	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	184	1761	43	75	2124	35	21	38	137	89	94	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.82	0.82	0.83	0.73	0.95	0.95
Lanes:	1.00	2.93	0.07	1.00	2.95	0.05	0.36	0.64	1.00	1.00	0.78	0.22
Final Sat.:	1770	5455	133	1770	5497	91	557	1008	1583	1378	1404	403
Capacity Analysis Module:												
Vol/Sat:	0.10	0.32	0.32	0.04	0.39	0.39	0.04	0.04	0.09	0.06	0.07	0.07
Crit Moves:	****				****				****			
Green/Cycle:	0.17	0.71	0.71	0.09	0.63	0.63	0.14	0.14	0.14	0.14	0.14	0.14
Volume/Cap:	0.61	0.46	0.46	0.46	0.61	0.61	0.27	0.27	0.61	0.46	0.47	0.47
Delay/Veh:	46.5	7.3	7.3	50.4	13.0	13.0	43.9	43.9	49.5	46.2	46.2	46.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	7.3	7.3	50.4	13.0	13.0	43.9	43.9	49.5	46.2	46.2	46.2
DesignQueue:	13	16	16	6	25	25	4	4	10	6	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.560
Loss Time (sec): 12 Average Delay (sec/veh): 12.5
Optimal Cycle: 47 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	27	1649	14	52	1929	43	80	6	6	33	8	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	1649	14	52	1929	43	80	6	6	33	8	99
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	27	1649	14	52	1929	43	80	6	6	33	8	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	1649	14	52	1929	43	80	6	6	33	8	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	27	1814	15	52	2122	47	80	6	6	33	8	99
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.90	0.90	0.93	0.84	0.84
Lanes:	1.00	2.97	0.03	1.00	2.93	0.07	1.00	0.50	0.50	1.00	0.07	0.93
Final Sat.:	1770	5541	47	1770	5466	122	1770	857	857	1770	120	1482
Capacity Analysis Module:												
Vol/Sat:	0.02	0.33	0.33	0.03	0.39	0.39	0.05	0.01	0.01	0.02	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.03	0.66	0.66	0.06	0.69	0.69	0.08	0.07	0.07	0.13	0.12	0.12
Volume/Cap:	0.56	0.50	0.50	0.50	0.56	0.56	0.56	0.11	0.11	0.14	0.56	0.56
Delay/Veh:	64.3	9.8	9.8	54.9	8.9	8.9	54.1	50.0	50.0	43.7	50.1	50.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.3	9.8	9.8	54.9	8.9	8.9	54.1	50.0	50.0	43.7	50.1	50.1
DesignQueue:	2	19	19	4	21	21	6	1	1	2	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.594
Loss Time (sec): 12 Average Delay (sec/veh): 30.6
Optimal Cycle: 50 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	65	1464	67	243	1737	28	128	176	70	527	445	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	65	1464	67	243	1737	28	128	176	70	527	445	220
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	65	1464	67	243	1737	28	128	176	70	527	445	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	1464	67	243	1737	28	128	176	70	527	445	220
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	65	1610	74	250	1911	31	132	176	70	543	467	220
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.98	0.98	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.82	0.18	2.00	3.94	0.06	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	7054	323	3539	7333	118	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.07	0.26	0.26	0.04	0.09	0.04	0.15	0.13	0.14
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.38	0.38	0.12	0.44	0.44	0.09	0.16	0.16	0.26	0.32	0.32
Volume/Cap:	0.59	0.59	0.59	0.59	0.59	0.59	0.40	0.59	0.28	0.59	0.39	0.43
Delay/Veh:	57.7	28.3	28.3	49.3	24.3	24.3	49.1	46.8	42.3	37.8	29.9	30.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.7	28.3	28.3	49.3	24.3	24.3	49.1	46.8	42.3	37.8	29.9	30.6
DesignQueue:	5	23	23	9	24	24	5	13	5	17	14	13

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.470
Loss Time (sec): 9 Average Delay (sec/veh): 4.1
Optimal Cycle: 36 Level Of Service: A

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	55	1392	5	0	1825	46	32	5	32	5	5	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	1392	5	0	1825	46	32	5	32	5	5	5
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	55	1392	5	0	1825	46	32	5	32	5	5	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	1392	5	0	1825	46	32	5	32	5	5	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	1531	6	0	2008	51	32	5	32	5	5	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.81	0.81	0.81
Lanes:	1.00	2.99	0.01	1.00	2.93	0.07	0.47	0.07	0.46	0.34	0.33	0.33
Final Sat.:	1805	5680	20	1900	5560	140	703	110	703	512	512	512
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.27	0.00	0.36	0.36	0.05	0.05	0.05	0.01	0.01	0.01
Crit Moves:	****				****			****				
Green/Cycle:	0.06	0.83	0.83	0.00	0.77	0.77	0.10	0.10	0.10	0.10	0.10	0.10
Volume/Cap:	0.47	0.32	0.32	0.00	0.47	0.47	0.47	0.47	0.47	0.10	0.10	0.10
Delay/Veh:	40.1	1.6	1.6	0.0	3.6	3.6	37.6	37.6	37.6	34.6	34.6	34.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	1.6	1.6	0.0	3.6	3.6	37.6	37.6	37.6	34.6	34.6	34.6
DesignQueue:	4	7	7	0	13	13	5	5	5	1	1	1

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 | Critical Vol./Cap.(X): 0.651
Loss Time (sec): 12 | Average Delay (sec/veh): 21.9
Optimal Cycle: 56 | Level Of Service: C

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	248	1299	434	109	1514	106	159	287	208	163	96	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	1299	434	109	1514	106	159	287	208	163	96	29
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	248	1299	434	109	1514	106	159	287	208	163	96	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	1299	434	109	1514	106	159	287	208	163	96	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	248	1429	477	109	1665	117	164	301	208	168	101	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.94	0.94	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.25	0.75	1.00	2.80	0.20	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4021	1343	1770	5170	362	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.14	0.36	0.36	0.06	0.32	0.32	0.05	0.08	0.13	0.05	0.03	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.22	0.61	0.61	0.10	0.50	0.50	0.10	0.12	0.34	0.07	0.10	0.20
Volume/Cap:	0.65	0.59	0.59	0.59	0.65	0.65	0.47	0.65	0.39	0.65	0.27	0.09
Delay/Veh:	38.1	12.1	12.1	45.6	19.0	19.0	42.8	43.5	25.0	48.5	41.4	31.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.1	12.1	12.1	45.6	19.0	19.0	42.8	43.5	25.0	48.5	41.4	31.9
DesignQueue:	15	20	20	7	24	24	5	10	10	6	3	2

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Scenario Report

Scenario:	Existing_plus_238_PM
Command:	Existing_plus_238_PM
Volume:	Existing_plus_238_PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	B	8.0	0.368	B	8.0	0.368	+ 0.000
# 2 Mission & A St	F	62.9	1.080	F	62.9	1.080	+ 0.000
# 3 Mission & B St	C	15.6	0.756	C	15.6	0.756	+ 0.000
# 4 Mission & C St	B	7.3	0.747	B	7.3	0.747	+ 0.000
# 5 Mission & D St	C	17.9	0.699	C	17.9	0.699	+ 0.000
# 6 Mission & Jackson-Foothill	B	12.9	0.703	B	12.9	0.703	+ 0.000
# 7 Mission & Fletcher	C	20.6	0.649	C	20.6	0.649	+ 0.000
# 8 Mission & Highland	B	13.3	0.636	B	13.3	0.636	+ 0.000
# 9 Mission & Carlos Bee	D	28.8	0.623	D	28.8	0.623	+ 0.000
# 10 Mission & Berry (signal)	B	5.3	0.412	B	5.3	0.412	+ 0.000
# 11 Mission & Harder	C	20.5	0.639	C	20.5	0.639	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	B	671.9	28.2	B	671.9	28.2	+ 0.0
# 2 Mission Blvd. (SB)	SB	C	768.1	23.1	C	768.1	23.1	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	D	297.1	17.3	D	297.1	17.3	+ 0.0
# 5 Mission no proj (NB)	NB	B	589.3	30.2	B	589.3	30.2	+ 0.0
# 6 Mission SB no-proj	SB	C	768.1	23.1	C	768.1	23.1	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec): 100 Critical Vol./Cap.(X): 0.368
Loss Time (sec): 9 Average Delay (sec/veh): 8.0
Optimal Cycle: 28 Level Of Service: B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	27	628	7	12	602	81	99	41	30	5	22	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	628	7	12	602	81	99	41	30	5	22	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	27	628	7	12	602	81	99	41	30	5	22	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	628	7	12	602	81	99	41	30	5	22	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	659	7	13	632	85	99	41	30	5	22	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.83	0.88	0.88	0.88	0.78	0.78	0.78	0.83	0.83	0.83
Lanes:	0.08	1.90	0.02	0.03	1.74	0.23	0.58	0.24	0.18	0.13	0.56	0.31
Final Sat.:	129	2992	33	58	2903	391	867	359	263	201	885	483
Capacity Analysis Module:												
Vol/Sat:	0.22	0.22	0.22	0.22	0.22	0.22	0.11	0.11	0.11	0.02	0.02	0.02
Crit Moves:		****						****				
Green/Cycle:	0.60	0.60	0.60	0.60	0.60	0.60	0.31	0.31	0.31	0.31	0.31	0.31
Volume/Cap:	0.37	0.37	0.37	0.36	0.36	0.36	0.37	0.37	0.37	0.08	0.08	0.08
Delay/Veh:	6.7	6.7	6.7	6.7	6.7	6.7	17.6	17.6	17.6	15.7	15.7	15.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	6.7	6.7	6.7	6.7	6.7	6.7	17.6	17.6	17.6	15.7	15.7	15.7
DesignQueue:	8	8	8	9	9	9	7	7	7	2	2	2

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec): 120 Critical Vol./Cap.(X): 1.080
Loss Time (sec): 9 Average Delay (sec/veh): 62.9
Optimal Cycle: 180 Level Of Service: F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	2 0	0 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	726	139	439	0	733	1869	657	272
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	726	139	439	0	733	1869	657	272
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	726	139	439	0	733	1869	657	272
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	726	139	439	0	733	1869	657	272
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.05
FinalVolume:	0	0	0	0	799	153	452	0	733	1925	690	286
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.96	0.96	0.93	1.00	0.83	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.52	0.48	2.00	0.00	1.00	3.00	1.41	0.59
Final Sat.:	0	0	0	0	4596	880	3539	0	1583	5309	2529	1047
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.17	0.17	0.13	0.00	0.46	0.36	0.27	0.27
Crit Moves:						****			****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.16	0.16	0.43	0.00	0.43	0.34	0.34	0.34
Volume/Cap:	0.00	0.00	0.00	0.00	1.08	1.08	0.30	0.00	1.08	1.08	0.81	0.81
Delay/Veh:	0.0	0.0	0.0	0.0	87.1	87.1	17.1	0.0	78.4	72.2	30.8	30.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	87.1	87.1	17.1	0.0	78.4	72.2	30.8	30.8
DesignQueue:	0	0	0	0	19	19	9	0	31	31	23	23

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.756
Loss Time (sec):	6	Average Delay (sec/veh):	15.6
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Mission Blvd								B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	0	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3421	83	0	0	0	568	414	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3421	83	0	0	0	568	414	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3421	83	0	0	0	568	414	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3421	83	0	0	0	568	414	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	3763	91	0	0	0	596	435	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	0.89	0.89	1.00
Lanes:	0.00	0.00	0.00	0.00	4.88	0.12	0.00	0.00	0.00	1.16	0.84	0.00
Final Sat.:	0	0	0	0	9093	221	0	0	0	1961	1429	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.41	0.41	0.00	0.00	0.00	0.30	0.30	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.55	0.55	0.00	0.00	0.00	0.40	0.40	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.76	0.76	0.00	0.00	0.00	0.76	0.76	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.0	14.0	0.0	0.0	0.0	21.6	21.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.0	14.0	0.0	0.0	0.0	21.6	21.6	0.0
DesignQueue:	0	0	0	0	26	26	0	0	0	22	22	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.747
Loss Time (sec):	6	Average Delay (sec/veh):	7.3
Optimal Cycle:	50	Level Of Service:	B

Street Name:	Mission Blvd								C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	965	3075	0	0	470	102	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	965	3075	0	0	470	102	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	965	3075	0	0	470	102	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	965	3075	0	0	470	102	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	1062	3383	0	0	517	112	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.94	0.94	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	4.00	0.00	0.00	2.47	0.53	0.00	0.00	0.00
Final Sat.:	0	0	0	1788	7153	0	0	4454	967	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.59	0.47	0.00	0.00	0.12	0.12	0.00	0.00	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.79	0.79	0.00	0.00	0.16	0.16	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.75	0.60	0.00	0.00	0.75	0.75	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	4.4	3.2	0.0	0.0	33.9	33.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	4.4	3.2	0.0	0.0	33.9	33.9	0.0	0.0	0.0
DesignQueue:	0	0	0	17	13	0	0	12	12	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.699
Loss Time (sec): 9 Average Delay (sec/veh): 17.9
Optimal Cycle: 54 Level Of Service: C

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	17	2981	175	0	616	54	464	314	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	2981	175	0	616	54	464	314	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	17	2981	175	0	616	54	464	314	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	17	2981	175	0	616	54	464	314	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	19	3279	193	0	678	59	478	330	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.03	4.70	0.27	0.00	2.76	0.24	2.00	2.00	0.00
Final Sat.:	0	0	0	49	8663	509	0	5086	446	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.38	0.38	0.38	0.00	0.13	0.13	0.14	0.09	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.54	0.54	0.54	0.00	0.19	0.19	0.19	0.38	0.00
Volume/Cap:	0.00	0.00	0.00	0.70	0.70	0.70	0.00	0.70	0.70	0.70	0.23	0.00
Delay/Veh:	0.0	0.0	0.0	13.4	13.4	13.4	0.0	30.8	30.8	31.4	16.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.4	13.4	13.4	0.0	30.8	30.8	31.4	16.2	0.0
DesignQueue:	0	0	0	24	24	24	0	14	14	13	7	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 Critical Vol./Cap.(X): 0.703
Loss Time (sec): 6 Average Delay (sec/veh): 12.9
Optimal Cycle: 41 Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	1988	0	1973	1431	0	1699	88	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	1988	0	1973	1431	0	1699	88	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1973	0	0	1699	88	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1973	0	0	1699	88	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2170	0	0	1869	97	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.85	0.15	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5260	272	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.36	0.36	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.51	0.51	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.70	0.70	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.3	0.0	0.0	11.4	11.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.3	0.0	0.0	11.4	11.4	0.0	0.0	0.0
DesignQueue:	0	0	0	0	14	0	0	15	15	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.649
Loss Time (sec): 9 Average Delay (sec/veh): 20.6
Optimal Cycle: 48 Level Of Service: C

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	219	2000	34	149	1722	40	16	56	199	62	34	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	219	2000	34	149	1722	40	16	56	199	62	34	77
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	219	2000	34	149	1722	40	16	56	199	62	34	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	2000	34	149	1722	40	16	56	199	62	34	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	2200	37	149	1894	44	16	56	199	62	34	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.90	0.90	0.83	0.69	0.87	0.87
Lanes:	1.00	2.95	0.05	1.00	2.93	0.07	0.22	0.78	1.00	1.00	0.31	0.69
Final Sat.:	1770	5495	93	1770	5461	127	381	1333	1583	1304	508	1150
Capacity Analysis Module:												
Vol/Sat:	0.12	0.40	0.40	0.08	0.35	0.35	0.04	0.04	0.13	0.05	0.07	0.07
Crit Moves:		****		****					****			
Green/Cycle:	0.20	0.62	0.62	0.13	0.55	0.55	0.19	0.19	0.19	0.19	0.19	0.19
Volume/Cap:	0.63	0.65	0.65	0.65	0.63	0.63	0.22	0.22	0.65	0.25	0.35	0.35
Delay/Veh:	44.6	14.3	14.3	51.5	18.0	18.0	38.7	38.7	45.7	39.0	40.0	40.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.6	14.3	14.3	51.5	18.0	18.0	38.7	38.7	45.7	39.0	40.0	40.0
DesignQueue:	15	27	27	11	27	27	5	5	14	4	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.636
Loss Time (sec): 12 Average Delay (sec/veh): 13.3
Optimal Cycle: 55 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	44	2104	35	127	1745	71	93	18	19	41	5	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	2104	35	127	1745	71	93	18	19	41	5	59
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	44	2104	35	127	1745	71	93	18	19	41	5	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	2104	35	127	1745	71	93	18	19	41	5	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	2314	39	127	1920	78	93	18	19	41	5	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.97	0.97	0.93	0.90	0.90	0.93	0.84	0.84
Lanes:	1.00	2.95	0.05	1.00	2.88	0.12	1.00	0.49	0.51	1.00	0.08	0.92
Final Sat.:	1770	5497	91	1770	5316	216	1770	834	880	1770	125	1477
Capacity Analysis Module:												
Vol/Sat:	0.02	0.42	0.42	0.07	0.36	0.36	0.05	0.02	0.02	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.05	0.66	0.66	0.11	0.72	0.72	0.08	0.05	0.05	0.10	0.06	0.06
Volume/Cap:	0.47	0.64	0.64	0.64	0.50	0.50	0.64	0.45	0.45	0.24	0.64	0.64
Delay/Veh:	55.0	11.5	11.5	52.8	7.0	7.0	56.6	55.2	55.2	47.7	60.5	60.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.0	11.5	11.5	52.8	7.0	7.0	56.6	55.2	55.2	47.7	60.5	60.5
DesignQueue:	3	25	25	10	17	17	7	3	3	3	5	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.623
Loss Time (sec): 12 Average Delay (sec/veh): 28.8
Optimal Cycle: 53 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	91	1700	110	350	1378	100	118	336	126	105	181	265
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	91	1700	110	350	1378	100	118	336	126	105	181	265
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	91	1700	110	350	1378	100	118	336	126	105	181	265
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	1700	110	350	1378	100	118	336	126	105	181	265
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	91	1870	121	361	1516	110	122	336	126	108	190	265
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.76	0.24	2.00	3.73	0.27	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	6928	448	3539	6877	499	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.27	0.10	0.22	0.22	0.03	0.18	0.08	0.03	0.05	0.17
Crit Moves:		****		****			****					****
Green/Cycle:	0.11	0.43	0.43	0.16	0.48	0.48	0.06	0.28	0.28	0.05	0.27	0.27
Volume/Cap:	0.46	0.62	0.62	0.62	0.46	0.46	0.62	0.65	0.29	0.65	0.19	0.62
Delay/Veh:	48.5	25.4	25.4	45.9	19.6	19.6	56.9	38.4	32.5	59.4	32.2	38.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.5	25.4	25.4	45.9	19.6	19.6	56.9	38.4	32.5	59.4	32.2	38.6
DesignQueue:	7	25	25	13	19	19	5	21	8	4	6	17

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.412
Loss Time (sec): 9 Average Delay (sec/veh): 5.3
Optimal Cycle: 36 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	106	1700	5	0	1382	66	30	5	30	5	5	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	1700	5	0	1382	66	30	5	30	5	5	5
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	106	1700	5	0	1382	66	30	5	30	5	5	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	1700	5	0	1382	66	30	5	30	5	5	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	1870	6	0	1520	73	30	5	30	5	5	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	0.99	0.99	0.80	0.80	0.80	0.80	0.80	0.80
Lanes:	1.00	2.99	0.01	1.00	2.86	0.14	0.46	0.08	0.46	0.34	0.33	0.33
Final Sat.:	1805	5683	17	1900	5386	257	700	117	700	507	507	507
Capacity Analysis Module:												
Vol/Sat:	0.06	0.33	0.33	0.00	0.28	0.28	0.04	0.04	0.04	0.01	0.01	0.01
Crit Moves:	****				****			****				
Green/Cycle:	0.14	0.83	0.83	0.00	0.68	0.68	0.10	0.10	0.10	0.10	0.10	0.10
Volume/Cap:	0.41	0.40	0.40	0.00	0.41	0.41	0.41	0.41	0.41	0.09	0.09	0.09
Delay/Veh:	33.4	1.9	1.9	0.0	5.9	5.9	36.2	36.2	36.2	34.1	34.1	34.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.4	1.9	1.9	0.0	5.9	5.9	36.2	36.2	36.2	34.1	34.1	34.1
DesignQueue:	7	9	9	0	13	13	4	4	4	1	1	1

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing plus 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 | Critical Vol./Cap.(X): 0.639
Loss Time (sec): 12 | Average Delay (sec/veh): 20.5
Optimal Cycle: 54 | Level Of Service: C

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	351	1646	258	81	1319	121	95	131	208	202	163	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	351	1646	258	81	1319	121	95	131	208	202	163	59
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	351	1646	258	81	1319	121	95	131	208	202	163	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	351	1646	258	81	1319	121	95	131	208	202	163	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	351	1811	284	81	1451	133	98	138	208	208	171	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.96	0.96	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.59	0.41	1.00	2.75	0.25	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4734	742	1770	5067	465	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.20	0.38	0.38	0.05	0.29	0.29	0.03	0.04	0.13	0.06	0.05	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.31	0.68	0.68	0.08	0.45	0.45	0.07	0.06	0.37	0.09	0.07	0.16
Volume/Cap:	0.64	0.56	0.56	0.56	0.64	0.64	0.37	0.64	0.36	0.64	0.61	0.24
Delay/Veh:	31.1	8.5	8.5	47.4	21.5	21.5	43.9	49.8	22.9	46.2	47.1	36.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	8.5	8.5	47.4	21.5	21.5	43.9	49.8	22.9	46.2	47.1	36.7
DesignQueue:	18	18	18	5	23	23	3	5	10	7	6	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Scenario Report

Scenario:	Existing_plus_pro_238_AM
Command:	Existing_plus_pro_238_AM
Volume:	Existing_plus_pro_238_AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	B	9.2	0.437	B	9.2	0.437	+ 0.000
# 2 Mission & A St	E	40.9	1.000	E	40.9	1.000	+ 0.000
# 3 Mission & B St	C	15.6	0.724	C	15.6	0.724	+ 0.000
# 4 Mission & C St	A	3.7	0.529	A	3.7	0.529	+ 0.000
# 5 Mission & D St	C	18.8	0.734	C	18.8	0.734	+ 0.000
# 6 Mission & Jackson-Foothill	B	11.6	0.615	B	11.6	0.615	+ 0.000
# 7 Mission & Fletcher	C	16.1	0.653	C	16.1	0.653	+ 0.000
# 8 Mission & Highland	B	13.6	0.608	B	13.6	0.608	+ 0.000
# 9 Mission & Carlos Bee	D	30.9	0.632	D	30.9	0.632	+ 0.000
# 10 Mission & Berry (signal)	B	10.3	0.568	B	10.3	0.568	+ 0.000
# 11 Mission & Harder	C	23.0	0.676	C	23.0	0.676	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	B	660.8	28.7	B	660.8	28.7	+ 0.0
# 2 Mission Blvd. (SB)	SB	C	727.0	24.4	C	727.0	24.4	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	D	262.6	19.6	D	262.6	19.6	+ 0.0
# 5 Mission no proj (NB)	NB	B	589.0	30.2	B	589.0	30.2	+ 0.0
# 6 Mission SB no-proj	SB	C	727.0	24.4	C	727.0	24.4	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec):	100	Critical Vol./Cap.(X):	0.437
Loss Time (sec):	9	Average Delay (sec/veh):	9.2
Optimal Cycle:	31	Level Of Service:	B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	24	337	2	4	736	107	109	36	64	11	38	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	337	2	4	736	107	109	36	64	11	38	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	337	2	4	736	107	109	36	64	11	38	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	337	2	4	736	107	109	36	64	11	38	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	354	2	4	773	112	109	36	64	11	38	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.74	0.74	0.74	0.94	0.94	0.94	0.74	0.74	0.74	0.81	0.81	0.81
Lanes:	0.13	1.86	0.01	0.01	1.74	0.25	0.52	0.17	0.31	0.19	0.64	0.17
Final Sat.:	186	2611	15	17	3107	452	733	242	430	287	991	261
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.25	0.25	0.25	0.15	0.15	0.15	0.04	0.04	0.04
Crit Moves:					****			****				
Green/Cycle:	0.57	0.57	0.57	0.57	0.57	0.57	0.34	0.34	0.34	0.34	0.34	0.34
Volume/Cap:	0.24	0.24	0.24	0.44	0.44	0.44	0.44	0.44	0.44	0.11	0.11	0.11
Delay/Veh:	6.9	6.9	6.9	8.1	8.1	8.1	16.9	16.9	16.9	14.6	14.6	14.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	6.9	6.9	6.9	8.1	8.1	8.1	16.9	16.9	16.9	14.6	14.6	14.6
DesignQueue:	5	5	5	11	11	11	8	8	8	2	2	2

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec):	120	Critical Vol./Cap.(X):	1.000
Loss Time (sec):	9	Average Delay (sec/veh):	40.9
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	2 0	0 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	444	129	227	0	600	2216	712	300
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	444	129	227	0	600	2216	712	300
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	444	129	227	0	600	2216	712	300
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	444	129	227	0	600	2216	712	300
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.05
FinalVolume:	0	0	0	0	488	142	234	0	600	2282	748	315
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	0.93	1.00	0.83	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.32	0.68	2.00	0.00	1.00	3.00	1.41	0.59
Final Sat.:	0	0	0	0	4200	1220	3539	0	1583	5309	2516	1060
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.12	0.12	0.07	0.00	0.38	0.43	0.30	0.30
Crit Moves:					****				****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.13	0.13	0.37	0.00	0.37	0.43	0.43	0.43
Volume/Cap:	0.00	0.00	0.00	0.00	0.93	0.93	0.18	0.00	1.01	1.01	0.70	0.70
Delay/Veh:	0.0	0.0	0.0	0.0	53.6	53.6	19.1	0.0	59.7	43.3	22.4	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	53.6	53.6	19.1	0.0	59.7	43.3	22.4	22.4
DesignQueue:	0	0	0	0	13	13	5	0	27	33	22	22

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.724
Loss Time (sec):	6	Average Delay (sec/veh):	15.6
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	0	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3189	54	0	0	0	655	317	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3189	54	0	0	0	655	317	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3189	54	0	0	0	655	317	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3189	54	0	0	0	655	317	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	3508	59	0	0	0	688	333	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	0.88	0.88	1.00
Lanes:	0.00	0.00	0.00	0.00	4.92	0.08	0.00	0.00	0.00	1.35	0.65	0.00
Final Sat.:	0	0	0	0	9159	155	0	0	0	2259	1094	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.38	0.38	0.00	0.00	0.00	0.30	0.30	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.53	0.53	0.00	0.00	0.00	0.42	0.42	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.72	0.72	0.00	0.00	0.00	0.72	0.72	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.3	14.3	0.0	0.0	0.0	20.0	20.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.3	14.3	0.0	0.0	0.0	20.0	20.0	0.0
DesignQueue:	0	0	0	0	25	25	0	0	0	21	21	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.529
Loss Time (sec):	6	Average Delay (sec/veh):	3.7
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	591	3246	0	0	143	53	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	591	3246	0	0	143	53	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	591	3246	0	0	143	53	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	591	3246	0	0	143	53	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	650	3571	0	0	157	58	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.96	0.96	1.00	1.00	0.94	0.94	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.77	4.23	0.00	0.00	2.19	0.81	0.00	0.00	0.00
Final Sat.:	0	0	0	1406	7722	0	0	3914	1451	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.46	0.46	0.00	0.00	0.04	0.04	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.13	0.13	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.56	0.56	0.00	0.00	0.32	0.32	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	2.3	2.3	0.0	0.0	31.0	31.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	2.3	2.3	0.0	0.0	31.0	31.0	0.0	0.0	0.0
DesignQueue:	0	0	0	11	11	0	0	4	4	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 | Critical Vol./Cap.(X): 0.734
Loss Time (sec): 9 | Average Delay (sec/veh): 18.8
Optimal Cycle: 58 | Level Of Service: C

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	11	3183	170	0	212	23	795	473	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	3183	170	0	212	23	795	473	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	3183	170	0	212	23	795	473	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	3183	170	0	212	23	795	473	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	12	3501	187	0	233	25	819	497	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.02	4.73	0.25	0.00	2.71	0.29	2.00	2.00	0.00
Final Sat.:	0	0	0	30	8724	466	0	4991	541	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.40	0.40	0.40	0.00	0.05	0.05	0.23	0.13	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.51	0.51	0.51	0.00	0.13	0.13	0.29	0.42	0.00
Volume/Cap:	0.00	0.00	0.00	0.79	0.79	0.79	0.00	0.37	0.37	0.79	0.32	0.00
Delay/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	31.3	31.3	28.2	15.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	31.3	31.3	28.2	15.2	0.0
DesignQueue:	0	0	0	27	27	27	0	5	5	20	10	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 | Critical Vol./Cap.(X): 0.615
Loss Time (sec): 6 | Average Delay (sec/veh): 11.6
Optimal Cycle: 33 | Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	1891	0	2077	1984	0	1256	49	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	1891	0	2077	1984	0	1256	49	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2077	0	0	1256	49	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2077	0	0	1256	49	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2285	0	0	1382	54	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.89	0.11	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5325	208	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.26	0.26	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.42	0.42	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.62	0.62	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	10.6	0.0	0.0	13.2	13.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	10.6	0.0	0.0	13.2	13.2	0.0	0.0	0.0
DesignQueue:	0	0	0	0	13	0	0	12	12	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 | Critical Vol./Cap.(X): 0.653
Loss Time (sec): 9 | Average Delay (sec/veh): 16.1
Optimal Cycle: 48 | Level Of Service: C

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 1	0	1	0 2	1 0	0	1	0 0	1	0 1	0
Volume Module:												
Base Vol:	194	1778	44	75	2059	45	47	40	137	101	98	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	1778	44	75	2059	45	47	40	137	101	98	27
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	194	1778	44	75	2059	45	47	40	137	101	98	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	1778	44	75	2059	45	47	40	137	101	98	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	194	1956	48	75	2265	50	47	40	137	101	98	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.55	0.55	0.83	0.59	0.95	0.95
Lanes:	1.00	2.93	0.07	1.00	2.94	0.06	0.54	0.46	1.00	1.00	0.78	0.22
Final Sat.:	1770	5453	135	1770	5469	120	564	480	1583	1118	1417	390
Capacity Analysis Module:												
Vol/Sat:	0.11	0.36	0.36	0.04	0.41	0.41	0.08	0.08	0.09	0.09	0.07	0.07
Crit Moves:	****				****					****		
Green/Cycle:	0.17	0.72	0.72	0.08	0.63	0.63	0.14	0.14	0.14	0.14	0.14	0.14
Volume/Cap:	0.65	0.50	0.50	0.50	0.65	0.65	0.60	0.60	0.63	0.65	0.50	0.50
Delay/Veh:	47.8	7.2	7.2	52.1	13.4	13.4	51.0	51.0	50.2	52.9	46.8	46.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.8	7.2	7.2	52.1	13.4	13.4	51.0	51.0	50.2	52.9	46.8	46.8
DesignQueue:	14	17	17	6	26	26	6	6	10	7	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 | Critical Vol./Cap.(X): 0.608
Loss Time (sec): 12 | Average Delay (sec/veh): 13.6
Optimal Cycle: 52 | Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 1	0	1	0 2	1 0	1	0	0 1	0	1	0
Volume Module:												
Base Vol:	31	1816	17	53	2060	46	102	6	12	35	8	103
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1816	17	53	2060	46	102	6	12	35	8	103
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	31	1816	17	53	2060	46	102	6	12	35	8	103
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	1816	17	53	2060	46	102	6	12	35	8	103
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	1998	19	53	2266	51	102	6	12	35	8	103
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.88	0.88	0.93	0.84	0.84
Lanes:	1.00	2.97	0.03	1.00	2.93	0.07	1.00	0.33	0.67	1.00	0.07	0.93
Final Sat.:	1770	5536	52	1770	5466	122	1770	559	1118	1770	115	1487
Capacity Analysis Module:												
Vol/Sat:	0.02	0.36	0.36	0.03	0.41	0.41	0.06	0.01	0.01	0.02	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.03	0.66	0.66	0.05	0.68	0.68	0.09	0.07	0.07	0.14	0.11	0.11
Volume/Cap:	0.61	0.55	0.55	0.55	0.61	0.61	0.61	0.15	0.15	0.14	0.61	0.61
Delay/Veh:	67.1	10.7	10.7	57.3	10.0	10.0	53.9	49.9	49.9	43.1	52.1	52.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	67.1	10.7	10.7	57.3	10.0	10.0	53.9	49.9	49.9	43.1	52.1	52.1
DesignQueue:	3	21	21	4	23	23	8	1	1	3	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 | Critical Vol./Cap.(X): 0.632
Loss Time (sec): 12 | Average Delay (sec/veh): 30.9
Optimal Cycle: 54 | Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	71	1589	83	244	1844	28	132	188	77	550	463	221
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	1589	83	244	1844	28	132	188	77	550	463	221
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	71	1589	83	244	1844	28	132	188	77	550	463	221
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	1589	83	244	1844	28	132	188	77	550	463	221
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	71	1748	91	251	2028	31	136	188	77	567	486	221
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.98	0.98	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.80	0.20	2.00	3.94	0.06	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	7010	366	3539	7340	111	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.04	0.25	0.25	0.07	0.28	0.28	0.04	0.10	0.05	0.16	0.13	0.14
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.39	0.39	0.11	0.44	0.44	0.09	0.16	0.16	0.25	0.32	0.32
Volume/Cap:	0.62	0.63	0.63	0.63	0.62	0.62	0.42	0.63	0.30	0.63	0.41	0.43
Delay/Veh:	58.9	28.2	28.2	50.6	24.7	24.7	49.4	47.8	42.5	38.9	30.4	30.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.9	28.2	28.2	50.6	24.7	24.7	49.4	47.8	42.5	38.9	30.4	30.9
DesignQueue:	6	25	25	9	26	26	5	14	5	18	14	13

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 | Critical Vol./Cap.(X): 0.568
Loss Time (sec): 9 | Average Delay (sec/veh): 10.3
Optimal Cycle: 39 | Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	55	1407	5	64	1851	98	102	5	32	5	5	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	1407	5	64	1851	98	102	5	32	5	5	67
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	55	1407	5	64	1851	98	102	5	32	5	5	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	1407	5	64	1851	98	102	5	32	5	5	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	1548	6	64	2036	108	102	5	32	5	5	67
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	0.99	0.99	0.62	0.62	0.62	0.76	0.76	0.76
Lanes:	1.00	2.99	0.01	1.00	2.85	0.15	0.73	0.04	0.23	0.06	0.06	0.88
Final Sat.:	1805	5680	20	1805	5359	284	861	42	270	94	94	1264
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.27	0.04	0.38	0.38	0.12	0.12	0.12	0.05	0.05	0.05
Crit Moves:	****				****			****				
Green/Cycle:	0.05	0.60	0.60	0.12	0.67	0.67	0.21	0.21	0.21	0.21	0.21	0.21
Volume/Cap:	0.57	0.45	0.45	0.30	0.57	0.57	0.57	0.57	0.57	0.25	0.25	0.25
Delay/Veh:	44.1	9.2	9.2	34.0	7.6	7.6	32.1	32.1	32.1	27.9	27.9	27.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.1	9.2	9.2	34.0	7.6	7.6	32.1	32.1	32.1	27.9	27.9	27.9
DesignQueue:	4	16	16	4	19	19	8	8	8	4	4	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 | Critical Vol./Cap.(X): 0.676
Loss Time (sec): 12 | Average Delay (sec/veh): 23.0
Optimal Cycle: 59 | Level Of Service: C

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	248	1319	451	111	1545	111	163	317	208	189	139	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	1319	451	111	1545	111	163	317	208	189	139	30
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	248	1319	451	111	1545	111	163	317	208	189	139	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	1319	451	111	1545	111	163	317	208	189	139	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	248	1451	496	111	1700	122	168	333	208	195	146	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.94	0.94	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.24	0.76	1.00	2.80	0.20	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	3998	1367	1770	5162	371	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.14	0.36	0.36	0.06	0.33	0.33	0.05	0.09	0.13	0.06	0.04	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.21	0.59	0.59	0.10	0.49	0.49	0.11	0.13	0.34	0.08	0.11	0.21
Volume/Cap:	0.68	0.61	0.61	0.61	0.68	0.68	0.44	0.68	0.39	0.68	0.37	0.09
Delay/Veh:	39.5	13.2	13.2	46.7	19.9	19.9	42.0	43.4	25.1	48.4	41.3	31.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.5	13.2	13.2	46.7	19.9	19.9	42.0	43.4	25.1	48.4	41.3	31.5
DesignQueue:	15	21	21	7	25	25	5	11	10	7	5	2

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
AM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	000001	000001
2	Mission & A St	000000	002100	200010	301100
3	Mission & B St	000000	004100	000000	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Scenario Report

Scenario:	Existing_plus_pro_238_PM
Command:	Existing_plus_pro_238_PM
Volume:	Existing_plus_pro_238_PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	B	8.0	0.395	B	8.0	0.395	+ 0.000
# 2 Mission & A St	F	79.1	1.128	F	79.1	1.128	+ 0.000
# 3 Mission & B St	C	16.4	0.791	C	16.4	0.791	+ 0.000
# 4 Mission & C St	B	7.6	0.750	B	7.6	0.750	+ 0.000
# 5 Mission & D St	C	18.4	0.740	C	18.4	0.740	+ 0.000
# 6 Mission & Jackson-Foothill	B	13.4	0.739	B	13.4	0.739	+ 0.000
# 7 Mission & Fletcher	C	21.5	0.708	C	21.5	0.708	+ 0.000
# 8 Mission & Highland	B	13.8	0.677	B	13.8	0.677	+ 0.000
# 9 Mission & Carlos Bee	D	29.8	0.679	D	29.8	0.679	+ 0.000
# 10 Mission & Berry (signal)	B	11.2	0.523	B	11.2	0.523	+ 0.000
# 11 Mission & Harder	C	22.0	0.671	C	22.0	0.671	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	C	678.9	27.9	C	678.9	27.9	+ 0.0
# 2 Mission Blvd. (SB)	SB	C	803.9	22.1	C	803.9	22.1	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	E	328.4	15.7	E	328.4	15.7	+ 0.0
# 5 Mission no proj (NB)	NB	B	592.5	30.0	B	592.5	30.0	+ 0.0
# 6 Mission SB no-proj	SB	C	803.9	22.1	C	803.9	22.1	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.395
Loss Time (sec): 9 | Average Delay (sec/veh): 8.0
Optimal Cycle: 29 | Level Of Service: B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	28	656	7	12	660	83	104	41	32	5	22	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	656	7	12	660	83	104	41	32	5	22	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	656	7	12	660	83	104	41	32	5	22	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	656	7	12	660	83	104	41	32	5	22	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	689	7	13	693	87	104	41	32	5	22	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.82	0.87	0.87	0.87	0.77	0.77	0.77	0.83	0.83	0.83
Lanes:	0.08	1.90	0.02	0.03	1.75	0.22	0.59	0.23	0.18	0.12	0.55	0.33
Final Sat.:	126	2958	32	53	2897	364	865	341	266	196	863	510
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.24	0.24	0.24	0.12	0.12	0.12	0.03	0.03	0.03
Crit Moves:					****			****				
Green/Cycle:	0.61	0.61	0.61	0.61	0.61	0.61	0.30	0.30	0.30	0.30	0.30	0.30
Volume/Cap:	0.38	0.38	0.38	0.40	0.40	0.40	0.40	0.40	0.40	0.08	0.08	0.08
Delay/Veh:	6.6	6.6	6.6	6.7	6.7	6.7	18.1	18.1	18.1	16.0	16.0	16.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	6.6	6.6	6.6	6.7	6.7	6.7	18.1	18.1	18.1	16.0	16.0	16.0
DesignQueue:	8	8	8	9	9	9	7	7	7	2	2	2

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec): 120 | Critical Vol./Cap.(X): 1.128
Loss Time (sec): 9 | Average Delay (sec/veh): 79.1
Optimal Cycle: 180 | Level Of Service: F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	2 0	0 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	776	142	459	0	768	1926	672	297
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	776	142	459	0	768	1926	672	297
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	776	142	459	0	768	1926	672	297
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	776	142	459	0	768	1926	672	297
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.05
FinalVolume:	0	0	0	0	854	156	473	0	768	1984	706	312
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.96	0.96	0.93	1.00	0.83	0.93	0.93	0.93
Lanes:	0.00	0.00	0.00	0.00	2.54	0.46	2.00	0.00	1.00	3.00	1.39	0.61
Final Sat.:	0	0	0	0	4629	847	3539	0	1583	5309	2454	1085
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.18	0.18	0.13	0.00	0.49	0.37	0.29	0.29
Crit Moves:						****			****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.16	0.16	0.43	0.00	0.43	0.33	0.33	0.33
Volume/Cap:	0.00	0.00	0.00	0.00	1.13	1.13	0.31	0.00	1.13	1.13	0.87	0.87
Delay/Veh:	0.0	0.0	0.0	0.0	108	108.2	17.1	0.0	99.6	94.4	33.7	33.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	108	108.2	17.1	0.0	99.6	94.4	33.7	33.7
DesignQueue:	0	0	0	0	20	20	9	0	33	32	24	24

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.791
Loss Time (sec):	6	Average Delay (sec/veh):	16.4
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	0	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3561	87	0	0	0	620	415	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3561	87	0	0	0	620	415	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3561	87	0	0	0	620	415	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3561	87	0	0	0	620	415	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	3917	96	0	0	0	651	436	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	0.89	0.89	1.00
Lanes:	0.00	0.00	0.00	0.00	4.88	0.12	0.00	0.00	0.00	1.20	0.80	0.00
Final Sat.:	0	0	0	0	9092	222	0	0	0	2031	1359	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.00	0.32	0.32	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.54	0.54	0.00	0.00	0.00	0.41	0.41	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.79	0.79	0.00	0.00	0.00	0.79	0.79	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.8	14.8	0.0	0.0	0.0	22.4	22.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.8	14.8	0.0	0.0	0.0	22.4	22.4	0.0
DesignQueue:	0	0	0	0	27	27	0	0	0	23	23	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.750
Loss Time (sec):	6	Average Delay (sec/veh):	7.6
Optimal Cycle:	50	Level Of Service:	B

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	967	3267	0	0	504	106	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	967	3267	0	0	504	106	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	967	3267	0	0	504	106	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	967	3267	0	0	504	106	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	1064	3594	0	0	554	117	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	4.00	0.00	0.00	2.48	0.52	0.00	0.00	0.00
Final Sat.:	0	0	0	1807	7227	0	0	4479	942	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.59	0.50	0.00	0.00	0.12	0.12	0.00	0.00	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.78	0.78	0.00	0.00	0.17	0.17	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.75	0.63	0.00	0.00	0.75	0.75	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	4.7	3.7	0.0	0.0	33.3	33.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	4.7	3.7	0.0	0.0	33.3	33.3	0.0	0.0	0.0
DesignQueue:	0	0	0	18	15	0	0	13	13	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 | Critical Vol./Cap.(X): 0.740
Loss Time (sec): 9 | Average Delay (sec/veh): 18.4
Optimal Cycle: 59 | Level Of Service: C

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	17	3168	184	0	627	57	504	311	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	3168	184	0	627	57	504	311	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	17	3168	184	0	627	57	504	311	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	17	3168	184	0	627	57	504	311	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	19	3485	202	0	690	63	519	327	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.03	4.70	0.27	0.00	2.75	0.25	2.00	2.00	0.00
Final Sat.:	0	0	0	47	8670	504	0	5071	461	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.40	0.40	0.40	0.00	0.14	0.14	0.15	0.09	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.54	0.54	0.54	0.00	0.18	0.18	0.20	0.38	0.00
Volume/Cap:	0.00	0.00	0.00	0.74	0.74	0.74	0.00	0.74	0.74	0.74	0.23	0.00
Delay/Veh:	0.0	0.0	0.0	14.0	14.0	14.0	0.0	31.9	31.9	32.1	16.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	14.0	14.0	14.0	0.0	31.9	31.9	32.1	16.2	0.0
DesignQueue:	0	0	0	25	25	25	0	14	14	14	7	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 | Critical Vol./Cap.(X): 0.739
Loss Time (sec): 6 | Average Delay (sec/veh): 13.4
Optimal Cycle: 45 | Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2121	0	2191	1443	0	1703	89	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2121	0	2191	1443	0	1703	89	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2191	0	0	1703	89	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2191	0	0	1703	89	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2410	0	0	1873	98	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.85	0.15	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5258	275	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.36	0.36	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.48	0.48	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.74	0.74	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.0	0.0	0.0	12.7	12.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.0	0.0	0.0	12.7	12.7	0.0	0.0	0.0
DesignQueue:	0	0	0	0	15	0	0	16	16	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 | Critical Vol./Cap.(X): 0.708
Loss Time (sec): 9 | Average Delay (sec/veh): 21.5
Optimal Cycle: 56 | Level Of Service: C

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	0 1	0	0 1	1 0	0	1 0
Volume Module:												
Base Vol:	257	2120	44	152	1913	64	29	53	207	71	39	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	257	2120	44	152	1913	64	29	53	207	71	39	77
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	257	2120	44	152	1913	64	29	53	207	71	39	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	257	2120	44	152	1913	64	29	53	207	71	39	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	257	2332	48	152	2104	70	29	53	207	71	39	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.83	0.83	0.83	0.65	0.88	0.88
Lanes:	1.00	2.94	0.06	1.00	2.90	0.10	0.35	0.65	1.00	1.00	0.34	0.66
Final Sat.:	1770	5475	114	1770	5407	181	560	1023	1583	1229	564	1113
Capacity Analysis Module:												
Vol/Sat:	0.15	0.43	0.43	0.09	0.39	0.39	0.05	0.05	0.13	0.06	0.07	0.07
Crit Moves:	****				****				****			
Green/Cycle:	0.21	0.63	0.63	0.13	0.55	0.55	0.18	0.18	0.18	0.18	0.18	0.18
Volume/Cap:	0.71	0.68	0.68	0.68	0.71	0.71	0.28	0.28	0.71	0.31	0.37	0.37
Delay/Veh:	46.4	14.1	14.1	52.9	19.4	19.4	40.1	40.1	48.8	40.5	41.1	41.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.4	14.1	14.1	52.9	19.4	19.4	40.1	40.1	48.8	40.5	41.1	41.1
DesignQueue:	18	28	28	11	30	30	6	6	14	5	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 | Critical Vol./Cap.(X): 0.677
Loss Time (sec): 12 | Average Delay (sec/veh): 13.8
Optimal Cycle: 60 | Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	55	2262	41	127	1934	91	98	18	25	44	6	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	2262	41	127	1934	91	98	18	25	44	6	62
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	55	2262	41	127	1934	91	98	18	25	44	6	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	2262	41	127	1934	91	98	18	25	44	6	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	2488	45	127	2127	100	98	18	25	44	6	62
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.97	0.97	0.93	0.89	0.89	0.93	0.84	0.84
Lanes:	1.00	2.95	0.05	1.00	2.87	0.13	1.00	0.42	0.58	1.00	0.09	0.91
Final Sat.:	1770	5489	99	1770	5284	249	1770	710	986	1770	141	1461
Capacity Analysis Module:												
Vol/Sat:	0.03	0.45	0.45	0.07	0.40	0.40	0.06	0.03	0.03	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.06	0.67	0.67	0.11	0.72	0.72	0.08	0.05	0.05	0.10	0.06	0.06
Volume/Cap:	0.56	0.68	0.68	0.68	0.56	0.56	0.68	0.53	0.53	0.26	0.68	0.68
Delay/Veh:	57.5	11.7	11.7	55.4	7.6	7.6	58.8	57.7	57.7	47.9	63.2	63.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.5	11.7	11.7	55.4	7.6	7.6	58.8	57.7	57.7	47.9	63.2	63.2
DesignQueue:	4	26	26	10	19	19	8	3	3	3	5	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 | Critical Vol./Cap.(X): 0.679
Loss Time (sec): 12 | Average Delay (sec/veh): 29.8
Optimal Cycle: 61 | Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	103	1818	145	352	1523	105	131	357	135	131	197	267
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	1818	145	352	1523	105	131	357	135	131	197	267
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	103	1818	145	352	1523	105	131	357	135	131	197	267
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	1818	145	352	1523	105	131	357	135	131	197	267
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	103	2000	160	363	1675	116	135	357	135	135	207	267
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.70	0.30	2.00	3.74	0.26	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	6832	545	3539	6901	476	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.06	0.29	0.29	0.10	0.24	0.24	0.04	0.19	0.09	0.04	0.06	0.17
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.43	0.43	0.15	0.47	0.47	0.06	0.28	0.28	0.06	0.27	0.27
Volume/Cap:	0.52	0.68	0.68	0.68	0.52	0.52	0.59	0.68	0.30	0.68	0.20	0.62
Delay/Veh:	49.6	26.5	26.5	48.2	21.3	21.3	54.6	38.8	32.2	58.9	31.9	38.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.6	26.5	26.5	48.2	21.3	21.3	54.6	38.8	32.2	58.9	31.9	38.1
DesignQueue:	8	28	28	13	21	21	5	22	8	5	6	17

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 | Critical Vol./Cap.(X): 0.523
Loss Time (sec): 9 | Average Delay (sec/veh): 11.2
Optimal Cycle: 36 | Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	106	1734	5	81	1401	146	85	5	30	5	5	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	1734	5	81	1401	146	85	5	30	5	5	81
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	106	1734	5	81	1401	146	85	5	30	5	5	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	1734	5	81	1401	146	85	5	30	5	5	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	1907	6	81	1541	161	85	5	30	5	5	81
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	0.99	0.99	0.59	0.59	0.59	0.77	0.77	0.77
Lanes:	1.00	2.99	0.01	1.00	2.72	0.28	0.71	0.04	0.25	0.05	0.05	0.90
Final Sat.:	1805	5684	16	1805	5110	533	796	47	281	81	81	1306
Capacity Analysis Module:												
Vol/Sat:	0.06	0.34	0.34	0.04	0.30	0.30	0.11	0.11	0.11	0.06	0.06	0.06
Crit Moves:		****		****				****				
Green/Cycle:	0.12	0.64	0.64	0.09	0.61	0.61	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	0.50	0.52	0.52	0.52	0.50	0.50	0.52	0.52	0.52	0.30	0.30	0.30
Delay/Veh:	36.2	8.3	8.3	39.3	9.3	9.3	31.5	31.5	31.5	28.6	28.6	28.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.2	8.3	8.3	39.3	9.3	9.3	31.5	31.5	31.5	28.6	28.6	28.6
DesignQueue:	7	18	18	5	17	17	7	7	7	5	5	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 | Critical Vol./Cap.(X): 0.671
Loss Time (sec): 12 | Average Delay (sec/veh): 22.0
Optimal Cycle: 58 | Level Of Service: C

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	351	1681	282	81	1347	127	107	181	208	228	203	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	351	1681	282	81	1347	127	107	181	208	228	203	61
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	351	1681	282	81	1347	127	107	181	208	228	203	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	351	1681	282	81	1347	127	107	181	208	228	203	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	351	1849	310	81	1482	140	110	190	208	235	213	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.96	0.96	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.57	0.43	1.00	2.74	0.26	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4690	787	1770	5056	477	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.20	0.39	0.39	0.05	0.29	0.29	0.03	0.05	0.13	0.07	0.06	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.30	0.66	0.66	0.08	0.44	0.44	0.08	0.08	0.37	0.10	0.09	0.17
Volume/Cap:	0.67	0.60	0.60	0.60	0.67	0.67	0.37	0.67	0.35	0.67	0.63	0.23
Delay/Veh:	32.9	9.8	9.8	49.2	22.7	22.7	43.1	48.6	22.6	46.4	46.1	35.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.9	9.8	9.8	49.2	22.7	22.7	43.1	48.6	22.6	46.4	46.1	35.8
DesignQueue:	19	20	20	5	24	24	4	6	10	8	7	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Existing Plus Project 238
PM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	000001	000001
2	Mission & A St	000000	002100	200010	301100
3	Mission & B St	000000	004100	000000	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Scenario Report

Scenario:	Cumulative_2035_AM
Command:	Cumulative_2035_AM
Volume:	Cumulative_2035_AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	B	12.5	0.821	B	12.5	0.821	+ 0.000
# 2 Mission & A St	F	218.7	1.323	F	218.7	1.323	+ 0.000
# 3 Mission & B St	C	15.8	0.833	C	15.8	0.833	+ 0.000
# 4 Mission & C St	B	11.7	0.713	B	11.7	0.713	+ 0.000
# 5 Mission & D St	D	39.3	0.987	D	39.3	0.987	+ 0.000
# 6 Mission & Jackson-Foothill	B	13.3	0.789	B	13.3	0.789	+ 0.000
# 7 Mission & Fletcher	D	26.1	0.947	D	26.1	0.947	+ 0.000
# 8 Mission & Highland	B	12.8	0.808	B	12.8	0.808	+ 0.000
# 9 Mission & Carlos Bee	D	38.3	0.918	D	38.3	0.918	+ 0.000
# 10 Mission & Berry (signal)	B	9.2	0.692	B	9.2	0.692	+ 0.000
# 11 Mission & Harder	D	27.4	0.882	D	27.4	0.882	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	C	950.0	19.9	C	950.0	19.9	+ 0.0
# 2 Mission Blvd. (SB)	SB	D	1100.2	16.1	D	1100.2	16.1	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	169.7	28.0	B	169.7	28.0	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	F	570.1	9.0	F	570.1	9.0	+ 0.0
# 5 Mission no proj (NB)	NB	B	638.0	27.9	B	638.0	27.9	+ 0.0
# 6 Mission SB no-proj	SB	D	1100.2	16.1	D	1100.2	16.1	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	169.7	28.0	B	169.7	28.0	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	169.7	28.0	B	169.7	28.0	+ 0.0

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec): 100 Critical Vol./Cap.(X): 0.821
Loss Time (sec): 9 Average Delay (sec/veh): 12.5
Optimal Cycle: 74 Level Of Service: B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	23	322	2	32	1463	241	154	80	62	11	38	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	322	2	32	1463	241	154	80	62	11	38	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	322	2	32	1463	241	154	80	62	11	38	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	322	2	32	1463	241	154	80	62	11	38	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	338	2	34	1536	253	154	80	62	11	38	39
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.69	0.69	0.69	0.91	0.91	0.91	0.70	0.70	0.70	0.76	0.76	0.76
Lanes:	0.13	1.86	0.01	0.04	1.68	0.28	0.52	0.27	0.21	0.12	0.43	0.45
Final Sat.:	174	2433	15	64	2919	481	697	362	280	182	627	644
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.53	0.53	0.53	0.22	0.22	0.22	0.06	0.06	0.06
Crit Moves:					****			****				
Green/Cycle:	0.64	0.64	0.64	0.64	0.64	0.64	0.27	0.27	0.27	0.27	0.27	0.27
Volume/Cap:	0.22	0.22	0.22	0.82	0.82	0.82	0.82	0.82	0.82	0.23	0.23	0.23
Delay/Veh:	4.9	4.9	4.9	10.6	10.6	10.6	31.8	31.8	31.8	18.4	18.4	18.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	4.9	4.9	4.9	10.6	10.6	10.6	31.8	31.8	31.8	18.4	18.4	18.4
DesignQueue:	4	4	4	21	21	21	13	13	13	4	4	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec): 120 Critical Vol./Cap.(X): 1.323
Loss Time (sec): 9 Average Delay (sec/veh): 218.7
Optimal Cycle: 180 Level Of Service: F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	2 0	0 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	1146	439	246	0	621	2609	1287	398
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	1146	439	246	0	621	2609	1287	398
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1146	439	246	0	621	2609	1287	398
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1146	439	246	0	621	2609	1287	398
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.05
FinalVolume:	0	0	0	0	1261	483	253	0	621	2687	1351	418
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.94	0.94	0.93	1.00	0.83	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.17	0.83	2.00	0.00	1.00	3.00	1.53	0.47
Final Sat.:	0	0	0	0	3879	1486	3539	0	1583	5309	2732	845
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.32	0.32	0.07	0.00	0.39	0.51	0.49	0.49
Crit Moves:					****				****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.25	0.25	0.30	0.00	0.30	0.38	0.38	0.38
Volume/Cap:	0.00	0.00	0.00	0.00	1.32	1.32	0.24	0.00	1.32	1.32	1.29	1.29
Delay/Veh:	0.0	0.0	0.0	0.0	237	236.9	24.3	0.0	246.6	228.2	204	204.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	237	236.9	24.3	0.0	246.6	228.2	204	204.4
DesignQueue:	0	0	0	0	32	32	6	0	32	42	42	42

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.833
Loss Time (sec):	6	Average Delay (sec/veh):	15.8
Optimal Cycle:	69	Level Of Service:	C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	0	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3316	773	0	0	0	620	317	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3316	773	0	0	0	620	317	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3316	773	0	0	0	620	317	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3316	773	0	0	0	620	317	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	3648	850	0	0	0	651	333	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.88	0.88	1.00
Lanes:	0.00	0.00	0.00	0.00	4.05	0.95	0.00	0.00	0.00	1.32	0.68	0.00
Final Sat.:	0	0	0	0	7326	1708	0	0	0	2219	1134	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.29	0.29	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.00	0.35	0.35	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.00	0.83	0.83	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	13.4	13.4	0.0	0.0	0.0	26.7	26.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	13.4	13.4	0.0	0.0	0.0	26.7	26.7	0.0
DesignQueue:	0	0	0	0	28	28	0	0	0	23	23	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.713
Loss Time (sec):	6	Average Delay (sec/veh):	11.7
Optimal Cycle:	45	Level Of Service:	B

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	589	3128	0	0	238	353	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	589	3128	0	0	238	353	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	589	3128	0	0	238	353	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	589	3128	0	0	238	353	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	648	3441	0	0	262	388	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.96	0.96	1.00	1.00	0.89	0.89	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.79	4.21	0.00	0.00	2.00	1.00	0.00	0.00	0.00
Final Sat.:	0	0	0	1446	7681	0	0	3390	1695	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.45	0.45	0.00	0.00	0.08	0.23	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.00	0.00	0.63	0.63	0.00	0.00	0.32	0.32	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.71	0.71	0.00	0.00	0.24	0.71	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	0.0	0.0	19.4	25.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	0.0	0.0	19.4	25.0	0.0	0.0	0.0
DesignQueue:	0	0	0	23	23	0	0	6	19	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.987
Loss Time (sec): 9 Average Delay (sec/veh): 39.3
Optimal Cycle: 180 Level Of Service: D

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	11	3329	169	0	422	46	1378	473	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	3329	169	0	422	46	1378	473	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	3329	169	0	422	46	1378	473	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	3329	169	0	422	46	1378	473	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	12	3662	186	0	464	51	1419	497	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.02	4.74	0.24	0.00	2.71	0.29	2.00	2.00	0.00
Final Sat.:	0	0	0	29	8748	444	0	4989	544	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.42	0.42	0.42	0.00	0.09	0.09	0.40	0.13	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.41	0.41	0.41	0.00	0.13	0.13	0.39	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	1.02	1.02	1.02	0.00	0.74	0.74	1.02	0.26	0.00
Delay/Veh:	0.0	0.0	0.0	40.2	40.2	40.2	0.0	35.8	35.8	48.3	10.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	40.2	40.2	40.2	0.0	35.8	35.8	48.3	10.5	0.0
DesignQueue:	0	0	0	34	34	34	0	10	10	32	8	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 Critical Vol./Cap.(X): 0.789
Loss Time (sec): 6 Average Delay (sec/veh): 13.3
Optimal Cycle: 53 Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2112	0	2884	1973	0	1413	98	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2112	0	2884	1973	0	1413	98	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2884	0	0	1413	98	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2884	0	0	1413	98	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	3172	0	0	1554	108	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.81	0.19	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5174	359	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.30	0.30	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.38	0.38	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.79	0.79	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	11.3	0.0	0.0	17.1	17.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	11.3	0.0	0.0	17.1	17.1	0.0	0.0	0.0
DesignQueue:	0	0	0	0	17	0	0	15	15	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.947
Loss Time (sec): 9 Average Delay (sec/veh): 26.1
Optimal Cycle: 169 Level Of Service: D

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	315	2020	76	116	2899	43	21	51	178	166	156	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	2020	76	116	2899	43	21	51	178	166	156	33
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	315	2020	76	116	2899	43	21	51	178	166	156	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	2020	76	116	2899	43	21	51	178	166	156	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	2222	84	116	3189	47	21	51	178	166	156	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.98	0.98	0.59	0.59	0.83	0.66	0.95	0.95
Lanes:	1.00	2.89	0.11	1.00	2.96	0.04	0.29	0.71	1.00	1.00	0.83	0.17
Final Sat.:	1770	5332	201	1770	5507	82	326	792	1583	1248	1491	315
Capacity Analysis Module:												
Vol/Sat:	0.18	0.42	0.42	0.07	0.58	0.58	0.06	0.06	0.11	0.13	0.10	0.10
Crit Moves:	****				****					****		
Green/Cycle:	0.19	0.69	0.69	0.11	0.61	0.61	0.14	0.14	0.14	0.14	0.14	0.14
Volume/Cap:	0.95	0.60	0.60	0.60	0.95	0.95	0.46	0.46	0.80	0.95	0.74	0.74
Delay/Veh:	71.6	9.5	9.5	52.2	25.4	25.4	46.5	46.5	59.9	86.7	54.7	54.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.6	9.5	9.5	52.2	25.4	25.4	46.5	46.5	59.9	86.7	54.7	54.7
DesignQueue:	22	22	22	9	41	41	5	5	13	12	14	14

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.808
Loss Time (sec): 12 Average Delay (sec/veh): 12.8
Optimal Cycle: 89 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	29	2229	16	53	3025	43	89	7	9	49	8	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	2229	16	53	3025	43	89	7	9	49	8	109
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	29	2229	16	53	3025	43	89	7	9	49	8	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	2229	16	53	3025	43	89	7	9	49	8	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	2452	18	53	3328	47	89	7	9	49	8	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.89	0.89	0.93	0.84	0.84
Lanes:	1.00	2.98	0.02	1.00	2.96	0.04	1.00	0.44	0.56	1.00	0.07	0.93
Final Sat.:	1770	5548	40	1770	5510	78	1770	742	953	1770	110	1492
Capacity Analysis Module:												
Vol/Sat:	0.02	0.44	0.44	0.03	0.60	0.60	0.05	0.01	0.01	0.03	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.03	0.72	0.72	0.05	0.74	0.74	0.06	0.05	0.05	0.10	0.09	0.09
Volume/Cap:	0.61	0.61	0.61	0.61	0.81	0.81	0.81	0.19	0.19	0.27	0.81	0.81
Delay/Veh:	68.8	8.2	8.2	61.4	10.5	10.5	76.5	52.0	52.0	47.6	70.2	70.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	68.8	8.2	8.2	61.4	10.5	10.5	76.5	52.0	52.0	47.6	70.2	70.2
DesignQueue:	2	22	22	4	29	29	7	1	1	4	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.918
Loss Time (sec): 12 Average Delay (sec/veh): 38.3
Optimal Cycle: 146 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	276	1770	67	258	2555	256	368	189	113	527	575	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	276	1770	67	258	2555	256	368	189	113	527	575	220
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	276	1770	67	258	2555	256	368	189	113	527	575	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	276	1770	67	258	2555	256	368	189	113	527	575	220
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	276	1947	74	266	2811	282	379	189	113	543	604	220
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.85	0.15	2.00	3.64	0.36	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	7107	269	3539	6705	672	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.16	0.27	0.27	0.08	0.42	0.42	0.11	0.10	0.07	0.15	0.16	0.14
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.49	0.49	0.13	0.46	0.46	0.12	0.12	0.12	0.18	0.18	0.18
Volume/Cap:	0.92	0.56	0.56	0.56	0.92	0.92	0.92	0.87	0.61	0.87	0.92	0.79
Delay/Veh:	68.9	20.4	20.4	47.2	32.3	32.3	67.8	69.6	51.9	54.5	59.0	54.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	68.9	20.4	20.4	47.2	32.3	32.3	67.8	69.6	51.9	54.5	59.0	54.3
DesignQueue:	20	23	23	10	39	39	14	14	8	19	22	16

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.692
Loss Time (sec): 9 Average Delay (sec/veh): 9.2
Optimal Cycle: 52 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	56	1777	5	121	2636	46	32	5	57	5	5	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	1777	5	121	2636	46	32	5	57	5	5	128
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	56	1777	5	121	2636	46	32	5	57	5	5	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	1777	5	121	2636	46	32	5	57	5	5	128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	1955	6	121	2900	51	32	5	57	5	5	128
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.58	0.58	0.58	0.76	0.76	0.76
Lanes:	1.00	2.99	0.01	1.00	2.95	0.05	0.34	0.05	0.61	0.03	0.04	0.93
Final Sat.:	1805	5684	16	1805	5602	98	377	59	671	52	52	1343
Capacity Analysis Module:												
Vol/Sat:	0.03	0.34	0.34	0.07	0.52	0.52	0.08	0.08	0.08	0.10	0.10	0.10
Crit Moves:	****				****						****	
Green/Cycle:	0.05	0.66	0.66	0.13	0.74	0.74	0.14	0.14	0.14	0.14	0.14	0.14
Volume/Cap:	0.58	0.52	0.52	0.52	0.70	0.70	0.62	0.62	0.62	0.70	0.70	0.70
Delay/Veh:	44.5	7.3	7.3	35.7	6.2	6.2	39.6	39.6	39.6	41.6	41.6	41.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.5	7.3	7.3	35.7	6.2	6.2	39.6	39.6	39.6	41.6	41.6	41.6
DesignQueue:	4	17	17	8	21	21	6	6	6	9	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 Critical Vol./Cap.(X): 0.882
Loss Time (sec): 12 Average Delay (sec/veh): 27.4
Optimal Cycle: 115 Level Of Service: D

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	248	1531	434	118	2306	147	353	354	360	252	136	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	1531	434	118	2306	147	353	354	360	252	136	57
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	248	1531	434	118	2306	147	353	354	360	252	136	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	1531	434	118	2306	147	353	354	360	252	136	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	248	1684	477	118	2537	162	364	372	360	260	143	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.95	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.34	0.66	1.00	2.82	0.18	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4223	1197	1770	5201	332	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.14	0.40	0.40	0.07	0.49	0.49	0.10	0.10	0.23	0.07	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.61	0.61	0.10	0.55	0.55	0.13	0.11	0.27	0.08	0.07	0.17
Volume/Cap:	0.88	0.65	0.65	0.65	0.88	0.88	0.80	0.88	0.84	0.88	0.57	0.21
Delay/Veh:	58.9	12.9	12.9	48.3	21.7	21.7	48.5	56.6	43.2	62.5	46.9	35.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.9	12.9	12.9	48.3	21.7	21.7	48.5	56.6	43.2	62.5	46.9	35.4
DesignQueue:	16	23	23	8	33	33	12	12	20	9	5	3

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	000001	000001
2	Mission & A St	000000	002100	200010	301100
3	Mission & B St	000000	004100	000000	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Scenario Report

Scenario:	Cumulative_2035_PM
Command:	Cumulative_2035_PM
Volume:	Cumulative_2035_PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	F	75.1	1.220	F	75.1	1.220	+ 0.000
# 2 Mission & A St	F	284.9	1.414	F	284.9	1.414	+ 0.000
# 3 Mission & B St	C	16.9	0.875	C	16.9	0.875	+ 0.000
# 4 Mission & C St	B	11.8	0.901	B	11.8	0.901	+ 0.000
# 5 Mission & D St	E	50.0	1.041	E	50.0	1.041	+ 0.000
# 6 Mission & Jackson-Foothill	B	14.7	0.826	B	14.7	0.826	+ 0.000
# 7 Mission & Fletcher	D	26.6	0.877	D	26.6	0.877	+ 0.000
# 8 Mission & Highland	B	13.8	0.825	B	13.8	0.825	+ 0.000
# 9 Mission & Carlos Bee	D	39.1	0.885	D	39.1	0.885	+ 0.000
# 10 Mission & Berry (signal)	B	12.3	0.567	B	12.3	0.567	+ 0.000
# 11 Mission & Harder	D	29.1	0.844	D	29.1	0.844	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	E	1221.1	15.5	E	1221.1	15.5	+ 0.0
# 2 Mission Blvd. (SB)	SB	E	1157.6	15.3	E	1157.6	15.3	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	F	669.9	7.7	F	669.9	7.7	+ 0.0
# 5 Mission no proj (NB)	NB	C	781.2	22.8	C	781.2	22.8	+ 0.0
# 6 Mission SB no-proj	SB	E	1157.6	15.3	E	1157.6	15.3	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec): 100 Critical Vol./Cap.(X): 1.220
Loss Time (sec): 9 Average Delay (sec/veh): 75.1
Optimal Cycle: 180 Level Of Service: F

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	143	1547	47	37	1324	142	99	41	30	15	53	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	1547	47	37	1324	142	99	41	30	15	53	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	1547	47	37	1324	142	99	41	30	15	53	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	1547	47	37	1324	142	99	41	30	15	53	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	1624	49	39	1390	149	99	41	30	15	53	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.49	0.49	0.49	0.66	0.66	0.66	0.69	0.69	0.69	0.80	0.80	0.80
Lanes:	0.16	1.79	0.05	0.05	1.76	0.19	0.58	0.24	0.18	0.19	0.66	0.15
Final Sat.:	153	1658	50	62	2220	238	759	315	230	285	1008	228
Capacity Analysis Module:												
Vol/Sat:	0.98	0.98	0.98	0.63	0.63	0.63	0.13	0.13	0.13	0.05	0.05	0.05
Crit Moves:		****						****				
Green/Cycle:	0.80	0.80	0.80	0.80	0.80	0.80	0.11	0.11	0.11	0.11	0.11	0.11
Volume/Cap:	1.22	1.22	1.22	0.78	0.78	0.78	1.22	1.22	1.22	0.49	0.49	0.49
Delay/Veh:	126.6	127	126.6	4.8	4.8	4.8	197.0	197	197.0	29.1	29.1	29.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	126.6	127	126.6	4.8	4.8	4.8	197.0	197	197.0	29.1	29.1	29.1
DesignQueue:	11	11	11	10	10	10	9	9	9	4	4	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec): 120 Critical Vol./Cap.(X): 1.414
Loss Time (sec): 9 Average Delay (sec/veh): 284.9
Optimal Cycle: 180 Level Of Service: F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	2 0	0 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	1281	263	898	0	846	2374	897	619
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	1281	263	898	0	846	2374	897	619
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1281	263	898	0	846	2374	897	619
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1281	263	898	0	846	2374	897	619
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.05
FinalVolume:	0	0	0	0	1409	289	925	0	846	2445	942	650
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	0.93	1.00	0.83	0.93	0.92	0.92
Lanes:	0.00	0.00	0.00	0.00	2.49	0.51	2.00	0.00	1.00	3.00	1.18	0.82
Final Sat.:	0	0	0	0	4497	923	3539	0	1583	5309	2072	1430
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.31	0.31	0.26	0.00	0.53	0.46	0.45	0.45
Crit Moves:					****				****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.22	0.22	0.38	0.00	0.38	0.33	0.33	0.33
Volume/Cap:	0.00	0.00	0.00	0.00	1.41	1.41	0.69	0.00	1.41	1.41	1.40	1.40
Delay/Veh:	0.0	0.0	0.0	0.0	330	329.9	25.0	0.0	330.1	322.9	306	305.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	330	329.9	25.0	0.0	330.1	322.9	306	305.6
DesignQueue:	0	0	0	0	32	32	21	0	40	41	40	40

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.875
Loss Time (sec):	6	Average Delay (sec/veh):	16.9
Optimal Cycle:	85	Level Of Service:	C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	0	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3680	692	0	0	0	568	414	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3680	692	0	0	0	568	414	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3680	692	0	0	0	568	414	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3680	692	0	0	0	568	414	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	4048	761	0	0	0	596	435	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.00	0.89	0.89	1.00
Lanes:	0.00	0.00	0.00	0.00	4.21	0.79	0.00	0.00	0.00	1.16	0.84	0.00
Final Sat.:	0	0	0	0	7683	1445	0	0	0	1961	1429	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.53	0.53	0.00	0.00	0.00	0.30	0.30	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.00	0.35	0.35	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.87	0.87	0.00	0.00	0.00	0.87	0.87	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.3	14.3	0.0	0.0	0.0	29.1	29.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.3	14.3	0.0	0.0	0.0	29.1	29.1	0.0
DesignQueue:	0	0	0	0	29	29	0	0	0	24	24	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.901
Loss Time (sec):	6	Average Delay (sec/veh):	11.8
Optimal Cycle:	100	Level Of Service:	B

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	1091	3075	0	0	817	102	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1091	3075	0	0	817	102	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	1091	3075	0	0	817	102	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1091	3075	0	0	817	102	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	1200	3383	0	0	899	112	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.94	0.94	1.00	1.00	0.96	0.96	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	4.00	0.00	0.00	2.67	0.33	0.00	0.00	0.00
Final Sat.:	0	0	0	1788	7153	0	0	4869	608	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.67	0.47	0.00	0.00	0.18	0.18	0.00	0.00	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.75	0.75	0.00	0.00	0.20	0.20	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.90	0.63	0.00	0.00	0.90	0.90	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	9.5	4.9	0.0	0.0	37.3	37.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	9.5	4.9	0.0	0.0	37.3	37.3	0.0	0.0	0.0
DesignQueue:	0	0	0	24	16	0	0	19	19	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 Critical Vol./Cap.(X): 1.041
Loss Time (sec): 9 Average Delay (sec/veh): 50.0
Optimal Cycle: 180 Level Of Service: E

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	25	2981	175	0	1096	54	1219	324	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	25	2981	175	0	1096	54	1219	324	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	25	2981	175	0	1096	54	1219	324	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	25	2981	175	0	1096	54	1219	324	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	28	3279	193	0	1206	59	1256	340	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.04	4.69	0.27	0.00	2.86	0.14	2.00	2.00	0.00
Final Sat.:	0	0	0	72	8641	507	0	5273	260	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.38	0.38	0.38	0.00	0.23	0.23	0.35	0.09	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.36	0.36	0.36	0.00	0.22	0.22	0.34	0.56	0.00
Volume/Cap:	0.00	0.00	0.00	1.04	1.04	1.04	0.00	1.04	1.04	1.04	0.16	0.00
Delay/Veh:	0.0	0.0	0.0	47.6	47.6	47.6	0.0	61.2	61.2	56.6	8.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	47.6	47.6	47.6	0.0	61.2	61.2	56.6	8.2	0.0
DesignQueue:	0	0	0	33	33	33	0	23	23	30	5	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 Critical Vol./Cap.(X): 0.826
Loss Time (sec): 6 Average Delay (sec/veh): 14.7
Optimal Cycle: 60 Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2211	0	2685	1457	0	1699	131	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2211	0	2685	1457	0	1699	131	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2685	0	0	1699	131	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2685	0	0	1699	131	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2954	0	0	1869	144	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.79	0.21	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5136	396	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.36	0.36	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.44	0.44	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.83	0.83	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.0	0.0	0.0	15.8	15.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.0	0.0	0.0	15.8	15.8	0.0	0.0	0.0
DesignQueue:	0	0	0	0	18	0	0	17	17	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.877
Loss Time (sec): 9 Average Delay (sec/veh): 26.6
Optimal Cycle: 106 Level Of Service: D

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	331	2406	358	231	2356	40	16	56	220	132	34	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	2406	358	231	2356	40	16	56	220	132	34	77
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	331	2406	358	231	2356	40	16	56	220	132	34	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	2406	358	231	2356	40	16	56	220	132	34	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	331	2647	394	231	2592	44	16	56	220	132	34	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.96	0.96	0.93	0.98	0.98	0.90	0.90	0.83	0.68	0.87	0.87
Lanes:	1.00	2.61	0.39	1.00	2.95	0.05	0.22	0.78	1.00	1.00	0.31	0.69
Final Sat.:	1770	4767	709	1770	5495	93	381	1333	1583	1285	508	1150
Capacity Analysis Module:												
Vol/Sat:	0.19	0.56	0.56	0.13	0.47	0.47	0.04	0.04	0.14	0.10	0.07	0.07
Crit Moves:		****		****					****			
Green/Cycle:	0.22	0.63	0.63	0.15	0.56	0.56	0.16	0.16	0.16	0.16	0.16	0.16
Volume/Cap:	0.84	0.88	0.88	0.88	0.84	0.84	0.27	0.27	0.88	0.65	0.42	0.42
Delay/Veh:	53.0	19.3	19.3	66.0	22.5	22.5	42.3	42.3	66.0	49.8	43.9	43.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.0	19.3	19.3	66.0	22.5	22.5	42.3	42.3	66.0	49.8	43.9	43.9
DesignQueue:	22	36	36	17	37	37	5	5	16	9	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.825
Loss Time (sec): 12 Average Delay (sec/veh): 13.8
Optimal Cycle: 94 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	54	2963	42	132	2470	76	93	18	19	41	5	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	2963	42	132	2470	76	93	18	19	41	5	59
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	54	2963	42	132	2470	76	93	18	19	41	5	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	2963	42	132	2470	76	93	18	19	41	5	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	3259	46	132	2717	84	93	18	19	41	5	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.90	0.90	0.93	0.84	0.84
Lanes:	1.00	2.96	0.04	1.00	2.91	0.09	1.00	0.49	0.51	1.00	0.08	0.92
Final Sat.:	1770	5510	78	1770	5421	167	1770	834	880	1770	125	1477
Capacity Analysis Module:												
Vol/Sat:	0.03	0.59	0.59	0.07	0.50	0.50	0.05	0.02	0.02	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.05	0.71	0.71	0.09	0.76	0.76	0.06	0.04	0.04	0.08	0.05	0.05
Volume/Cap:	0.66	0.83	0.83	0.83	0.66	0.66	0.83	0.55	0.55	0.30	0.75	0.75
Delay/Veh:	65.3	12.6	12.6	70.6	7.0	7.0	78.1	60.8	60.8	50.0	72.6	72.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.3	12.6	12.6	70.6	7.0	7.0	78.1	60.8	60.8	50.0	72.6	72.6
DesignQueue:	4	31	31	10	22	22	7	3	3	3	5	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.885
Loss Time (sec): 12 Average Delay (sec/veh): 39.1
Optimal Cycle: 123 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	91	1874	110	399	1718	332	806	345	218	105	181	265
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	91	1874	110	399	1718	332	806	345	218	105	181	265
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	91	1874	110	399	1718	332	806	345	218	105	181	265
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	1874	110	399	1718	332	806	345	218	105	181	265
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	91	2061	121	411	1890	365	830	345	218	108	190	265
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.78	0.22	2.00	3.35	0.65	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	6967	409	3539	6119	1183	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.30	0.30	0.12	0.31	0.31	0.23	0.19	0.14	0.03	0.05	0.17
Crit Moves:		****		****			****					****
Green/Cycle:	0.07	0.33	0.33	0.13	0.40	0.40	0.27	0.39	0.39	0.06	0.19	0.19
Volume/Cap:	0.77	0.88	0.88	0.88	0.77	0.77	0.88	0.47	0.35	0.47	0.27	0.88
Delay/Veh:	69.9	38.9	38.9	61.4	30.7	30.7	47.4	26.4	24.7	52.7	39.5	62.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.9	38.9	38.9	61.4	30.7	30.7	47.4	26.4	24.7	52.7	39.5	62.7
DesignQueue:	7	33	33	15	31	31	27	18	11	4	7	19

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.567
Loss Time (sec): 9 Average Delay (sec/veh): 12.3
Optimal Cycle: 39 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	131	1777	10	158	1737	66	30	10	33	10	10	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	131	1777	10	158	1737	66	30	10	33	10	10	118
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	131	1777	10	158	1737	66	30	10	33	10	10	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1777	10	158	1737	66	30	10	33	10	10	118
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1955	11	158	1911	73	30	10	33	10	10	118
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	0.99	0.99	0.65	0.65	0.65	0.76	0.76	0.76
Lanes:	1.00	2.98	0.02	1.00	2.89	0.11	0.41	0.14	0.45	0.07	0.07	0.86
Final Sat.:	1805	5668	32	1805	5436	207	505	168	556	105	105	1242
Capacity Analysis Module:												
Vol/Sat:	0.07	0.34	0.34	0.09	0.35	0.35	0.06	0.06	0.06	0.10	0.10	0.10
Crit Moves:		****		****							****	
Green/Cycle:	0.13	0.61	0.61	0.15	0.63	0.63	0.17	0.17	0.17	0.17	0.17	0.17
Volume/Cap:	0.56	0.57	0.57	0.57	0.56	0.56	0.35	0.35	0.35	0.57	0.57	0.57
Delay/Veh:	36.4	10.0	10.0	34.9	8.9	8.9	31.4	31.4	31.4	34.4	34.4	34.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.4	10.0	10.0	34.9	8.9	8.9	31.4	31.4	31.4	34.4	34.4	34.4
DesignQueue:	8	20	20	10	19	19	4	4	4	8	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec):	130	Critical Vol./Cap.(X):	0.844
Loss Time (sec):	12	Average Delay (sec/veh):	29.1
Optimal Cycle:	98	Level Of Service:	D

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	434	1737	397	164	1516	197	182	366	329	254	291	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	434	1737	397	164	1516	197	182	366	329	254	291	90
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	434	1737	397	164	1516	197	182	366	329	254	291	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	434	1737	397	164	1516	197	182	366	329	254	291	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	434	1911	437	164	1668	217	187	384	329	262	306	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.95	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.44	0.56	1.00	2.65	0.35	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4412	1008	1770	4847	630	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.25	0.43	0.43	0.09	0.34	0.34	0.05	0.10	0.21	0.07	0.08	0.06
Crit Moves:	****				****			****		****		
Green/Cycle:	0.29	0.57	0.57	0.12	0.41	0.41	0.08	0.12	0.41	0.09	0.13	0.25
Volume/Cap:	0.84	0.75	0.75	0.75	0.84	0.84	0.64	0.84	0.50	0.84	0.65	0.23
Delay/Veh:	41.5	16.5	16.5	51.1	28.7	28.7	47.0	51.9	22.1	57.3	43.2	29.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.5	16.5	16.5	51.1	28.7	28.7	47.0	51.9	22.1	57.3	43.2	29.5
DesignQueue:	24	27	27	11	29	29	6	13	15	9	10	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
PM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	000001	000001
2	Mission & A St	000000	002100	200010	301100
3	Mission & B St	000000	004100	000000	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec):	100	Critical Vol./Cap.(X):	0.832
Loss Time (sec):	9	Average Delay (sec/veh):	12.7
Optimal Cycle:	77	Level Of Service:	B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	23	346	2	32	1493	242	155	80	62	11	39	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	346	2	32	1493	242	155	80	62	11	39	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	346	2	32	1493	242	155	80	62	11	39	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	346	2	32	1493	242	155	80	62	11	39	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	363	2	34	1568	254	155	80	62	11	39	39
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.70	0.70	0.70	0.91	0.91	0.91	0.70	0.70	0.70	0.77	0.77	0.77
Lanes:	0.12	1.87	0.01	0.04	1.69	0.27	0.52	0.27	0.21	0.12	0.44	0.44
Final Sat.:	165	2481	14	63	2926	474	699	361	280	181	643	643
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.54	0.54	0.54	0.22	0.22	0.22	0.06	0.06	0.06
Crit Moves:					****			****				
Green/Cycle:	0.64	0.64	0.64	0.64	0.64	0.64	0.27	0.27	0.27	0.27	0.27	0.27
Volume/Cap:	0.23	0.23	0.23	0.83	0.83	0.83	0.83	0.83	0.83	0.23	0.23	0.23
Delay/Veh:	4.8	4.8	4.8	10.9	10.9	10.9	32.9	32.9	32.9	18.6	18.6	18.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	4.8	4.8	4.8	10.9	10.9	10.9	32.9	32.9	32.9	18.6	18.6	18.6
DesignQueue:	4	4	4	21	21	21	13	13	13	4	4	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec):	120	Critical Vol./Cap.(X):	1.337
Loss Time (sec):	9	Average Delay (sec/veh):	233.5
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	2 0	0 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	1173	445	247	0	627	2621	1297	412
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	1173	445	247	0	627	2621	1297	412
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1173	445	247	0	627	2621	1297	412
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1173	445	247	0	627	2621	1297	412
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.05
FinalVolume:	0	0	0	0	1290	490	254	0	627	2700	1362	433
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.94	0.94	0.93	1.00	0.83	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.17	0.83	2.00	0.00	1.00	3.00	1.52	0.48
Final Sat.:	0	0	0	0	3889	1475	3539	0	1583	5309	2714	862
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.33	0.33	0.07	0.00	0.40	0.51	0.50	0.50
Crit Moves:					****				****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.25	0.25	0.30	0.00	0.30	0.38	0.38	0.38
Volume/Cap:	0.00	0.00	0.00	0.00	1.34	1.34	0.24	0.00	1.34	1.34	1.32	1.32
Delay/Veh:	0.0	0.0	0.0	0.0	249	249.4	24.4	0.0	259.2	241.0	227	227.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	249	249.4	24.4	0.0	259.2	241.0	227	227.1
DesignQueue:	0	0	0	0	32	32	6	0	32	42	42	42

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.842
Loss Time (sec):	6	Average Delay (sec/veh):	16.0
Optimal Cycle:	72	Level Of Service:	C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	0	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3339	794	0	0	0	628	319	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3339	794	0	0	0	628	319	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3339	794	0	0	0	628	319	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3339	794	0	0	0	628	319	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	3673	873	0	0	0	659	335	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.88	0.88	1.00
Lanes:	0.00	0.00	0.00	0.00	4.04	0.96	0.00	0.00	0.00	1.33	0.67	0.00
Final Sat.:	0	0	0	0	7299	1736	0	0	0	2223	1129	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.30	0.30	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.00	0.35	0.35	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.84	0.84	0.00	0.00	0.00	0.84	0.84	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	13.6	13.6	0.0	0.0	0.0	27.1	27.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	13.6	13.6	0.0	0.0	0.0	27.1	27.1	0.0
DesignQueue:	0	0	0	0	28	28	0	0	0	23	23	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.731
Loss Time (sec):	6	Average Delay (sec/veh):	12.3
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	589	3158	0	0	243	374	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	589	3158	0	0	243	374	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	589	3158	0	0	243	374	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	589	3158	0	0	243	374	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	648	3474	0	0	267	411	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.96	0.96	1.00	1.00	0.89	0.89	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.79	4.21	0.00	0.00	2.00	1.00	0.00	0.00	0.00
Final Sat.:	0	0	0	1435	7693	0	0	3390	1695	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.45	0.45	0.00	0.00	0.08	0.24	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.00	0.00	0.62	0.62	0.00	0.00	0.33	0.33	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.73	0.73	0.00	0.00	0.24	0.73	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	10.7	10.7	0.0	0.0	18.8	24.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.7	10.7	0.0	0.0	18.8	24.9	0.0	0.0	0.0
DesignQueue:	0	0	0	24	24	0	0	6	19	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.994
Loss Time (sec): 9 Average Delay (sec/veh): 41.2
Optimal Cycle: 180 Level Of Service: E

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	11	3380	170	0	426	46	1378	473	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	3380	170	0	426	46	1378	473	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	3380	170	0	426	46	1378	473	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	3380	170	0	426	46	1378	473	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	12	3718	187	0	469	51	1419	497	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.01	4.75	0.24	0.00	2.71	0.29	2.00	2.00	0.00
Final Sat.:	0	0	0	28	8752	440	0	4993	539	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.42	0.42	0.42	0.00	0.09	0.09	0.40	0.13	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.41	0.41	0.41	0.00	0.13	0.13	0.39	0.51	0.00
Volume/Cap:	0.00	0.00	0.00	1.03	1.03	1.03	0.00	0.75	0.75	1.03	0.26	0.00
Delay/Veh:	0.0	0.0	0.0	42.3	42.3	42.3	0.0	35.9	35.9	50.7	10.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	42.3	42.3	42.3	0.0	35.9	35.9	50.7	10.6	0.0
DesignQueue:	0	0	0	34	34	34	0	10	10	32	8	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 Critical Vol./Cap.(X): 0.796
Loss Time (sec): 6 Average Delay (sec/veh): 13.4
Optimal Cycle: 54 Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2214	0	2918	1979	0	1417	99	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2214	0	2918	1979	0	1417	99	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2918	0	0	1417	99	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2918	0	0	1417	99	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	3210	0	0	1559	109	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.80	0.20	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5171	361	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.30	0.30	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.38	0.38	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.80	0.80	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	11.4	0.0	0.0	17.3	17.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	11.4	0.0	0.0	17.3	17.3	0.0	0.0	0.0
DesignQueue:	0	0	0	0	17	0	0	16	16	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.973
Loss Time (sec): 9 Average Delay (sec/veh): 28.4
Optimal Cycle: 180 Level Of Service: D

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	321	2105	77	116	2929	48	36	52	178	167	162	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	321	2105	77	116	2929	48	36	52	178	167	162	33
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	321	2105	77	116	2929	48	36	52	178	167	162	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	321	2105	77	116	2929	48	36	52	178	167	162	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	321	2316	85	116	3222	53	36	52	178	167	162	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.98	0.98	0.45	0.45	0.83	0.60	0.95	0.95
Lanes:	1.00	2.89	0.11	1.00	2.95	0.05	0.41	0.59	1.00	1.00	0.83	0.17
Final Sat.:	1770	5337	195	1770	5498	90	351	506	1583	1136	1501	306
Capacity Analysis Module:												
Vol/Sat:	0.18	0.43	0.43	0.07	0.59	0.59	0.10	0.10	0.11	0.15	0.11	0.11
Crit Moves:	****				****					****		
Green/Cycle:	0.19	0.69	0.69	0.10	0.60	0.60	0.15	0.15	0.15	0.15	0.15	0.15
Volume/Cap:	0.97	0.63	0.63	0.63	0.97	0.97	0.68	0.68	0.74	0.97	0.71	0.71
Delay/Veh:	77.4	10.2	10.2	53.8	29.3	29.3	54.7	54.7	54.3	93.2	51.8	51.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.4	10.2	10.2	53.8	29.3	29.3	54.7	54.7	54.3	93.2	51.8	51.8
DesignQueue:	23	24	24	9	43	43	6	6	13	12	14	14

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.822
Loss Time (sec): 12 Average Delay (sec/veh): 13.5
Optimal Cycle: 94 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	31	2316	16	54	3054	44	99	7	14	51	8	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	2316	16	54	3054	44	99	7	14	51	8	109
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	31	2316	16	54	3054	44	99	7	14	51	8	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	2316	16	54	3054	44	99	7	14	51	8	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	2548	18	54	3359	48	99	7	14	51	8	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.88	0.88	0.93	0.84	0.84
Lanes:	1.00	2.98	0.02	1.00	2.96	0.04	1.00	0.33	0.67	1.00	0.07	0.93
Final Sat.:	1770	5550	38	1770	5509	79	1770	559	1118	1770	110	1492
Capacity Analysis Module:												
Vol/Sat:	0.02	0.46	0.46	0.03	0.61	0.61	0.06	0.01	0.01	0.03	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.03	0.72	0.72	0.05	0.74	0.74	0.07	0.05	0.05	0.10	0.09	0.09
Volume/Cap:	0.66	0.64	0.64	0.64	0.83	0.83	0.83	0.24	0.24	0.28	0.83	0.83
Delay/Veh:	72.9	8.7	8.7	63.4	11.1	11.1	76.4	52.2	52.2	47.3	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	72.9	8.7	8.7	63.4	11.1	11.1	76.4	52.2	52.2	47.3	72.2	72.2
DesignQueue:	3	23	23	4	30	30	8	2	2	4	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.934
Loss Time (sec): 12 Average Delay (sec/veh): 39.1
Optimal Cycle: 162 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	280	1838	74	259	2564	279	368	191	114	532	589	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	280	1838	74	259	2564	279	368	191	114	532	589	220
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	280	1838	74	259	2564	279	368	191	114	532	589	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	280	1838	74	259	2564	279	368	191	114	532	589	220
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	280	2022	81	267	2820	307	379	191	114	548	618	220
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.85	0.15	2.00	3.61	0.39	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	7091	285	3539	6585	717	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.16	0.29	0.29	0.08	0.43	0.43	0.11	0.10	0.07	0.15	0.17	0.14
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.50	0.50	0.13	0.46	0.46	0.11	0.12	0.12	0.18	0.18	0.18
Volume/Cap:	0.93	0.57	0.57	0.57	0.93	0.93	0.93	0.88	0.62	0.88	0.93	0.78
Delay/Veh:	72.0	20.4	20.4	47.8	33.5	33.5	70.8	71.3	52.2	55.6	61.1	53.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	72.0	20.4	20.4	47.8	33.5	33.5	70.8	71.3	52.2	55.6	61.1	53.8
DesignQueue:	20	24	24	10	40	40	14	14	9	20	22	16

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.760
Loss Time (sec): 9 Average Delay (sec/veh): 12.6
Optimal Cycle: 64 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	56	1782	5	126	2649	46	73	5	57	5	5	163
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	1782	5	126	2649	46	73	5	57	5	5	163
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	56	1782	5	126	2649	46	73	5	57	5	5	163
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	1782	5	126	2649	46	73	5	57	5	5	163
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	1960	6	126	2914	51	73	5	57	5	5	163
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.45	0.45	0.45	0.76	0.76	0.76
Lanes:	1.00	2.99	0.01	1.00	2.95	0.05	0.54	0.04	0.42	0.03	0.03	0.94
Final Sat.:	1805	5684	16	1805	5603	97	466	32	364	42	42	1365
Capacity Analysis Module:												
Vol/Sat:	0.03	0.34	0.34	0.07	0.52	0.52	0.16	0.16	0.16	0.12	0.12	0.12
Crit Moves:	****				****			****				
Green/Cycle:	0.05	0.61	0.61	0.12	0.67	0.67	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	0.58	0.57	0.57	0.57	0.77	0.77	0.77	0.77	0.77	0.59	0.59	0.59
Delay/Veh:	44.5	10.2	10.2	37.3	10.0	10.0	44.2	44.2	44.2	32.5	32.5	32.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.5	10.2	10.2	37.3	10.0	10.0	44.2	44.2	44.2	32.5	32.5	32.5
DesignQueue:	4	21	21	8	27	27	8	8	8	10	10	10

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 Critical Vol./Cap.(X): 0.894
Loss Time (sec): 12 Average Delay (sec/veh): 28.1
Optimal Cycle: 121 Level Of Service: D

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	248	1541	436	118	2327	151	354	361	360	265	155	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	1541	436	118	2327	151	354	361	360	265	155	58
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	248	1541	436	118	2327	151	354	361	360	265	155	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	1541	436	118	2327	151	354	361	360	265	155	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	248	1695	480	118	2560	166	365	379	360	273	163	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.95	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.34	0.66	1.00	2.82	0.18	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4225	1195	1770	5195	337	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.14	0.40	0.40	0.07	0.49	0.49	0.10	0.10	0.23	0.08	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.61	0.61	0.10	0.55	0.55	0.13	0.11	0.27	0.09	0.07	0.17
Volume/Cap:	0.89	0.66	0.66	0.66	0.89	0.89	0.78	0.89	0.84	0.89	0.64	0.22
Delay/Veh:	60.9	13.1	13.1	48.7	22.4	22.4	47.5	57.9	43.7	63.4	48.4	35.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.9	13.1	13.1	48.7	22.4	22.4	47.5	57.9	43.7	63.4	48.4	35.4
DesignQueue:	16	23	23	8	34	34	12	12	20	9	6	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	000001	000001
2	Mission & A St	000000	002100	200010	301100
3	Mission & B St	000000	004100	000000	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Scenario Report

Scenario:	Cumul_2035_plus_pro_AM
Command:	Cumul_2035_plus_pro_AM
Volume:	Cumul_2035_plus_pro_AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Cumulative Plus Project 238
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	B	12.7	0.832	B	12.7	0.832	+ 0.000
# 2 Mission & A St	F	233.5	1.337	F	233.5	1.337	+ 0.000
# 3 Mission & B St	C	16.0	0.842	C	16.0	0.842	+ 0.000
# 4 Mission & C St	B	12.3	0.731	B	12.3	0.731	+ 0.000
# 5 Mission & D St	E	41.2	0.994	E	41.2	0.994	+ 0.000
# 6 Mission & Jackson-Foothill	B	13.4	0.796	B	13.4	0.796	+ 0.000
# 7 Mission & Fletcher	D	28.4	0.973	D	28.4	0.973	+ 0.000
# 8 Mission & Highland	B	13.5	0.822	B	13.5	0.822	+ 0.000
# 9 Mission & Carlos Bee	D	39.1	0.934	D	39.1	0.934	+ 0.000
# 10 Mission & Berry (signal)	B	12.6	0.760	B	12.6	0.760	+ 0.000
# 11 Mission & Harder	D	28.1	0.894	D	28.1	0.894	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	D	915.3	20.7	D	915.3	20.7	+ 0.0
# 2 Mission Blvd. (SB)	SB	E	1066.8	16.6	E	1066.8	16.6	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	F	563.3	9.1	F	563.3	9.1	+ 0.0
# 5 Mission no proj (NB)	NB	B	577.5	30.8	B	577.5	30.8	+ 0.0
# 6 Mission SB no-proj	SB	E	1066.8	16.6	E	1066.8	16.6	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Scenario Report

Scenario:	Cumul_2035_plus_pro_PM
Command:	Cumul_2035_plus_pro_PM
Volume:	Cumul_2035_plus_pro_PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	F	87.2	1.250	F	87.2	1.250	+ 0.000
# 2 Mission & A St	F	311.7	1.440	F	311.7	1.440	+ 0.000
# 3 Mission & B St	C	17.5	0.891	C	17.5	0.891	+ 0.000
# 4 Mission & C St	B	11.9	0.906	B	11.9	0.906	+ 0.000
# 5 Mission & D St	E	55.8	1.059	E	55.8	1.059	+ 0.000
# 6 Mission & Jackson-Foothill	C	15.1	0.843	C	15.1	0.843	+ 0.000
# 7 Mission & Fletcher	D	27.2	0.888	D	27.2	0.888	+ 0.000
# 8 Mission & Highland	B	14.5	0.838	B	14.5	0.838	+ 0.000
# 9 Mission & Carlos Bee	D	39.9	0.898	D	39.9	0.898	+ 0.000
# 10 Mission & Berry (signal)	B	13.2	0.597	B	13.2	0.597	+ 0.000
# 11 Mission & Harder	D	29.8	0.857	D	29.8	0.857	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	E	1300.0	14.6	E	1300.0	14.6	+ 0.0
# 2 Mission Blvd. (SB)	SB	E	1207.6	14.7	E	1207.6	14.7	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	F	715.9	7.2	F	715.9	7.2	+ 0.0
# 5 Mission no proj (NB)	NB	D	812.2	21.9	D	812.2	21.9	+ 0.0
# 6 Mission SB no-proj	SB	E	1207.6	14.7	E	1207.6	14.7	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec):	100	Critical Vol./Cap.(X):	1.250
Loss Time (sec):	9	Average Delay (sec/veh):	87.2
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	143	1590	48	38	1365	142	101	42	31	15	53	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	1590	48	38	1365	142	101	42	31	15	53	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	1590	48	38	1365	142	101	42	31	15	53	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	1590	48	38	1365	142	101	42	31	15	53	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	1670	50	40	1433	149	101	42	31	15	53	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.49	0.49	0.49	0.66	0.66	0.66	0.69	0.69	0.69	0.80	0.80	0.80
Lanes:	0.16	1.79	0.05	0.05	1.77	0.18	0.58	0.24	0.18	0.19	0.66	0.15
Final Sat.:	150	1662	50	62	2227	232	757	315	232	285	1008	228
Capacity Analysis Module:												
Vol/Sat:	1.00	1.00	1.00	0.64	0.64	0.64	0.13	0.13	0.13	0.05	0.05	0.05
Crit Moves:		****						****				
Green/Cycle:	0.80	0.80	0.80	0.80	0.80	0.80	0.11	0.11	0.11	0.11	0.11	0.11
Volume/Cap:	1.25	1.25	1.25	0.80	0.80	0.80	1.25	1.25	1.25	0.49	0.49	0.49
Delay/Veh:	148.6	149	148.6	5.2	5.2	5.2	219.4	219	219.4	29.1	29.1	29.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	148.6	149	148.6	5.2	5.2	5.2	219.4	219	219.4	29.1	29.1	29.1
DesignQueue:	12	12	12	10	10	10	9	9	9	4	4	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec):	120	Critical Vol./Cap.(X):	1.440
Loss Time (sec):	9	Average Delay (sec/veh):	311.7
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	2 0	0 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	1315	263	911	0	865	2397	900	640
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	1315	263	911	0	865	2397	900	640
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1315	263	911	0	865	2397	900	640
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1315	263	911	0	865	2397	900	640
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.05
FinalVolume:	0	0	0	0	1447	289	938	0	865	2469	945	672
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	0.93	1.00	0.83	0.93	0.92	0.92
Lanes:	0.00	0.00	0.00	0.00	2.50	0.50	2.00	0.00	1.00	3.00	1.17	0.83
Final Sat.:	0	0	0	0	4517	903	3539	0	1583	5309	2047	1455
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.32	0.32	0.27	0.00	0.55	0.47	0.46	0.46
Crit Moves:						****			****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.22	0.22	0.38	0.00	0.38	0.32	0.32	0.32
Volume/Cap:	0.00	0.00	0.00	0.00	1.44	1.44	0.70	0.00	1.44	1.44	1.43	1.43
Delay/Veh:	0.0	0.0	0.0	0.0	358	358.2	25.0	0.0	358.4	351.4	342	342.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	358	358.2	25.0	0.0	358.4	351.4	342	342.4
DesignQueue:	0	0	0	0	33	33	21	0	41	42	41	41

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.891
Loss Time (sec):	6	Average Delay (sec/veh):	17.5
Optimal Cycle:	94	Level Of Service:	C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	0	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3746	702	0	0	0	586	415	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3746	702	0	0	0	586	415	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3746	702	0	0	0	586	415	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3746	702	0	0	0	586	415	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	4121	772	0	0	0	615	436	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.00	0.89	0.89	1.00
Lanes:	0.00	0.00	0.00	0.00	4.21	0.79	0.00	0.00	0.00	1.17	0.83	0.00
Final Sat.:	0	0	0	0	7687	1441	0	0	0	1985	1406	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.54	0.54	0.00	0.00	0.00	0.31	0.31	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.00	0.35	0.35	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.89	0.89	0.00	0.00	0.00	0.89	0.89	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.8	14.8	0.0	0.0	0.0	30.1	30.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.8	14.8	0.0	0.0	0.0	30.1	30.1	0.0
DesignQueue:	0	0	0	0	30	30	0	0	0	25	25	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.906
Loss Time (sec):	6	Average Delay (sec/veh):	11.9
Optimal Cycle:	103	Level Of Service:	B

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	1096	3154	0	0	817	110	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1096	3154	0	0	817	110	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	1096	3154	0	0	817	110	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1096	3154	0	0	817	110	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	1206	3469	0	0	899	121	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.94	0.94	1.00	1.00	0.96	0.96	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	4.00	0.00	0.00	2.64	0.36	0.00	0.00	0.00
Final Sat.:	0	0	0	1788	7153	0	0	4827	650	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.67	0.49	0.00	0.00	0.19	0.19	0.00	0.00	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.74	0.74	0.00	0.00	0.21	0.21	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.91	0.65	0.00	0.00	0.91	0.91	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	9.7	5.1	0.0	0.0	37.6	37.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	9.7	5.1	0.0	0.0	37.6	37.6	0.0	0.0	0.0
DesignQueue:	0	0	0	25	17	0	0	19	19	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 Critical Vol./Cap.(X): 1.059
Loss Time (sec): 9 Average Delay (sec/veh): 55.8
Optimal Cycle: 180 Level Of Service: E

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	25	3070	175	0	1096	54	1239	325	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	25	3070	175	0	1096	54	1239	325	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	25	3070	175	0	1096	54	1239	325	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	25	3070	175	0	1096	54	1239	325	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	28	3377	193	0	1206	59	1276	341	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.04	4.69	0.27	0.00	2.86	0.14	2.00	2.00	0.00
Final Sat.:	0	0	0	70	8657	493	0	5273	260	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.39	0.39	0.39	0.00	0.23	0.23	0.36	0.09	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.37	0.37	0.37	0.00	0.22	0.22	0.34	0.56	0.00
Volume/Cap:	0.00	0.00	0.00	1.06	1.06	1.06	0.00	1.06	1.06	1.06	0.16	0.00
Delay/Veh:	0.0	0.0	0.0	53.7	53.7	53.7	0.0	67.5	67.5	62.6	8.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	53.7	53.7	53.7	0.0	67.5	67.5	62.6	8.4	0.0
DesignQueue:	0	0	0	34	34	34	0	23	23	31	5	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 Critical Vol./Cap.(X): 0.843
Loss Time (sec): 6 Average Delay (sec/veh): 15.1
Optimal Cycle: 64 Level Of Service: C

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2260	0	2786	1463	0	1702	131	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2260	0	2786	1463	0	1702	131	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2786	0	0	1702	131	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2786	0	0	1702	131	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	3065	0	0	1872	144	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.79	0.21	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5137	395	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.36	0.36	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.43	0.43	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.84	0.84	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.1	0.0	0.0	16.6	16.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.1	0.0	0.0	16.6	16.6	0.0	0.0	0.0
DesignQueue:	0	0	0	0	18	0	0	18	18	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.888
Loss Time (sec): 9 Average Delay (sec/veh): 27.2
Optimal Cycle: 113 Level Of Service: D

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	331	2447	368	231	2442	55	26	58	220	133	37	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	2447	368	231	2442	55	26	58	220	133	37	77
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	331	2447	368	231	2442	55	26	58	220	133	37	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	2447	368	231	2442	55	26	58	220	133	37	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	331	2692	405	231	2686	61	26	58	220	133	37	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.96	0.96	0.93	0.98	0.98	0.85	0.85	0.83	0.62	0.87	0.87
Lanes:	1.00	2.61	0.39	1.00	2.93	0.07	0.31	0.69	1.00	1.00	0.32	0.68
Final Sat.:	1770	4761	716	1770	5465	123	502	1119	1583	1174	538	1120
Capacity Analysis Module:												
Vol/Sat:	0.19	0.57	0.57	0.13	0.49	0.49	0.05	0.05	0.14	0.11	0.07	0.07
Crit Moves:		****		****					****			
Green/Cycle:	0.22	0.64	0.64	0.15	0.57	0.57	0.16	0.16	0.16	0.16	0.16	0.16
Volume/Cap:	0.87	0.89	0.89	0.89	0.87	0.87	0.33	0.33	0.89	0.72	0.44	0.44
Delay/Veh:	55.9	19.6	19.6	67.8	23.0	23.0	43.1	43.1	67.9	54.6	44.3	44.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.9	19.6	19.6	67.8	23.0	23.0	43.1	43.1	67.9	54.6	44.3	44.3
DesignQueue:	23	36	36	17	38	38	6	6	16	10	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.838
Loss Time (sec): 12 Average Delay (sec/veh): 14.5
Optimal Cycle: 100 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	64	3003	47	132	2549	83	96	18	22	42	6	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	64	3003	47	132	2549	83	96	18	22	42	6	61
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	64	3003	47	132	2549	83	96	18	22	42	6	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	3003	47	132	2549	83	96	18	22	42	6	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	3303	52	132	2804	91	96	18	22	42	6	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.89	0.89	0.93	0.84	0.84
Lanes:	1.00	2.95	0.05	1.00	2.91	0.09	1.00	0.45	0.55	1.00	0.09	0.91
Final Sat.:	1770	5502	86	1770	5412	176	1770	763	932	1770	143	1459
Capacity Analysis Module:												
Vol/Sat:	0.04	0.60	0.60	0.07	0.52	0.52	0.05	0.02	0.02	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.05	0.71	0.71	0.09	0.75	0.75	0.06	0.04	0.04	0.08	0.05	0.05
Volume/Cap:	0.69	0.84	0.84	0.84	0.69	0.69	0.84	0.60	0.60	0.30	0.78	0.78
Delay/Veh:	65.9	13.0	13.0	72.5	7.8	7.8	79.7	63.4	63.4	50.0	77.1	77.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.9	13.0	13.0	72.5	7.8	7.8	79.7	63.4	63.4	50.0	77.1	77.1
DesignQueue:	5	32	32	10	23	23	8	3	3	3	5	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.898
Loss Time (sec): 12 Average Delay (sec/veh): 39.9
Optimal Cycle: 131 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	94	1896	117	400	1778	337	830	359	221	111	185	266
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	94	1896	117	400	1778	337	830	359	221	111	185	266
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	94	1896	117	400	1778	337	830	359	221	111	185	266
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	1896	117	400	1778	337	830	359	221	111	185	266
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	94	2086	129	412	1956	371	855	359	221	114	194	266
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.77	0.23	2.00	3.36	0.64	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	6948	429	3539	6138	1163	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.30	0.30	0.12	0.32	0.32	0.24	0.19	0.14	0.03	0.05	0.17
Crit Moves:		****		****			****					****
Green/Cycle:	0.07	0.33	0.33	0.13	0.40	0.40	0.27	0.39	0.39	0.07	0.19	0.19
Volume/Cap:	0.80	0.90	0.90	0.90	0.80	0.80	0.90	0.49	0.36	0.49	0.28	0.90
Delay/Veh:	73.3	39.6	39.6	63.1	31.6	31.6	48.2	26.7	24.8	52.8	39.8	64.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.3	39.6	39.6	63.1	31.6	31.6	48.2	26.7	24.8	52.8	39.8	64.9
DesignQueue:	7	33	33	15	32	32	28	19	12	4	7	19

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.597
Loss Time (sec): 9 Average Delay (sec/veh): 13.2
Optimal Cycle: 42 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	131	1791	10	190	1741	101	38	10	33	10	10	130
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	131	1791	10	190	1741	101	38	10	33	10	10	130
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	131	1791	10	190	1741	101	38	10	33	10	10	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1791	10	190	1741	101	38	10	33	10	10	130
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1970	11	190	1915	111	38	10	33	10	10	130
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	0.99	0.99	0.58	0.58	0.58	0.76	0.76	0.76
Lanes:	1.00	2.98	0.02	1.00	2.84	0.16	0.47	0.12	0.41	0.06	0.07	0.87
Final Sat.:	1805	5668	32	1805	5334	309	517	136	449	97	97	1259
Capacity Analysis Module:												
Vol/Sat:	0.07	0.35	0.35	0.11	0.36	0.36	0.07	0.07	0.07	0.10	0.10	0.10
Crit Moves:		****		****							****	
Green/Cycle:	0.13	0.58	0.58	0.18	0.63	0.63	0.17	0.17	0.17	0.17	0.17	0.17
Volume/Cap:	0.57	0.60	0.60	0.60	0.57	0.57	0.43	0.43	0.43	0.60	0.60	0.60
Delay/Veh:	36.9	11.5	11.5	34.1	9.1	9.1	32.0	32.0	32.0	34.8	34.8	34.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.9	11.5	11.5	34.1	9.1	9.1	32.0	32.0	32.0	34.8	34.8	34.8
DesignQueue:	8	22	22	12	20	20	5	5	5	9	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 Critical Vol./Cap.(X): 0.857
Loss Time (sec): 12 Average Delay (sec/veh): 29.8
Optimal Cycle: 103 Level Of Service: D

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	438	1752	406	164	1526	197	188	389	329	258	303	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	438	1752	406	164	1526	197	188	389	329	258	303	91
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	438	1752	406	164	1526	197	188	389	329	258	303	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	438	1752	406	164	1526	197	188	389	329	258	303	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	438	1927	447	164	1679	217	194	408	329	266	318	91
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.95	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.44	0.56	1.00	2.66	0.34	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4401	1020	1770	4850	626	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.25	0.44	0.44	0.09	0.35	0.35	0.05	0.11	0.21	0.08	0.09	0.06
Crit Moves:	****				****			****		****		
Green/Cycle:	0.29	0.57	0.57	0.12	0.40	0.40	0.08	0.13	0.42	0.09	0.13	0.25
Volume/Cap:	0.86	0.77	0.77	0.77	0.86	0.86	0.65	0.86	0.50	0.86	0.65	0.23
Delay/Veh:	42.7	17.0	17.0	52.3	29.5	29.5	47.3	52.3	21.7	58.7	42.9	29.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.7	17.0	17.0	52.3	29.5	29.5	47.3	52.3	21.7	58.7	42.9	29.4
DesignQueue:	24	28	28	11	30	30	6	13	15	9	10	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative Plus Project 238
PM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	000001	000001
2	Mission & A St	000000	002100	200010	301100
3	Mission & B St	000000	004100	000000	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Blvd EIR (124070)
AM Peak Hour

Scenario Report

Scenario:	Existing_plus_238_AM_Mit
Command:	Existing_plus_238_AM_Mit
Volume:	Existing_plus_238_AM
Geometry:	Mitigated
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Mission & Sunset	B	8.1	0.359	B	8.1	0.359	+ 0.000 D/V
# 2 Mission & A St	C	23.6	0.806	C	23.6	0.806	+ 0.000 D/V
# 3 Mission & B St	C	15.2	0.700	C	15.2	0.700	+ 0.000 D/V
# 4 Mission & C St	A	3.6	0.513	A	3.6	0.513	+ 0.000 D/V
# 5 Mission & D St	C	18.4	0.711	C	18.4	0.711	+ 0.000 D/V
# 6 Mission & Jackson-Foothill	B	11.4	0.588	B	11.4	0.588	+ 0.000 D/V
# 7 Mission & Fletcher	C	15.7	0.614	C	15.7	0.614	+ 0.000 D/V
# 8 Mission & Highland	B	12.5	0.560	B	12.5	0.560	+ 0.000 D/V
# 9 Mission & Carlos Bee	D	30.6	0.594	D	30.6	0.594	+ 0.000 D/V
# 10 Mission & Berry (signal)	A	4.1	0.470	A	4.1	0.470	+ 0.000 D/V
# 11 Mission & Harder	C	21.9	0.651	C	21.9	0.651	+ 0.000 D/V

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	B	644.9	29.4	B	644.9	29.4	+ 0.0
# 2 Mission Blvd. (SB)	SB	C	704.2	25.2	C	704.2	25.2	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	C	230.1	22.4	C	230.1	22.4	+ 0.0
# 5 Mission no proj (NB)	NB	B	583.1	30.5	B	583.1	30.5	+ 0.0
# 6 Mission SB no-proj	SB	C	704.2	25.2	C	704.2	25.2	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec):	100	Critical Vol./Cap.(X):	0.359
Loss Time (sec):	9	Average Delay (sec/veh):	8.1
Optimal Cycle:	28	Level Of Service:	B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	23	300	1	3	712	104	109	36	62	11	38	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	300	1	3	712	104	109	36	62	11	38	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	300	1	3	712	104	109	36	62	11	38	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	300	1	3	712	104	109	36	62	11	38	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	315	1	3	748	109	109	36	62	11	38	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.91	0.91	0.95	0.97	0.97
Lanes:	0.14	1.85	0.01	0.01	1.74	0.25	1.00	0.37	0.63	1.00	0.79	0.21
Final Sat.:	202	2639	9	13	3108	454	1805	635	1094	1805	1459	384
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.24	0.24	0.24	0.06	0.06	0.06	0.01	0.03	0.03
Crit Moves:					****		****				****	
Green/Cycle:	0.67	0.67	0.67	0.67	0.67	0.67	0.17	0.22	0.22	0.02	0.07	0.07
Volume/Cap:	0.18	0.18	0.18	0.36	0.36	0.36	0.36	0.26	0.26	0.26	0.36	0.36
Delay/Veh:	4.0	4.0	4.0	4.7	4.7	4.7	24.1	21.1	21.1	31.8	29.3	29.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	4.0	4.0	4.0	4.7	4.7	4.7	24.1	21.1	21.1	31.8	29.3	29.3
DesignQueue:	3	3	3	8	8	8	5	4	4	1	2	2

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.806
Loss Time (sec):	9	Average Delay (sec/veh):	23.6
Optimal Cycle:	73	Level Of Service:	C

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	1 0	1! 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	408	123	225	0	580	2177	688	283
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	408	123	225	0	580	2177	688	283
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	408	123	225	0	580	2177	688	283
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	408	123	225	0	580	2177	688	283
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.05	1.00	1.05	1.03	1.05	1.05
FinalVolume:	0	0	0	0	449	135	236	0	609	2242	722	297
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	0.86	1.00	0.86	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.31	0.69	1.28	0.00	1.72	3.00	1.42	0.58
Final Sat.:	0	0	0	0	4165	1256	2100	0	2824	5309	2534	1042
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.11	0.11	0.11	0.00	0.22	0.42	0.29	0.29
Crit Moves:					****				****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.13	0.13	0.27	0.00	0.27	0.52	0.52	0.52
Volume/Cap:	0.00	0.00	0.00	0.00	0.81	0.81	0.42	0.00	0.81	0.81	0.54	0.54
Delay/Veh:	0.0	0.0	0.0	0.0	43.0	43.0	27.7	0.0	34.5	19.2	14.7	14.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	43.0	43.0	27.7	0.0	34.5	19.2	14.7	14.7
DesignQueue:	0	0	0	0	12	12	9	0	18	26	17	17

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.700
Loss Time (sec):	6	Average Delay (sec/veh):	15.2
Optimal Cycle:	43	Level Of Service:	C

Street Name:	Mission Blvd								B St					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Permitted					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15								
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
Lanes:	0	0	0	0	0	0	0	4	1	0	0	0	0	0	1	1	1	0	0	0
Volume Module:																				
Base Vol:	0	0	0	0	3105	42	0	0	0	620	317	0								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	0	0	0	0	3105	42	0	0	0	620	317	0								
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Volume:	0	0	0	0	3105	42	0	0	0	620	317	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	0	0	0	0	3105	42	0	0	0	620	317	0								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00								
FinalVolume:	0	0	0	0	3416	46	0	0	0	651	333	0								
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900								
Adjustment:	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	0.88	0.88	1.00								
Lanes:	0.00	0.00	0.00	0.00	4.93	0.07	0.00	0.00	1.00	1.32	0.68	0.00								
Final Sat.:	0	0	0	0	9189	124	0	0	1900	2219	1134	0								
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.00	0.37	0.37	0.00	0.00	0.00	0.29	0.29	0.00								
Crit Moves:					****						****									
Green/Cycle:	0.00	0.00	0.00	0.00	0.53	0.53	0.00	0.00	0.00	0.42	0.42	0.00								
Volume/Cap:	0.00	0.00	0.00	0.00	0.70	0.70	0.00	0.00	0.00	0.70	0.70	0.00								
Delay/Veh:	0.0	0.0	0.0	0.0	13.9	13.9	0.0	0.0	0.0	19.6	19.6	0.0								
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
AdjDel/Veh:	0.0	0.0	0.0	0.0	13.9	13.9	0.0	0.0	0.0	19.6	19.6	0.0								
DesignQueue:	0	0	0	0	24	24	0	0	0	20	20	0								

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.513
Loss Time (sec):	6	Average Delay (sec/veh):	3.6
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Mission Blvd								C St					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Permitted					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0								
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
Lanes:	0	0	0	0	0	0	0	1	4	0	0	0	0	0	2	1	0	0	0	0
Volume Module:																				
Base Vol:	0	0	0	589	3128	0	0	142	51	0	0	0								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	0	0	0	589	3128	0	0	142	51	0	0	0								
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Volume:	0	0	0	589	3128	0	0	142	51	0	0	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	0	0	0	589	3128	0	0	142	51	0	0	0								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00								
FinalVolume:	0	0	0	648	3441	0	0	156	56	0	0	0								
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900								
Adjustment:	1.00	1.00	1.00	0.96	0.96	1.00	1.00	0.94	0.94	1.00	1.00	1.00								
Lanes:	0.00	0.00	0.00	0.79	4.21	0.00	0.00	2.21	0.79	0.00	0.00	0.00								
Final Sat.:	0	0	0	1446	7681	0	0	3947	1418	0	0	0								
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.45	0.45	0.00	0.00	0.04	0.04	0.00	0.00	0.00								
Crit Moves:					****			****												
Green/Cycle:	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.13	0.13	0.00	0.00	0.00								
Volume/Cap:	0.00	0.00	0.00	0.54	0.54	0.00	0.00	0.32	0.32	0.00	0.00	0.00								
Delay/Veh:	0.0	0.0	0.0	2.2	2.2	0.0	0.0	31.0	31.0	0.0	0.0	0.0								
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
AdjDel/Veh:	0.0	0.0	0.0	2.2	2.2	0.0	0.0	31.0	31.0	0.0	0.0	0.0								
DesignQueue:	0	0	0	11	11	0	0	4	4	0	0	0								

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.711
Loss Time (sec): 9 Average Delay (sec/veh): 18.4
Optimal Cycle: 54 Level Of Service: C

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	11	3063	169	0	212	22	771	471	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	3063	169	0	212	22	771	471	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	3063	169	0	212	22	771	471	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	3063	169	0	212	22	771	471	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	12	3369	186	0	233	24	794	495	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.02	4.72	0.26	0.00	2.72	0.28	2.00	2.00	0.00
Final Sat.:	0	0	0	31	8709	481	0	5012	520	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.39	0.39	0.39	0.00	0.05	0.05	0.22	0.13	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.51	0.51	0.51	0.00	0.13	0.13	0.29	0.42	0.00
Volume/Cap:	0.00	0.00	0.00	0.76	0.76	0.76	0.00	0.37	0.37	0.76	0.32	0.00
Delay/Veh:	0.0	0.0	0.0	16.0	16.0	16.0	0.0	31.3	31.3	27.3	15.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.0	16.0	16.0	0.0	31.3	31.3	27.3	15.1	0.0
DesignQueue:	0	0	0	26	26	26	0	5	5	20	10	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 Critical Vol./Cap.(X): 0.588
Loss Time (sec): 6 Average Delay (sec/veh): 11.4
Optimal Cycle: 31 Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	1689	0	1943	1973	0	1250	41	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	1689	0	1943	1973	0	1250	41	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1943	0	0	1250	41	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1943	0	0	1250	41	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2137	0	0	1375	45	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.98	0.98	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.90	0.10	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5411	177	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.25	0.25	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.43	0.43	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.59	0.00	0.00	0.59	0.59	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	10.7	0.0	0.0	12.6	12.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	10.7	0.0	0.0	12.6	12.6	0.0	0.0	0.0
DesignQueue:	0	0	0	0	12	0	0	12	12	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.614
Loss Time (sec): 9 Average Delay (sec/veh): 15.7
Optimal Cycle: 44 Level Of Service: C

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	184	1601	39	75	1931	32	21	38	137	89	94	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	184	1601	39	75	1931	32	21	38	137	89	94	27
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	184	1601	39	75	1931	32	21	38	137	89	94	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	1601	39	75	1931	32	21	38	137	89	94	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	184	1761	43	75	2124	35	21	38	137	89	94	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.82	0.82	0.83	0.73	0.95	0.95
Lanes:	1.00	2.93	0.07	1.00	2.95	0.05	0.36	0.64	1.00	1.00	0.78	0.22
Final Sat.:	1770	5455	133	1770	5497	91	557	1008	1583	1378	1404	403
Capacity Analysis Module:												
Vol/Sat:	0.10	0.32	0.32	0.04	0.39	0.39	0.04	0.04	0.09	0.06	0.07	0.07
Crit Moves:	****				****				****			
Green/Cycle:	0.17	0.71	0.71	0.09	0.63	0.63	0.14	0.14	0.14	0.14	0.14	0.14
Volume/Cap:	0.61	0.46	0.46	0.46	0.61	0.61	0.27	0.27	0.61	0.46	0.47	0.47
Delay/Veh:	46.5	7.3	7.3	50.4	13.0	13.0	43.9	43.9	49.5	46.2	46.2	46.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	7.3	7.3	50.4	13.0	13.0	43.9	43.9	49.5	46.2	46.2	46.2
DesignQueue:	13	16	16	6	25	25	4	4	10	6	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.560
Loss Time (sec): 12 Average Delay (sec/veh): 12.5
Optimal Cycle: 47 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	27	1649	14	52	1929	43	80	6	6	33	8	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	1649	14	52	1929	43	80	6	6	33	8	99
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	27	1649	14	52	1929	43	80	6	6	33	8	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	1649	14	52	1929	43	80	6	6	33	8	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	27	1814	15	52	2122	47	80	6	6	33	8	99
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.90	0.90	0.93	0.84	0.84
Lanes:	1.00	2.97	0.03	1.00	2.93	0.07	1.00	0.50	0.50	1.00	0.07	0.93
Final Sat.:	1770	5541	47	1770	5466	122	1770	857	857	1770	120	1482
Capacity Analysis Module:												
Vol/Sat:	0.02	0.33	0.33	0.03	0.39	0.39	0.05	0.01	0.01	0.02	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.03	0.66	0.66	0.06	0.69	0.69	0.08	0.07	0.07	0.13	0.12	0.12
Volume/Cap:	0.56	0.50	0.50	0.50	0.56	0.56	0.56	0.11	0.11	0.14	0.56	0.56
Delay/Veh:	64.3	9.8	9.8	54.9	8.9	8.9	54.1	50.0	50.0	43.7	50.1	50.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.3	9.8	9.8	54.9	8.9	8.9	54.1	50.0	50.0	43.7	50.1	50.1
DesignQueue:	2	19	19	4	21	21	6	1	1	2	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.594
Loss Time (sec): 12 Average Delay (sec/veh): 30.6
Optimal Cycle: 50 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	65	1464	67	243	1737	28	128	176	70	527	445	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	65	1464	67	243	1737	28	128	176	70	527	445	220
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	65	1464	67	243	1737	28	128	176	70	527	445	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	1464	67	243	1737	28	128	176	70	527	445	220
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	65	1610	74	250	1911	31	132	176	70	543	467	220
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.98	0.98	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.82	0.18	2.00	3.94	0.06	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	7054	323	3539	7333	118	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.07	0.26	0.26	0.04	0.09	0.04	0.15	0.13	0.14
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.38	0.38	0.12	0.44	0.44	0.09	0.16	0.16	0.26	0.32	0.32
Volume/Cap:	0.59	0.59	0.59	0.59	0.59	0.59	0.40	0.59	0.28	0.59	0.39	0.43
Delay/Veh:	57.7	28.3	28.3	49.3	24.3	24.3	49.1	46.8	42.3	37.8	29.9	30.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.7	28.3	28.3	49.3	24.3	24.3	49.1	46.8	42.3	37.8	29.9	30.6
DesignQueue:	5	23	23	9	24	24	5	13	5	17	14	13

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.470
Loss Time (sec): 9 Average Delay (sec/veh): 4.1
Optimal Cycle: 36 Level Of Service: A

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	55	1392	5	0	1825	46	32	5	32	5	5	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	1392	5	0	1825	46	32	5	32	5	5	5
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	55	1392	5	0	1825	46	32	5	32	5	5	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	1392	5	0	1825	46	32	5	32	5	5	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	1531	6	0	2008	51	32	5	32	5	5	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.81	0.81	0.81
Lanes:	1.00	2.99	0.01	1.00	2.93	0.07	0.47	0.07	0.46	0.34	0.33	0.33
Final Sat.:	1805	5680	20	1900	5560	140	703	110	703	512	512	512
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.27	0.00	0.36	0.36	0.05	0.05	0.05	0.01	0.01	0.01
Crit Moves:	****				****			****				
Green/Cycle:	0.06	0.83	0.83	0.00	0.77	0.77	0.10	0.10	0.10	0.10	0.10	0.10
Volume/Cap:	0.47	0.32	0.32	0.00	0.47	0.47	0.47	0.47	0.47	0.10	0.10	0.10
Delay/Veh:	40.1	1.6	1.6	0.0	3.6	3.6	37.6	37.6	37.6	34.6	34.6	34.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	1.6	1.6	0.0	3.6	3.6	37.6	37.6	37.6	34.6	34.6	34.6
DesignQueue:	4	7	7	0	13	13	5	5	5	1	1	1

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec):	130	Critical Vol./Cap.(X):	0.651
Loss Time (sec):	12	Average Delay (sec/veh):	21.9
Optimal Cycle:	56	Level Of Service:	C

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	248	1299	434	109	1514	106	159	287	208	163	96	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	1299	434	109	1514	106	159	287	208	163	96	29
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	248	1299	434	109	1514	106	159	287	208	163	96	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	1299	434	109	1514	106	159	287	208	163	96	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	248	1429	477	109	1665	117	164	301	208	168	101	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.94	0.94	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.25	0.75	1.00	2.80	0.20	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4021	1343	1770	5170	362	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.14	0.36	0.36	0.06	0.32	0.32	0.05	0.08	0.13	0.05	0.03	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.22	0.61	0.61	0.10	0.50	0.50	0.10	0.12	0.34	0.07	0.10	0.20
Volume/Cap:	0.65	0.59	0.59	0.59	0.65	0.65	0.47	0.65	0.39	0.65	0.27	0.09
Delay/Veh:	38.1	12.1	12.1	45.6	19.0	19.0	42.8	43.5	25.0	48.5	41.4	31.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.1	12.1	12.1	45.6	19.0	19.0	42.8	43.5	25.0	48.5	41.4	31.9
DesignQueue:	15	20	20	7	24	24	5	10	10	6	3	2

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
AM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	100100	100100
2	Mission & A St	000000	002100	100011	301100
3	Mission & B St	000000	004100	000010	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Blvd EIR (124070)
PM Peak Hour

Scenario Report

Scenario:	Existing_plus_238_PM_Mit
Command:	Existing_plus_238_PM_Mit
Volume:	Existing_plus_238_PM
Geometry:	Mitigated
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Mission & Sunset	B	6.6	0.335	B	6.6	0.335	+ 0.000 D/V
# 2 Mission & A St	D	30.8	0.888	D	30.8	0.888	+ 0.000 D/V
# 3 Mission & B St	C	15.6	0.756	C	15.6	0.756	+ 0.000 D/V
# 4 Mission & C St	B	7.3	0.747	B	7.3	0.747	+ 0.000 D/V
# 5 Mission & D St	C	17.9	0.699	C	17.9	0.699	+ 0.000 D/V
# 6 Mission & Jackson-Foothill	B	12.9	0.703	B	12.9	0.703	+ 0.000 D/V
# 7 Mission & Fletcher	C	20.6	0.649	C	20.6	0.649	+ 0.000 D/V
# 8 Mission & Highland	B	13.3	0.636	B	13.3	0.636	+ 0.000 D/V
# 9 Mission & Carlos Bee	D	28.8	0.623	D	28.8	0.623	+ 0.000 D/V
# 10 Mission & Berry (signal)	B	5.3	0.412	B	5.3	0.412	+ 0.000 D/V
# 11 Mission & Harder	C	20.5	0.639	C	20.5	0.639	+ 0.000 D/V

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	B	658.2	28.8	B	658.2	28.8	+ 0.0
# 2 Mission Blvd. (SB)	SB	C	706.5	25.1	C	706.5	25.1	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	D	240.5	21.4	D	240.5	21.4	+ 0.0
# 5 Mission no proj (NB)	NB	B	585.9	30.4	B	585.9	30.4	+ 0.0
# 6 Mission SB no-proj	SB	C	706.5	25.1	C	706.5	25.1	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec):	100	Critical Vol./Cap.(X):	0.335
Loss Time (sec):	9	Average Delay (sec/veh):	6.6
Optimal Cycle:	27	Level Of Service:	B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	27	628	7	12	602	81	99	41	30	5	22	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	628	7	12	602	81	99	41	30	5	22	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	27	628	7	12	602	81	99	41	30	5	22	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	628	7	12	602	81	99	41	30	5	22	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	659	7	13	632	85	99	41	30	5	22	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.79	0.79	0.79	0.85	0.85	0.85	0.95	0.94	0.94	0.95	0.95	0.95
Lanes:	0.08	1.90	0.02	0.03	1.74	0.23	1.00	0.58	0.42	1.00	0.65	0.35
Final Sat.:	122	2848	32	56	2806	378	1805	1031	755	1805	1168	637
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.23	0.23	0.23	0.05	0.04	0.04	0.00	0.02	0.02
Crit Moves:		****					****				****	
Green/Cycle:	0.69	0.69	0.69	0.69	0.69	0.69	0.16	0.21	0.21	0.01	0.06	0.06
Volume/Cap:	0.34	0.34	0.34	0.33	0.33	0.33	0.34	0.19	0.19	0.19	0.34	0.34
Delay/Veh:	4.1	4.1	4.1	4.0	4.0	4.0	24.2	21.3	21.3	31.9	30.1	30.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	4.1	4.1	4.1	4.0	4.0	4.0	24.2	21.3	21.3	31.9	30.1	30.1
DesignQueue:	6	6	6	7	7	7	5	3	3	0	2	2

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.888
Loss Time (sec):	9	Average Delay (sec/veh):	30.8
Optimal Cycle:	104	Level Of Service:	D

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	1 0	1! 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	726	139	439	0	733	1869	657	272
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	726	139	439	0	733	1869	657	272
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	726	139	439	0	733	1869	657	272
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	726	139	439	0	733	1869	657	272
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.05	1.00	1.05	1.03	1.05	1.05
FinalVolume:	0	0	0	0	799	153	461	0	770	1925	690	286
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.96	0.96	0.87	1.00	0.87	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.52	0.48	1.37	0.00	1.63	3.00	1.41	0.59
Final Sat.:	0	0	0	0	4596	880	2283	0	2700	5309	2529	1047
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.17	0.17	0.20	0.00	0.29	0.36	0.27	0.27
Crit Moves:						****			****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.20	0.20	0.32	0.00	0.32	0.41	0.41	0.41
Volume/Cap:	0.00	0.00	0.00	0.00	0.89	0.89	0.63	0.00	0.89	0.89	0.67	0.67
Delay/Veh:	0.0	0.0	0.0	0.0	42.3	42.3	26.8	0.0	34.7	28.6	22.8	22.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	42.3	42.3	26.8	0.0	34.7	28.6	22.8	22.8
DesignQueue:	0	0	0	0	18	18	16	0	23	28	21	21

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.756
Loss Time (sec):	6	Average Delay (sec/veh):	15.6
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Mission Blvd								B St					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Permitted					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15								
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
Lanes:	0	0	0	0	0	0	0	4	1	0	0	0	0	0	1	1	1	0	0	0
Volume Module:																				
Base Vol:	0	0	0	0	3421	83	0	0	0	568	414	0								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	0	0	0	0	3421	83	0	0	0	568	414	0								
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Volume:	0	0	0	0	3421	83	0	0	0	568	414	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	0	0	0	0	3421	83	0	0	0	568	414	0								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00								
FinalVolume:	0	0	0	0	3763	91	0	0	0	596	435	0								
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900								
Adjustment:	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	0.89	0.89	1.00								
Lanes:	0.00	0.00	0.00	0.00	4.88	0.12	0.00	0.00	1.00	1.16	0.84	0.00								
Final Sat.:	0	0	0	0	9093	221	0	0	1900	1961	1429	0								
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.00	0.41	0.41	0.00	0.00	0.00	0.30	0.30	0.00								
Crit Moves:					****						****									
Green/Cycle:	0.00	0.00	0.00	0.00	0.55	0.55	0.00	0.00	0.00	0.40	0.40	0.00								
Volume/Cap:	0.00	0.00	0.00	0.00	0.76	0.76	0.00	0.00	0.00	0.76	0.76	0.00								
Delay/Veh:	0.0	0.0	0.0	0.0	14.0	14.0	0.0	0.0	0.0	21.6	21.6	0.0								
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.0	14.0	0.0	0.0	0.0	21.6	21.6	0.0								
DesignQueue:	0	0	0	0	26	26	0	0	0	22	22	0								

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.747
Loss Time (sec):	6	Average Delay (sec/veh):	7.3
Optimal Cycle:	50	Level Of Service:	B

Street Name:	Mission Blvd								C St					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Permitted					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0								
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
Lanes:	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	1	4	0	0	0
Volume Module:																				
Base Vol:	0	0	0	965	3075	0	0	470	102	0	0	0								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	0	0	0	965	3075	0	0	470	102	0	0	0								
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Volume:	0	0	0	965	3075	0	0	470	102	0	0	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	0	0	0	965	3075	0	0	470	102	0	0	0								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00								
FinalVolume:	0	0	0	1062	3383	0	0	517	112	0	0	0								
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900								
Adjustment:	1.00	1.00	1.00	0.94	0.94	1.00	1.00	0.95	0.95	1.00	1.00	1.00								
Lanes:	0.00	0.00	0.00	1.00	4.00	0.00	0.00	2.47	0.53	0.00	0.00	0.00								
Final Sat.:	0	0	0	1788	7153	0	0	4454	967	0	0	0								
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.59	0.47	0.00	0.00	0.12	0.12	0.00	0.00	0.00								
Crit Moves:				****				****												
Green/Cycle:	0.00	0.00	0.00	0.79	0.79	0.00	0.00	0.16	0.16	0.00	0.00	0.00								
Volume/Cap:	0.00	0.00	0.00	0.75	0.60	0.00	0.00	0.75	0.75	0.00	0.00	0.00								
Delay/Veh:	0.0	0.0	0.0	4.4	3.2	0.0	0.0	33.9	33.9	0.0	0.0	0.0								
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
AdjDel/Veh:	0.0	0.0	0.0	4.4	3.2	0.0	0.0	33.9	33.9	0.0	0.0	0.0								
DesignQueue:	0	0	0	17	13	0	0	12	12	0	0	0								

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.699
Loss Time (sec): 9 Average Delay (sec/veh): 17.9
Optimal Cycle: 54 Level Of Service: C

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	17	2981	175	0	616	54	464	314	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	2981	175	0	616	54	464	314	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	17	2981	175	0	616	54	464	314	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	17	2981	175	0	616	54	464	314	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	19	3279	193	0	678	59	478	330	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.03	4.70	0.27	0.00	2.76	0.24	2.00	2.00	0.00
Final Sat.:	0	0	0	49	8663	509	0	5086	446	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.38	0.38	0.38	0.00	0.13	0.13	0.14	0.09	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.54	0.54	0.54	0.00	0.19	0.19	0.19	0.38	0.00
Volume/Cap:	0.00	0.00	0.00	0.70	0.70	0.70	0.00	0.70	0.70	0.70	0.23	0.00
Delay/Veh:	0.0	0.0	0.0	13.4	13.4	13.4	0.0	30.8	30.8	31.4	16.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.4	13.4	13.4	0.0	30.8	30.8	31.4	16.2	0.0
DesignQueue:	0	0	0	24	24	24	0	14	14	13	7	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 Critical Vol./Cap.(X): 0.703
Loss Time (sec): 6 Average Delay (sec/veh): 12.9
Optimal Cycle: 41 Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	1988	0	1973	1431	0	1699	88	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	1988	0	1973	1431	0	1699	88	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1973	0	0	1699	88	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1973	0	0	1699	88	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2170	0	0	1869	97	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.85	0.15	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5260	272	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.36	0.36	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.51	0.51	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.70	0.70	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.3	0.0	0.0	11.4	11.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.3	0.0	0.0	11.4	11.4	0.0	0.0	0.0
DesignQueue:	0	0	0	0	14	0	0	15	15	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.649
Loss Time (sec): 9 Average Delay (sec/veh): 20.6
Optimal Cycle: 48 Level Of Service: C

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	219	2000	34	149	1722	40	16	56	199	62	34	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	219	2000	34	149	1722	40	16	56	199	62	34	77
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	219	2000	34	149	1722	40	16	56	199	62	34	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	2000	34	149	1722	40	16	56	199	62	34	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	2200	37	149	1894	44	16	56	199	62	34	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.90	0.90	0.83	0.69	0.87	0.87
Lanes:	1.00	2.95	0.05	1.00	2.93	0.07	0.22	0.78	1.00	1.00	0.31	0.69
Final Sat.:	1770	5495	93	1770	5461	127	381	1333	1583	1304	508	1150
Capacity Analysis Module:												
Vol/Sat:	0.12	0.40	0.40	0.08	0.35	0.35	0.04	0.04	0.13	0.05	0.07	0.07
Crit Moves:		****		****					****			
Green/Cycle:	0.20	0.62	0.62	0.13	0.55	0.55	0.19	0.19	0.19	0.19	0.19	0.19
Volume/Cap:	0.63	0.65	0.65	0.65	0.63	0.63	0.22	0.22	0.65	0.25	0.35	0.35
Delay/Veh:	44.6	14.3	14.3	51.5	18.0	18.0	38.7	38.7	45.7	39.0	40.0	40.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.6	14.3	14.3	51.5	18.0	18.0	38.7	38.7	45.7	39.0	40.0	40.0
DesignQueue:	15	27	27	11	27	27	5	5	14	4	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.636
Loss Time (sec): 12 Average Delay (sec/veh): 13.3
Optimal Cycle: 55 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	44	2104	35	127	1745	71	93	18	19	41	5	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	2104	35	127	1745	71	93	18	19	41	5	59
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	44	2104	35	127	1745	71	93	18	19	41	5	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	2104	35	127	1745	71	93	18	19	41	5	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	2314	39	127	1920	78	93	18	19	41	5	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.97	0.97	0.93	0.90	0.90	0.93	0.84	0.84
Lanes:	1.00	2.95	0.05	1.00	2.88	0.12	1.00	0.49	0.51	1.00	0.08	0.92
Final Sat.:	1770	5497	91	1770	5316	216	1770	834	880	1770	125	1477
Capacity Analysis Module:												
Vol/Sat:	0.02	0.42	0.42	0.07	0.36	0.36	0.05	0.02	0.02	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.05	0.66	0.66	0.11	0.72	0.72	0.08	0.05	0.05	0.10	0.06	0.06
Volume/Cap:	0.47	0.64	0.64	0.64	0.50	0.50	0.64	0.45	0.45	0.24	0.64	0.64
Delay/Veh:	55.0	11.5	11.5	52.8	7.0	7.0	56.6	55.2	55.2	47.7	60.5	60.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.0	11.5	11.5	52.8	7.0	7.0	56.6	55.2	55.2	47.7	60.5	60.5
DesignQueue:	3	25	25	10	17	17	7	3	3	3	5	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec):	150	Critical Vol./Cap.(X):	0.623
Loss Time (sec):	12	Average Delay (sec/veh):	28.8
Optimal Cycle:	53	Level Of Service:	D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	91	1700	110	350	1378	100	118	336	126	105	181	265
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	91	1700	110	350	1378	100	118	336	126	105	181	265
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	91	1700	110	350	1378	100	118	336	126	105	181	265
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	1700	110	350	1378	100	118	336	126	105	181	265
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	91	1870	121	361	1516	110	122	336	126	108	190	265
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.76	0.24	2.00	3.73	0.27	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	6928	448	3539	6877	499	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.27	0.10	0.22	0.22	0.03	0.18	0.08	0.03	0.05	0.17
Crit Moves:		****		****			****					****
Green/Cycle:	0.11	0.43	0.43	0.16	0.48	0.48	0.06	0.28	0.28	0.05	0.27	0.27
Volume/Cap:	0.46	0.62	0.62	0.62	0.46	0.46	0.62	0.65	0.29	0.65	0.19	0.62
Delay/Veh:	48.5	25.4	25.4	45.9	19.6	19.6	56.9	38.4	32.5	59.4	32.2	38.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.5	25.4	25.4	45.9	19.6	19.6	56.9	38.4	32.5	59.4	32.2	38.6
DesignQueue:	7	25	25	13	19	19	5	21	8	4	6	17

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec):	130	Critical Vol./Cap.(X):	0.412
Loss Time (sec):	9	Average Delay (sec/veh):	5.3
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	106	1700	5	0	1382	66	30	5	30	5	5	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	1700	5	0	1382	66	30	5	30	5	5	5
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	106	1700	5	0	1382	66	30	5	30	5	5	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	1700	5	0	1382	66	30	5	30	5	5	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	1870	6	0	1520	73	30	5	30	5	5	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	0.99	0.99	0.80	0.80	0.80	0.80	0.80	0.80
Lanes:	1.00	2.99	0.01	1.00	2.86	0.14	0.46	0.08	0.46	0.34	0.33	0.33
Final Sat.:	1805	5683	17	1900	5386	257	700	117	700	507	507	507
Capacity Analysis Module:												
Vol/Sat:	0.06	0.33	0.33	0.00	0.28	0.28	0.04	0.04	0.04	0.01	0.01	0.01
Crit Moves:	****				****			****				
Green/Cycle:	0.14	0.83	0.83	0.00	0.68	0.68	0.10	0.10	0.10	0.10	0.10	0.10
Volume/Cap:	0.41	0.40	0.40	0.00	0.41	0.41	0.41	0.41	0.41	0.09	0.09	0.09
Delay/Veh:	33.4	1.9	1.9	0.0	5.9	5.9	36.2	36.2	36.2	34.1	34.1	34.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.4	1.9	1.9	0.0	5.9	5.9	36.2	36.2	36.2	34.1	34.1	34.1
DesignQueue:	7	9	9	0	13	13	4	4	4	1	1	1

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec):	130	Critical Vol./Cap.(X):	0.639
Loss Time (sec):	12	Average Delay (sec/veh):	20.5
Optimal Cycle:	54	Level Of Service:	C

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	351	1646	258	81	1319	121	95	131	208	202	163	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	351	1646	258	81	1319	121	95	131	208	202	163	59
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	351	1646	258	81	1319	121	95	131	208	202	163	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	351	1646	258	81	1319	121	95	131	208	202	163	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	351	1811	284	81	1451	133	98	138	208	208	171	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.96	0.96	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.59	0.41	1.00	2.75	0.25	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4734	742	1770	5067	465	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.20	0.38	0.38	0.05	0.29	0.29	0.03	0.04	0.13	0.06	0.05	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.31	0.68	0.68	0.08	0.45	0.45	0.07	0.06	0.37	0.09	0.07	0.16
Volume/Cap:	0.64	0.56	0.56	0.56	0.64	0.64	0.37	0.64	0.36	0.64	0.61	0.24
Delay/Veh:	31.1	8.5	8.5	47.4	21.5	21.5	43.9	49.8	22.9	46.2	47.1	36.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	8.5	8.5	47.4	21.5	21.5	43.9	49.8	22.9	46.2	47.1	36.7
DesignQueue:	18	18	18	5	23	23	3	5	10	7	6	4

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Scenario Report

Scenario:	Existing_plus_pro_238_AM_Mit
Command:	Existing_plus_pro_238_AM_Mit
Volume:	Existing_plus_pro_238_AM
Geometry:	Mitigated
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Boulevard EIR - 12407
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	B	7.9	0.368	B	7.9	0.368	+ 0.000
# 2 Mission & A St	C	24.6	0.831	C	24.6	0.831	+ 0.000
# 3 Mission & B St	C	15.6	0.724	C	15.6	0.724	+ 0.000
# 4 Mission & C St	A	3.7	0.529	A	3.7	0.529	+ 0.000
# 5 Mission & D St	C	18.8	0.734	C	18.8	0.734	+ 0.000
# 6 Mission & Jackson-Foothill	B	11.6	0.615	B	11.6	0.615	+ 0.000
# 7 Mission & Fletcher	C	16.1	0.653	C	16.1	0.653	+ 0.000
# 8 Mission & Highland	B	13.6	0.608	B	13.6	0.608	+ 0.000
# 9 Mission & Carlos Bee	D	30.9	0.632	D	30.9	0.632	+ 0.000
# 10 Mission & Berry (signal)	B	10.3	0.568	B	10.3	0.568	+ 0.000
# 11 Mission & Harder	C	23.0	0.676	C	23.0	0.676	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	B	647.8	29.2	B	647.8	29.2	+ 0.0
# 2 Mission Blvd. (SB)	SB	C	709.6	25.0	C	709.6	25.0	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	C	232.7	22.1	C	232.7	22.1	+ 0.0
# 5 Mission no proj (NB)	NB	B	585.1	30.4	B	585.1	30.4	+ 0.0
# 6 Mission SB no-proj	SB	C	709.6	25.0	C	709.6	25.0	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec): 100 Critical Vol./Cap.(X): 0.368
Loss Time (sec): 9 Average Delay (sec/veh): 7.9
Optimal Cycle: 28 Level Of Service: B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	24	337	2	4	736	107	109	36	64	11	38	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	337	2	4	736	107	109	36	64	11	38	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	337	2	4	736	107	109	36	64	11	38	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	337	2	4	736	107	109	36	64	11	38	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	354	2	4	773	112	109	36	64	11	38	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.74	0.74	0.74	0.94	0.94	0.94	0.95	0.90	0.90	0.95	0.97	0.97
Lanes:	0.13	1.86	0.01	0.01	1.74	0.25	1.00	0.36	0.64	1.00	0.79	0.21
Final Sat.:	186	2611	15	17	3107	452	1805	616	1094	1805	1459	384
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.25	0.25	0.25	0.06	0.06	0.06	0.01	0.03	0.03
Crit Moves:					****		****				****	
Green/Cycle:	0.68	0.68	0.68	0.68	0.68	0.68	0.16	0.21	0.21	0.02	0.07	0.07
Volume/Cap:	0.20	0.20	0.20	0.37	0.37	0.37	0.37	0.28	0.28	0.28	0.37	0.37
Delay/Veh:	3.9	3.9	3.9	4.6	4.6	4.6	24.4	21.4	21.4	32.0	29.5	29.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	3.9	3.9	3.9	4.6	4.6	4.6	24.4	21.4	21.4	32.0	29.5	29.5
DesignQueue:	4	4	4	9	9	9	5	4	4	1	2	2

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.831
Loss Time (sec): 9 Average Delay (sec/veh): 24.6
Optimal Cycle: 80 Level Of Service: C

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	1 0	1! 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	444	129	227	0	600	2216	712	300
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	444	129	227	0	600	2216	712	300
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	444	129	227	0	600	2216	712	300
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	444	129	227	0	600	2216	712	300
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.05	1.00	1.05	1.03	1.05	1.05
FinalVolume:	0	0	0	0	488	142	238	0	630	2282	748	315
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	0.86	1.00	0.86	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.32	0.68	1.27	0.00	1.73	3.00	1.41	0.59
Final Sat.:	0	0	0	0	4200	1220	2092	0	2832	5309	2516	1060
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.12	0.12	0.11	0.00	0.22	0.43	0.30	0.30
Crit Moves:					****				****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.14	0.14	0.27	0.00	0.27	0.52	0.52	0.52
Volume/Cap:	0.00	0.00	0.00	0.00	0.83	0.83	0.43	0.00	0.83	0.83	0.57	0.57
Delay/Veh:	0.0	0.0	0.0	0.0	43.6	43.6	27.7	0.0	35.5	20.3	15.4	15.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	43.6	43.6	27.7	0.0	35.5	20.3	15.4	15.4
DesignQueue:	0	0	0	0	12	12	9	0	19	27	18	18

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.724
Loss Time (sec):	6	Average Delay (sec/veh):	15.6
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Mission Blvd								B St			
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Permitted					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	15	15	0		0	15	15	0		0	0		15	15		15	15	15		
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0		
Lanes:	0	0	0	0	0	0	0	4	1	0	0	0	0	0	1	1	1	0	0	0
Volume Module:																				
Base Vol:	0	0	0		0	3189	54	0		0	0		655	317		0
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00		1.00
Initial Bse:	0	0	0		0	3189	54	0		0	0		655	317		0
User Adj:	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95		0.95	0.95		0.95
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95	0.95		0.95	0.95		0.95	0.95		0.95
PHF Volume:	0	0	0		0	3189	54	0		0	0		655	317		0
Reduct Vol:	0	0	0		0	0	0	0		0	0		0	0		0
Reduced Vol:	0	0	0		0	3189	54	0		0	0		655	317		0
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00		1.00
MLF Adj:	1.00	1.00	1.00		1.00	1.10	1.10	1.00		1.00	1.00		1.05	1.05		1.00
FinalVolume:	0	0	0		0	3508	59	0		0	0		688	333		0
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900		1900	1900	1900	1900		1900	1900		1900	1900		1900
Adjustment:	1.00	1.00	1.00		1.00	0.98	0.98	1.00		1.00	1.00		0.88	0.88		1.00
Lanes:	0.00	0.00	0.00		0.00	4.92	0.08	0.00		0.00	1.00		1.35	0.65		0.00
Final Sat.:	0	0	0		0	9159	155	0		0	1900		2259	1094		0
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00		0.00	0.38	0.38	0.00		0.00	0.00		0.30	0.30		0.00
Crit Moves:						****								****		
Green/Cycle:	0.00	0.00	0.00		0.00	0.53	0.53	0.00		0.00	0.00		0.42	0.42		0.00
Volume/Cap:	0.00	0.00	0.00		0.00	0.72	0.72	0.00		0.00	0.00		0.72	0.72		0.00
Delay/Veh:	0.0	0.0	0.0		0.0	14.3	14.3	0.0		0.0	0.0		20.0	20.0		0.0
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00		1.00
AdjDel/Veh:	0.0	0.0	0.0		0.0	14.3	14.3	0.0		0.0	0.0		20.0	20.0		0.0
DesignQueue:	0	0	0		0	25	25	0		0	0		21	21		0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.529
Loss Time (sec):	6	Average Delay (sec/veh):	3.7
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Mission Blvd								C St			
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Permitted					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	0	15	15		15	15	0		15	15		15	0	0		0
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0
Lanes:	0	0	0	0	0	0	1	4	0	0	0	0	2	1	0	0	0	0	0	0
Volume Module:																				
Base Vol:	0	0	0		591	3246	0		0	143		53	0	0		0
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	0	0	0		591	3246	0		0	143		53	0	0		0
User Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95		0.95	0.95	0.95		0.95
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95		0.95	0.95	0.95		0.95
PHF Volume:	0	0	0		591	3246	0		0	143		53	0	0		0
Reduct Vol:	0	0	0		0	0	0		0	0		0	0	0		0
Reduced Vol:	0	0	0		591	3246	0		0	143		53	0	0		0
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00	1.00		1.10	1.10	1.00		1.00	1.10		1.10	1.00	1.00		1.00
FinalVolume:	0	0	0		650	3571	0		0	157		58	0	0		0
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900		1900	1900	1900		1900
Adjustment:	1.00	1.00	1.00		0.96	0.96	1.00		1.00	0.94		0.94	1.00	1.00		1.00
Lanes:	0.00	0.00	0.00		0.77	4.23	0.00		0.00	2.19		0.81	0.00	0.00		0.00
Final Sat.:	0	0	0		1406	7722	0		0	3914		1451	0	0		0
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00		0.46	0.46	0.00		0.00	0.04		0.04	0.00	0.00		0.00
Crit Moves:						****				****						
Green/Cycle:	0.00	0.00	0.00		0.83	0.83	0.00		0.00	0.13		0.13	0.00	0.00		0.00
Volume/Cap:	0.00	0.00	0.00		0.56	0.56	0.00		0.00	0.32		0.32	0.00	0.00		0.00
Delay/Veh:	0.0	0.0	0.0		2.3	2.3	0.0		0.0	31.0		31.0	0.0	0.0		0.0
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:	0.0	0.0	0.0		2.3	2.3	0.0		0.0	31.0		31.0	0.0	0.0		0.0
DesignQueue:	0	0	0		11	11	0		0	4		4	0	0		0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.734
Loss Time (sec): 9 Average Delay (sec/veh): 18.8
Optimal Cycle: 58 Level Of Service: C

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	11	3183	170	0	212	23	795	473	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	3183	170	0	212	23	795	473	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	3183	170	0	212	23	795	473	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	3183	170	0	212	23	795	473	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	12	3501	187	0	233	25	819	497	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.02	4.73	0.25	0.00	2.71	0.29	2.00	2.00	0.00
Final Sat.:	0	0	0	30	8724	466	0	4991	541	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.40	0.40	0.40	0.00	0.05	0.05	0.23	0.13	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.51	0.51	0.51	0.00	0.13	0.13	0.29	0.42	0.00
Volume/Cap:	0.00	0.00	0.00	0.79	0.79	0.79	0.00	0.37	0.37	0.79	0.32	0.00
Delay/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	31.3	31.3	28.2	15.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.4	16.4	16.4	0.0	31.3	31.3	28.2	15.2	0.0
DesignQueue:	0	0	0	27	27	27	0	5	5	20	10	0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 Critical Vol./Cap.(X): 0.615
Loss Time (sec): 6 Average Delay (sec/veh): 11.6
Optimal Cycle: 33 Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	1891	0	2077	1984	0	1256	49	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	1891	0	2077	1984	0	1256	49	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2077	0	0	1256	49	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2077	0	0	1256	49	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2285	0	0	1382	54	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.89	0.11	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5325	208	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.26	0.26	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.42	0.42	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.62	0.62	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	10.6	0.0	0.0	13.2	13.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	10.6	0.0	0.0	13.2	13.2	0.0	0.0	0.0
DesignQueue:	0	0	0	0	13	0	0	12	12	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.653
Loss Time (sec): 9 Average Delay (sec/veh): 16.1
Optimal Cycle: 48 Level Of Service: C

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	194	1778	44	75	2059	45	47	40	137	101	98	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	1778	44	75	2059	45	47	40	137	101	98	27
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	194	1778	44	75	2059	45	47	40	137	101	98	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	1778	44	75	2059	45	47	40	137	101	98	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	194	1956	48	75	2265	50	47	40	137	101	98	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.55	0.55	0.83	0.59	0.95	0.95
Lanes:	1.00	2.93	0.07	1.00	2.94	0.06	0.54	0.46	1.00	1.00	0.78	0.22
Final Sat.:	1770	5453	135	1770	5469	120	564	480	1583	1118	1417	390
Capacity Analysis Module:												
Vol/Sat:	0.11	0.36	0.36	0.04	0.41	0.41	0.08	0.08	0.09	0.09	0.07	0.07
Crit Moves:	****				****					****		
Green/Cycle:	0.17	0.72	0.72	0.08	0.63	0.63	0.14	0.14	0.14	0.14	0.14	0.14
Volume/Cap:	0.65	0.50	0.50	0.50	0.65	0.65	0.60	0.60	0.63	0.65	0.50	0.50
Delay/Veh:	47.8	7.2	7.2	52.1	13.4	13.4	51.0	51.0	50.2	52.9	46.8	46.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.8	7.2	7.2	52.1	13.4	13.4	51.0	51.0	50.2	52.9	46.8	46.8
DesignQueue:	14	17	17	6	26	26	6	6	10	7	9	9

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.608
Loss Time (sec): 12 Average Delay (sec/veh): 13.6
Optimal Cycle: 52 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	31	1816	17	53	2060	46	102	6	12	35	8	103
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1816	17	53	2060	46	102	6	12	35	8	103
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	31	1816	17	53	2060	46	102	6	12	35	8	103
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	1816	17	53	2060	46	102	6	12	35	8	103
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	1998	19	53	2266	51	102	6	12	35	8	103
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.88	0.88	0.93	0.84	0.84
Lanes:	1.00	2.97	0.03	1.00	2.93	0.07	1.00	0.33	0.67	1.00	0.07	0.93
Final Sat.:	1770	5536	52	1770	5466	122	1770	559	1118	1770	115	1487
Capacity Analysis Module:												
Vol/Sat:	0.02	0.36	0.36	0.03	0.41	0.41	0.06	0.01	0.01	0.02	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.03	0.66	0.66	0.05	0.68	0.68	0.09	0.07	0.07	0.14	0.11	0.11
Volume/Cap:	0.61	0.55	0.55	0.55	0.61	0.61	0.61	0.15	0.15	0.14	0.61	0.61
Delay/Veh:	67.1	10.7	10.7	57.3	10.0	10.0	53.9	49.9	49.9	43.1	52.1	52.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	67.1	10.7	10.7	57.3	10.0	10.0	53.9	49.9	49.9	43.1	52.1	52.1
DesignQueue:	3	21	21	4	23	23	8	1	1	3	8	8

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.632
Loss Time (sec): 12 Average Delay (sec/veh): 30.9
Optimal Cycle: 54 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	71	1589	83	244	1844	28	132	188	77	550	463	221
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	1589	83	244	1844	28	132	188	77	550	463	221
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	71	1589	83	244	1844	28	132	188	77	550	463	221
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	1589	83	244	1844	28	132	188	77	550	463	221
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	71	1748	91	251	2028	31	136	188	77	567	486	221
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.98	0.98	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.80	0.20	2.00	3.94	0.06	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	7010	366	3539	7340	111	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.04	0.25	0.25	0.07	0.28	0.28	0.04	0.10	0.05	0.16	0.13	0.14
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.39	0.39	0.11	0.44	0.44	0.09	0.16	0.16	0.25	0.32	0.32
Volume/Cap:	0.62	0.63	0.63	0.63	0.62	0.62	0.42	0.63	0.30	0.63	0.41	0.43
Delay/Veh:	58.9	28.2	28.2	50.6	24.7	24.7	49.4	47.8	42.5	38.9	30.4	30.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.9	28.2	28.2	50.6	24.7	24.7	49.4	47.8	42.5	38.9	30.4	30.9
DesignQueue:	6	25	25	9	26	26	5	14	5	18	14	13

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.568
Loss Time (sec): 9 Average Delay (sec/veh): 10.3
Optimal Cycle: 39 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	55	1407	5	64	1851	98	102	5	32	5	5	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	1407	5	64	1851	98	102	5	32	5	5	67
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	55	1407	5	64	1851	98	102	5	32	5	5	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	1407	5	64	1851	98	102	5	32	5	5	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	1548	6	64	2036	108	102	5	32	5	5	67
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	0.99	0.99	0.62	0.62	0.62	0.76	0.76	0.76
Lanes:	1.00	2.99	0.01	1.00	2.85	0.15	0.73	0.04	0.23	0.06	0.06	0.88
Final Sat.:	1805	5680	20	1805	5359	284	861	42	270	94	94	1264
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.27	0.04	0.38	0.38	0.12	0.12	0.12	0.05	0.05	0.05
Crit Moves:	****				****			****				
Green/Cycle:	0.05	0.60	0.60	0.12	0.67	0.67	0.21	0.21	0.21	0.21	0.21	0.21
Volume/Cap:	0.57	0.45	0.45	0.30	0.57	0.57	0.57	0.57	0.57	0.25	0.25	0.25
Delay/Veh:	44.1	9.2	9.2	34.0	7.6	7.6	32.1	32.1	32.1	27.9	27.9	27.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.1	9.2	9.2	34.0	7.6	7.6	32.1	32.1	32.1	27.9	27.9	27.9
DesignQueue:	4	16	16	4	19	19	8	8	8	4	4	4

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec):	130	Critical Vol./Cap.(X):	0.676
Loss Time (sec):	12	Average Delay (sec/veh):	23.0
Optimal Cycle:	59	Level Of Service:	C

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	248	1319	451	111	1545	111	163	317	208	189	139	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	1319	451	111	1545	111	163	317	208	189	139	30
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	248	1319	451	111	1545	111	163	317	208	189	139	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	1319	451	111	1545	111	163	317	208	189	139	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	248	1451	496	111	1700	122	168	333	208	195	146	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.94	0.94	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.24	0.76	1.00	2.80	0.20	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	3998	1367	1770	5162	371	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.14	0.36	0.36	0.06	0.33	0.33	0.05	0.09	0.13	0.06	0.04	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.21	0.59	0.59	0.10	0.49	0.49	0.11	0.13	0.34	0.08	0.11	0.21
Volume/Cap:	0.68	0.61	0.61	0.61	0.68	0.68	0.44	0.68	0.39	0.68	0.37	0.09
Delay/Veh:	39.5	13.2	13.2	46.7	19.9	19.9	42.0	43.4	25.1	48.4	41.3	31.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.5	13.2	13.2	46.7	19.9	19.9	42.0	43.4	25.1	48.4	41.3	31.5
DesignQueue:	15	21	21	7	25	25	5	11	10	7	5	2

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Scenario Report

Scenario:	Existing_plus_pro_238_PM_Mit
Command:	Existing_plus_pro_238_PM_Mit
Volume:	Existing_plus_pro_238_PM
Geometry:	Mitigated
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Boulevard EIR - 12407
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Mission & Sunset	B	6.6	0.357	B	6.6	0.357	+ 0.000 D/V
# 2 Mission & A St	D	33.2	0.926	D	33.2	0.926	+ 0.000 D/V
# 3 Mission & B St	C	16.4	0.791	C	16.4	0.791	+ 0.000 D/V
# 4 Mission & C St	B	7.6	0.750	B	7.6	0.750	+ 0.000 D/V
# 5 Mission & D St	C	18.4	0.740	C	18.4	0.740	+ 0.000 D/V
# 6 Mission & Jackson-Foothill	B	13.4	0.739	B	13.4	0.739	+ 0.000 D/V
# 7 Mission & Fletcher	C	21.5	0.708	C	21.5	0.708	+ 0.000 D/V
# 8 Mission & Highland	B	13.8	0.677	B	13.8	0.677	+ 0.000 D/V
# 9 Mission & Carlos Bee	D	29.8	0.679	D	29.8	0.679	+ 0.000 D/V
# 10 Mission & Berry (signal)	B	11.2	0.523	B	11.2	0.523	+ 0.000 D/V
# 11 Mission & Harder	C	22.0	0.671	C	22.0	0.671	+ 0.000 D/V

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	B	662.9	28.6	B	662.9	28.6	+ 0.0
# 2 Mission Blvd. (SB)	SB	C	718.8	24.7	C	718.8	24.7	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	D	246.5	20.9	D	246.5	20.9	+ 0.0
# 5 Mission no proj (NB)	NB	B	589.2	30.2	B	589.2	30.2	+ 0.0
# 6 Mission SB no-proj	SB	C	718.8	24.7	C	718.8	24.7	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec):	100	Critical Vol./Cap.(X):	0.357
Loss Time (sec):	9	Average Delay (sec/veh):	6.6
Optimal Cycle:	28	Level Of Service:	B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	28	656	7	12	660	83	104	41	32	5	22	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	656	7	12	660	83	104	41	32	5	22	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	656	7	12	660	83	104	41	32	5	22	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	656	7	12	660	83	104	41	32	5	22	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	689	7	13	693	87	104	41	32	5	22	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.77	0.85	0.85	0.85	0.95	0.93	0.93	0.95	0.94	0.94
Lanes:	0.08	1.90	0.02	0.03	1.75	0.22	1.00	0.56	0.44	1.00	0.63	0.37
Final Sat.:	119	2778	30	51	2832	356	1805	992	775	1805	1123	663
Capacity Analysis Module:												
Vol/Sat:	0.25	0.25	0.25	0.24	0.24	0.24	0.06	0.04	0.04	0.00	0.02	0.02
Crit Moves:		****					****				****	
Green/Cycle:	0.69	0.69	0.69	0.69	0.69	0.69	0.16	0.20	0.20	0.01	0.05	0.05
Volume/Cap:	0.36	0.36	0.36	0.35	0.35	0.35	0.36	0.20	0.20	0.20	0.36	0.36
Delay/Veh:	4.1	4.1	4.1	4.0	4.0	4.0	24.4	21.5	21.5	32.1	30.4	30.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	4.1	4.1	4.1	4.0	4.0	4.0	24.4	21.5	21.5	32.1	30.4	30.4
DesignQueue:	6	6	6	7	7	7	5	3	3	0	2	2

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.926
Loss Time (sec):	9	Average Delay (sec/veh):	33.2
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	1 0	1! 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	776	142	459	0	768	1926	672	297
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	776	142	459	0	768	1926	672	297
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	776	142	459	0	768	1926	672	297
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	776	142	459	0	768	1926	672	297
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.05	1.00	1.05	1.03	1.05	1.05
FinalVolume:	0	0	0	0	854	156	482	0	806	1984	706	312
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.96	0.96	0.87	1.00	0.87	0.93	0.93	0.93
Lanes:	0.00	0.00	0.00	0.00	2.54	0.46	1.37	0.00	1.63	3.00	1.39	0.61
Final Sat.:	0	0	0	0	4629	847	2283	0	2701	5309	2454	1085
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.18	0.18	0.21	0.00	0.30	0.37	0.29	0.29
Crit Moves:						****			****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.20	0.20	0.32	0.00	0.32	0.40	0.40	0.40
Volume/Cap:	0.00	0.00	0.00	0.00	0.93	0.93	0.65	0.00	0.93	0.93	0.71	0.71
Delay/Veh:	0.0	0.0	0.0	0.0	45.4	45.4	27.1	0.0	37.7	31.4	24.0	24.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	45.4	45.4	27.1	0.0	37.7	31.4	24.0	24.0
DesignQueue:	0	0	0	0	19	19	17	0	24	29	22	22

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.791
Loss Time (sec): 6 Average Delay (sec/veh): 16.4
Optimal Cycle: 58 Level Of Service: C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	1	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3561	87	0	0	0	620	415	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3561	87	0	0	0	620	415	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3561	87	0	0	0	620	415	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3561	87	0	0	0	620	415	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	3917	96	0	0	0	651	436	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	0.89	0.89	1.00
Lanes:	0.00	0.00	0.00	0.00	4.88	0.12	0.00	0.00	1.00	1.20	0.80	0.00
Final Sat.:	0	0	0	0	9092	222	0	0	1900	2031	1359	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.00	0.32	0.32	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.54	0.54	0.00	0.00	0.00	0.41	0.41	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.79	0.79	0.00	0.00	0.00	0.79	0.79	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.8	14.8	0.0	0.0	0.0	22.4	22.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.8	14.8	0.0	0.0	0.0	22.4	22.4	0.0
DesignQueue:	0	0	0	0	27	27	0	0	0	23	23	0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.750
Loss Time (sec): 6 Average Delay (sec/veh): 7.6
Optimal Cycle: 50 Level Of Service: B

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	967	3267	0	0	504	106	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	967	3267	0	0	504	106	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	967	3267	0	0	504	106	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	967	3267	0	0	504	106	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	1064	3594	0	0	554	117	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	4.00	0.00	0.00	2.48	0.52	0.00	0.00	0.00
Final Sat.:	0	0	0	1807	7227	0	0	4479	942	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.59	0.50	0.00	0.00	0.12	0.12	0.00	0.00	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.78	0.78	0.00	0.00	0.17	0.17	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.75	0.63	0.00	0.00	0.75	0.75	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	4.7	3.7	0.0	0.0	33.3	33.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	4.7	3.7	0.0	0.0	33.3	33.3	0.0	0.0	0.0
DesignQueue:	0	0	0	18	15	0	0	13	13	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.740
Loss Time (sec):	9	Average Delay (sec/veh):	18.4
Optimal Cycle:	59	Level Of Service:	C

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0 0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	17	3168	184	0	627	57	504	311	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	3168	184	0	627	57	504	311	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	17	3168	184	0	627	57	504	311	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	17	3168	184	0	627	57	504	311	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	19	3485	202	0	690	63	519	327	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.03	4.70	0.27	0.00	2.75	0.25	2.00	2.00	0.00
Final Sat.:	0	0	0	47	8670	504	0	5071	461	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.40	0.40	0.40	0.00	0.14	0.14	0.15	0.09	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.54	0.54	0.54	0.00	0.18	0.18	0.20	0.38	0.00
Volume/Cap:	0.00	0.00	0.00	0.74	0.74	0.74	0.00	0.74	0.74	0.74	0.23	0.00
Delay/Veh:	0.0	0.0	0.0	14.0	14.0	14.0	0.0	31.9	31.9	32.1	16.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	14.0	14.0	14.0	0.0	31.9	31.9	32.1	16.2	0.0
DesignQueue:	0	0	0	25	25	25	0	14	14	14	7	0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec):	75	Critical Vol./Cap.(X):	0.739
Loss Time (sec):	6	Average Delay (sec/veh):	13.4
Optimal Cycle:	45	Level Of Service:	B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2121	0	2191	1443	0	1703	89	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2121	0	2191	1443	0	1703	89	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2191	0	0	1703	89	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2191	0	0	1703	89	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2410	0	0	1873	98	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.85	0.15	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5258	275	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.36	0.36	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.48	0.48	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.74	0.74	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.0	0.0	0.0	12.7	12.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.0	0.0	0.0	12.7	12.7	0.0	0.0	0.0
DesignQueue:	0	0	0	0	15	0	0	16	16	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.708
Loss Time (sec): 9 Average Delay (sec/veh): 21.5
Optimal Cycle: 56 Level Of Service: C

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	257	2120	44	152	1913	64	29	53	207	71	39	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	257	2120	44	152	1913	64	29	53	207	71	39	77
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	257	2120	44	152	1913	64	29	53	207	71	39	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	257	2120	44	152	1913	64	29	53	207	71	39	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	257	2332	48	152	2104	70	29	53	207	71	39	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.83	0.83	0.83	0.65	0.88	0.88
Lanes:	1.00	2.94	0.06	1.00	2.90	0.10	0.35	0.65	1.00	1.00	0.34	0.66
Final Sat.:	1770	5475	114	1770	5407	181	560	1023	1583	1229	564	1113
Capacity Analysis Module:												
Vol/Sat:	0.15	0.43	0.43	0.09	0.39	0.39	0.05	0.05	0.13	0.06	0.07	0.07
Crit Moves:	****				****				****			
Green/Cycle:	0.21	0.63	0.63	0.13	0.55	0.55	0.18	0.18	0.18	0.18	0.18	0.18
Volume/Cap:	0.71	0.68	0.68	0.68	0.71	0.71	0.28	0.28	0.71	0.31	0.37	0.37
Delay/Veh:	46.4	14.1	14.1	52.9	19.4	19.4	40.1	40.1	48.8	40.5	41.1	41.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.4	14.1	14.1	52.9	19.4	19.4	40.1	40.1	48.8	40.5	41.1	41.1
DesignQueue:	18	28	28	11	30	30	6	6	14	5	8	8

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.677
Loss Time (sec): 12 Average Delay (sec/veh): 13.8
Optimal Cycle: 60 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	55	2262	41	127	1934	91	98	18	25	44	6	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	2262	41	127	1934	91	98	18	25	44	6	62
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	55	2262	41	127	1934	91	98	18	25	44	6	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	2262	41	127	1934	91	98	18	25	44	6	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	2488	45	127	2127	100	98	18	25	44	6	62
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.97	0.97	0.93	0.89	0.89	0.93	0.84	0.84
Lanes:	1.00	2.95	0.05	1.00	2.87	0.13	1.00	0.42	0.58	1.00	0.09	0.91
Final Sat.:	1770	5489	99	1770	5284	249	1770	710	986	1770	141	1461
Capacity Analysis Module:												
Vol/Sat:	0.03	0.45	0.45	0.07	0.40	0.40	0.06	0.03	0.03	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.06	0.67	0.67	0.11	0.72	0.72	0.08	0.05	0.05	0.10	0.06	0.06
Volume/Cap:	0.56	0.68	0.68	0.68	0.56	0.56	0.68	0.53	0.53	0.26	0.68	0.68
Delay/Veh:	57.5	11.7	11.7	55.4	7.6	7.6	58.8	57.7	57.7	47.9	63.2	63.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.5	11.7	11.7	55.4	7.6	7.6	58.8	57.7	57.7	47.9	63.2	63.2
DesignQueue:	4	26	26	10	19	19	8	3	3	3	5	5

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.679
Loss Time (sec): 12 Average Delay (sec/veh): 29.8
Optimal Cycle: 61 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	103	1818	145	352	1523	105	131	357	135	131	197	267
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	1818	145	352	1523	105	131	357	135	131	197	267
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	103	1818	145	352	1523	105	131	357	135	131	197	267
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	1818	145	352	1523	105	131	357	135	131	197	267
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	103	2000	160	363	1675	116	135	357	135	135	207	267
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.70	0.30	2.00	3.74	0.26	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	6832	545	3539	6901	476	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.06	0.29	0.29	0.10	0.24	0.24	0.04	0.19	0.09	0.04	0.06	0.17
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.43	0.43	0.15	0.47	0.47	0.06	0.28	0.28	0.06	0.27	0.27
Volume/Cap:	0.52	0.68	0.68	0.68	0.52	0.52	0.59	0.68	0.30	0.68	0.20	0.62
Delay/Veh:	49.6	26.5	26.5	48.2	21.3	21.3	54.6	38.8	32.2	58.9	31.9	38.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.6	26.5	26.5	48.2	21.3	21.3	54.6	38.8	32.2	58.9	31.9	38.1
DesignQueue:	8	28	28	13	21	21	5	22	8	5	6	17

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.523
Loss Time (sec): 9 Average Delay (sec/veh): 11.2
Optimal Cycle: 36 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	106	1734	5	81	1401	146	85	5	30	5	5	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	1734	5	81	1401	146	85	5	30	5	5	81
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	106	1734	5	81	1401	146	85	5	30	5	5	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	1734	5	81	1401	146	85	5	30	5	5	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	1907	6	81	1541	161	85	5	30	5	5	81
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	0.99	0.99	0.59	0.59	0.59	0.77	0.77	0.77
Lanes:	1.00	2.99	0.01	1.00	2.72	0.28	0.71	0.04	0.25	0.05	0.05	0.90
Final Sat.:	1805	5684	16	1805	5110	533	796	47	281	81	81	1306
Capacity Analysis Module:												
Vol/Sat:	0.06	0.34	0.34	0.04	0.30	0.30	0.11	0.11	0.11	0.06	0.06	0.06
Crit Moves:		****		****				****				
Green/Cycle:	0.12	0.64	0.64	0.09	0.61	0.61	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	0.50	0.52	0.52	0.52	0.50	0.50	0.52	0.52	0.52	0.30	0.30	0.30
Delay/Veh:	36.2	8.3	8.3	39.3	9.3	9.3	31.5	31.5	31.5	28.6	28.6	28.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.2	8.3	8.3	39.3	9.3	9.3	31.5	31.5	31.5	28.6	28.6	28.6
DesignQueue:	7	18	18	5	17	17	7	7	7	5	5	5

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR - 12407
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 Critical Vol./Cap.(X): 0.671
Loss Time (sec): 12 Average Delay (sec/veh): 22.0
Optimal Cycle: 58 Level Of Service: C

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	351	1681	282	81	1347	127	107	181	208	228	203	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	351	1681	282	81	1347	127	107	181	208	228	203	61
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	351	1681	282	81	1347	127	107	181	208	228	203	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	351	1681	282	81	1347	127	107	181	208	228	203	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	351	1849	310	81	1482	140	110	190	208	235	213	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.96	0.96	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.57	0.43	1.00	2.74	0.26	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4690	787	1770	5056	477	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.20	0.39	0.39	0.05	0.29	0.29	0.03	0.05	0.13	0.07	0.06	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.30	0.66	0.66	0.08	0.44	0.44	0.08	0.08	0.37	0.10	0.09	0.17
Volume/Cap:	0.67	0.60	0.60	0.60	0.67	0.67	0.37	0.67	0.35	0.67	0.63	0.23
Delay/Veh:	32.9	9.8	9.8	49.2	22.7	22.7	43.1	48.6	22.6	46.4	46.1	35.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.9	9.8	9.8	49.2	22.7	22.7	43.1	48.6	22.6	46.4	46.1	35.8
DesignQueue:	19	20	20	5	24	24	4	6	10	8	7	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Scenario Report

Scenario:	Cumulative_2035_AM_Mit
Command:	Cumulative_2035_AM_Mit
Volume:	Cumulative_2035_AM
Geometry:	Mitigated
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	B	9.5	0.727	B	9.5	0.727	+ 0.000
# 2 Mission & A St	F	98.1	1.149	F	98.1	1.149	+ 0.000
# 3 Mission & B St	C	15.8	0.833	C	15.8	0.833	+ 0.000
# 4 Mission & C St	B	11.7	0.713	B	11.7	0.713	+ 0.000
# 5 Mission & D St	D	39.3	0.987	D	39.3	0.987	+ 0.000
# 6 Mission & Jackson-Foothill	B	13.3	0.789	B	13.3	0.789	+ 0.000
# 7 Mission & Fletcher	D	26.1	0.947	D	26.1	0.947	+ 0.000
# 8 Mission & Highland	B	12.8	0.808	B	12.8	0.808	+ 0.000
# 9 Mission & Carlos Bee	D	38.3	0.918	D	38.3	0.918	+ 0.000
# 10 Mission & Berry (signal)	B	9.2	0.692	B	9.2	0.692	+ 0.000
# 11 Mission & Harder	D	27.4	0.882	D	27.4	0.882	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	C	729.6	26.0	C	729.6	26.0	+ 0.0
# 2 Mission Blvd. (SB)	SB	D	865.3	20.5	D	865.3	20.5	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	E	374.8	13.7	E	374.8	13.7	+ 0.0
# 5 Mission no proj (NB)	NB	B	572.9	31.0	B	572.9	31.0	+ 0.0
# 6 Mission SB no-proj	SB	D	865.3	20.5	D	865.3	20.5	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec): 100 Critical Vol./Cap.(X): 0.727
Loss Time (sec): 9 Average Delay (sec/veh): 9.5
Optimal Cycle: 55 Level Of Service: B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	23	322	2	32	1463	241	154	80	62	11	38	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	322	2	32	1463	241	154	80	62	11	38	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	322	2	32	1463	241	154	80	62	11	38	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	322	2	32	1463	241	154	80	62	11	38	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	338	2	34	1536	253	154	80	62	11	38	39
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	0.71	0.90	0.90	0.90	0.95	0.93	0.93	0.95	0.92	0.92
Lanes:	0.13	1.86	0.01	0.04	1.68	0.28	1.00	0.56	0.44	1.00	0.49	0.51
Final Sat.:	179	2504	16	63	2887	476	1805	995	772	1805	863	885
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.53	0.53	0.53	0.09	0.08	0.08	0.01	0.04	0.04
Crit Moves:					****		****				****	
Green/Cycle:	0.73	0.73	0.73	0.73	0.73	0.73	0.12	0.17	0.17	0.01	0.06	0.06
Volume/Cap:	0.18	0.18	0.18	0.73	0.73	0.73	0.73	0.49	0.49	0.49	0.73	0.73
Delay/Veh:	2.7	2.7	2.7	5.7	5.7	5.7	35.4	25.5	25.5	42.5	44.1	44.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	2.7	2.7	2.7	5.7	5.7	5.7	35.4	25.5	25.5	42.5	44.1	44.1
DesignQueue:	3	3	3	16	16	16	8	7	7	1	4	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec): 120 Critical Vol./Cap.(X): 1.149
Loss Time (sec): 9 Average Delay (sec/veh): 98.1
Optimal Cycle: 180 Level Of Service: F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	1 0	1! 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	1146	439	246	0	621	2609	1287	398
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	1146	439	246	0	621	2609	1287	398
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1146	439	246	0	621	2609	1287	398
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1146	439	246	0	621	2609	1287	398
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.05	1.00	1.05	1.03	1.05	1.05
FinalVolume:	0	0	0	0	1261	483	258	0	652	2687	1351	418
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.94	0.94	0.86	1.00	0.86	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.17	0.83	1.28	0.00	1.72	3.00	1.53	0.47
Final Sat.:	0	0	0	0	3879	1486	2107	0	2817	5309	2732	845
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.32	0.32	0.12	0.00	0.23	0.51	0.49	0.49
Crit Moves:					****				****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.28	0.28	0.20	0.00	0.20	0.44	0.44	0.44
Volume/Cap:	0.00	0.00	0.00	0.00	1.15	1.15	0.61	0.00	1.15	1.15	1.12	1.12
Delay/Veh:	0.0	0.0	0.0	0.0	109	108.9	33.7	0.0	119.0	99.0	87.7	87.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	109	108.9	33.7	0.0	119.0	99.0	87.7	87.7
DesignQueue:	0	0	0	0	30	30	11	0	21	38	38	38

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.833
Loss Time (sec):	6	Average Delay (sec/veh):	15.8
Optimal Cycle:	69	Level Of Service:	C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	1	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3316	773	0	0	0	620	317	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3316	773	0	0	0	620	317	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3316	773	0	0	0	620	317	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3316	773	0	0	0	620	317	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	3648	850	0	0	0	651	333	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.88	0.88	1.00
Lanes:	0.00	0.00	0.00	0.00	4.05	0.95	0.00	0.00	1.00	1.32	0.68	0.00
Final Sat.:	0	0	0	0	7326	1708	0	0	1900	2219	1134	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.29	0.29	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.00	0.35	0.35	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.00	0.83	0.83	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	13.4	13.4	0.0	0.0	0.0	26.7	26.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	13.4	13.4	0.0	0.0	0.0	26.7	26.7	0.0
DesignQueue:	0	0	0	0	28	28	0	0	0	23	23	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.713
Loss Time (sec):	6	Average Delay (sec/veh):	11.7
Optimal Cycle:	45	Level Of Service:	B

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	589	3128	0	0	238	353	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	589	3128	0	0	238	353	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	589	3128	0	0	238	353	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	589	3128	0	0	238	353	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	648	3441	0	0	262	388	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.96	0.96	1.00	1.00	0.89	0.89	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.79	4.21	0.00	0.00	2.00	1.00	0.00	0.00	0.00
Final Sat.:	0	0	0	1446	7681	0	0	3390	1695	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.45	0.45	0.00	0.00	0.08	0.23	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.00	0.00	0.63	0.63	0.00	0.00	0.32	0.32	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.71	0.71	0.00	0.00	0.24	0.71	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	0.0	0.0	19.4	25.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	0.0	0.0	19.4	25.0	0.0	0.0	0.0
DesignQueue:	0	0	0	23	23	0	0	6	19	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec): 120 Critical Vol./Cap.(X): 0.987
Loss Time (sec): 9 Average Delay (sec/veh): 39.3
Optimal Cycle: 180 Level Of Service: D

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	11	3329	169	0	422	46	1378	473	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	3329	169	0	422	46	1378	473	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	3329	169	0	422	46	1378	473	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	3329	169	0	422	46	1378	473	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	12	3662	186	0	464	51	1419	497	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.02	4.74	0.24	0.00	2.71	0.29	2.00	2.00	0.00
Final Sat.:	0	0	0	29	8748	444	0	4989	544	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.42	0.42	0.42	0.00	0.09	0.09	0.40	0.13	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.41	0.41	0.41	0.00	0.13	0.13	0.39	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	1.02	1.02	1.02	0.00	0.74	0.74	1.02	0.26	0.00
Delay/Veh:	0.0	0.0	0.0	40.2	40.2	40.2	0.0	35.8	35.8	48.3	10.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	40.2	40.2	40.2	0.0	35.8	35.8	48.3	10.5	0.0
DesignQueue:	0	0	0	34	34	34	0	10	10	32	8	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec): 75 Critical Vol./Cap.(X): 0.789
Loss Time (sec): 6 Average Delay (sec/veh): 13.3
Optimal Cycle: 53 Level Of Service: B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2112	0	2884	1973	0	1413	98	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2112	0	2884	1973	0	1413	98	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2884	0	0	1413	98	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2884	0	0	1413	98	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	3172	0	0	1554	108	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.81	0.19	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5174	359	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.30	0.30	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.38	0.38	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.79	0.79	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	11.3	0.0	0.0	17.1	17.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	11.3	0.0	0.0	17.1	17.1	0.0	0.0	0.0
DesignQueue:	0	0	0	0	17	0	0	15	15	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.947
Loss Time (sec): 9 Average Delay (sec/veh): 26.1
Optimal Cycle: 169 Level Of Service: D

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	315	2020	76	116	2899	43	21	51	178	166	156	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	2020	76	116	2899	43	21	51	178	166	156	33
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	315	2020	76	116	2899	43	21	51	178	166	156	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	2020	76	116	2899	43	21	51	178	166	156	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	2222	84	116	3189	47	21	51	178	166	156	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.98	0.98	0.59	0.59	0.83	0.66	0.95	0.95
Lanes:	1.00	2.89	0.11	1.00	2.96	0.04	0.29	0.71	1.00	1.00	0.83	0.17
Final Sat.:	1770	5332	201	1770	5507	82	326	792	1583	1248	1491	315
Capacity Analysis Module:												
Vol/Sat:	0.18	0.42	0.42	0.07	0.58	0.58	0.06	0.06	0.11	0.13	0.10	0.10
Crit Moves:	****				****					****		
Green/Cycle:	0.19	0.69	0.69	0.11	0.61	0.61	0.14	0.14	0.14	0.14	0.14	0.14
Volume/Cap:	0.95	0.60	0.60	0.60	0.95	0.95	0.46	0.46	0.80	0.95	0.74	0.74
Delay/Veh:	71.6	9.5	9.5	52.2	25.4	25.4	46.5	46.5	59.9	86.7	54.7	54.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.6	9.5	9.5	52.2	25.4	25.4	46.5	46.5	59.9	86.7	54.7	54.7
DesignQueue:	22	22	22	9	41	41	5	5	13	12	14	14

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.808
Loss Time (sec): 12 Average Delay (sec/veh): 12.8
Optimal Cycle: 89 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	29	2229	16	53	3025	43	89	7	9	49	8	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	2229	16	53	3025	43	89	7	9	49	8	109
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	29	2229	16	53	3025	43	89	7	9	49	8	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	2229	16	53	3025	43	89	7	9	49	8	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	2452	18	53	3328	47	89	7	9	49	8	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.89	0.89	0.93	0.84	0.84
Lanes:	1.00	2.98	0.02	1.00	2.96	0.04	1.00	0.44	0.56	1.00	0.07	0.93
Final Sat.:	1770	5548	40	1770	5510	78	1770	742	953	1770	110	1492
Capacity Analysis Module:												
Vol/Sat:	0.02	0.44	0.44	0.03	0.60	0.60	0.05	0.01	0.01	0.03	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.03	0.72	0.72	0.05	0.74	0.74	0.06	0.05	0.05	0.10	0.09	0.09
Volume/Cap:	0.61	0.61	0.61	0.61	0.81	0.81	0.81	0.19	0.19	0.27	0.81	0.81
Delay/Veh:	68.8	8.2	8.2	61.4	10.5	10.5	76.5	52.0	52.0	47.6	70.2	70.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	68.8	8.2	8.2	61.4	10.5	10.5	76.5	52.0	52.0	47.6	70.2	70.2
DesignQueue:	2	22	22	4	29	29	7	1	1	4	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.918
Loss Time (sec): 12 Average Delay (sec/veh): 38.3
Optimal Cycle: 146 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	276	1770	67	258	2555	256	368	189	113	527	575	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	276	1770	67	258	2555	256	368	189	113	527	575	220
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	276	1770	67	258	2555	256	368	189	113	527	575	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	276	1770	67	258	2555	256	368	189	113	527	575	220
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	276	1947	74	266	2811	282	379	189	113	543	604	220
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.85	0.15	2.00	3.64	0.36	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	7107	269	3539	6705	672	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.16	0.27	0.27	0.08	0.42	0.42	0.11	0.10	0.07	0.15	0.16	0.14
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.49	0.49	0.13	0.46	0.46	0.12	0.12	0.12	0.18	0.18	0.18
Volume/Cap:	0.92	0.56	0.56	0.56	0.92	0.92	0.92	0.87	0.61	0.87	0.92	0.79
Delay/Veh:	68.9	20.4	20.4	47.2	32.3	32.3	67.8	69.6	51.9	54.5	59.0	54.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	68.9	20.4	20.4	47.2	32.3	32.3	67.8	69.6	51.9	54.5	59.0	54.3
DesignQueue:	20	23	23	10	39	39	14	14	8	19	22	16

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.692
Loss Time (sec): 9 Average Delay (sec/veh): 9.2
Optimal Cycle: 52 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	56	1777	5	121	2636	46	32	5	57	5	5	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	1777	5	121	2636	46	32	5	57	5	5	128
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	56	1777	5	121	2636	46	32	5	57	5	5	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	1777	5	121	2636	46	32	5	57	5	5	128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	1955	6	121	2900	51	32	5	57	5	5	128
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.58	0.58	0.58	0.76	0.76	0.76
Lanes:	1.00	2.99	0.01	1.00	2.95	0.05	0.34	0.05	0.61	0.03	0.04	0.93
Final Sat.:	1805	5684	16	1805	5602	98	377	59	671	52	52	1343
Capacity Analysis Module:												
Vol/Sat:	0.03	0.34	0.34	0.07	0.52	0.52	0.08	0.08	0.08	0.10	0.10	0.10
Crit Moves:	****				****						****	
Green/Cycle:	0.05	0.66	0.66	0.13	0.74	0.74	0.14	0.14	0.14	0.14	0.14	0.14
Volume/Cap:	0.58	0.52	0.52	0.52	0.70	0.70	0.62	0.62	0.62	0.70	0.70	0.70
Delay/Veh:	44.5	7.3	7.3	35.7	6.2	6.2	39.6	39.6	39.6	41.6	41.6	41.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.5	7.3	7.3	35.7	6.2	6.2	39.6	39.6	39.6	41.6	41.6	41.6
DesignQueue:	4	17	17	8	21	21	6	6	6	9	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 Critical Vol./Cap.(X): 0.882
Loss Time (sec): 12 Average Delay (sec/veh): 27.4
Optimal Cycle: 115 Level Of Service: D

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	248	1531	434	118	2306	147	353	354	360	252	136	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	1531	434	118	2306	147	353	354	360	252	136	57
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	248	1531	434	118	2306	147	353	354	360	252	136	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	1531	434	118	2306	147	353	354	360	252	136	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	248	1684	477	118	2537	162	364	372	360	260	143	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.95	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.34	0.66	1.00	2.82	0.18	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4223	1197	1770	5201	332	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.14	0.40	0.40	0.07	0.49	0.49	0.10	0.10	0.23	0.07	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.61	0.61	0.10	0.55	0.55	0.13	0.11	0.27	0.08	0.07	0.17
Volume/Cap:	0.88	0.65	0.65	0.65	0.88	0.88	0.80	0.88	0.84	0.88	0.57	0.21
Delay/Veh:	58.9	12.9	12.9	48.3	21.7	21.7	48.5	56.6	43.2	62.5	46.9	35.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.9	12.9	12.9	48.3	21.7	21.7	48.5	56.6	43.2	62.5	46.9	35.4
DesignQueue:	16	23	23	8	33	33	12	12	20	9	5	3

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035
AM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	100100	100100
2	Mission & A St	000000	002100	100011	301100
3	Mission & B St	000000	004100	000010	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Blvd EIR (124070)
PM Peak Hour

Scenario Report

Scenario:	Cumulative_2035_PM_Mit
Command:	Cumulative_2035_PM_Mit
Volume:	Cumulative_2035_PM
Geometry:	Mitigated
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Mission & Sunset	E	46.5	1.133	E	46.5	1.133	+ 0.000 D/V
# 2 Mission & A St	F	153.9	1.233	F	153.9	1.233	+ 0.000 D/V
# 3 Mission & B St	C	16.9	0.875	C	16.9	0.875	+ 0.000 D/V
# 4 Mission & C St	B	11.8	0.901	B	11.8	0.901	+ 0.000 D/V
# 5 Mission & D St	E	50.0	1.041	E	50.0	1.041	+ 0.000 D/V
# 6 Mission & Jackson-Foothill	B	14.7	0.826	B	14.7	0.826	+ 0.000 D/V
# 7 Mission & Fletcher	D	26.6	0.877	D	26.6	0.877	+ 0.000 D/V
# 8 Mission & Highland	B	13.8	0.825	B	13.8	0.825	+ 0.000 D/V
# 9 Mission & Carlos Bee	D	39.1	0.885	D	39.1	0.885	+ 0.000 D/V
# 10 Mission & Berry (signal)	B	12.3	0.567	B	12.3	0.567	+ 0.000 D/V
# 11 Mission & Harder	D	29.1	0.844	D	29.1	0.844	+ 0.000 D/V

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	D	946.2	20.0	D	946.2	20.0	+ 0.0
# 2 Mission Blvd. (SB)	SB	D	940.1	18.9	D	940.1	18.9	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	F	453.7	11.3	F	453.7	11.3	+ 0.0
# 5 Mission no proj (NB)	NB	C	711.4	25.0	C	711.4	25.0	+ 0.0
# 6 Mission SB no-proj	SB	D	940.1	18.9	D	940.1	18.9	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec):	100	Critical Vol./Cap.(X):	1.133
Loss Time (sec):	9	Average Delay (sec/veh):	46.5
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	143	1547	47	37	1324	142	99	41	30	15	53	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	1547	47	37	1324	142	99	41	30	15	53	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	1547	47	37	1324	142	99	41	30	15	53	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	1547	47	37	1324	142	99	41	30	15	53	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	1624	49	39	1390	149	99	41	30	15	53	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.51	0.51	0.51	0.69	0.69	0.69	0.95	0.94	0.94	0.95	0.97	0.97
Lanes:	0.16	1.79	0.05	0.05	1.76	0.19	1.00	0.58	0.42	1.00	0.82	0.18
Final Sat.:	160	1726	52	65	2320	249	1805	1031	755	1805	1503	340
Capacity Analysis Module:												
Vol/Sat:	0.94	0.94	0.94	0.60	0.60	0.60	0.05	0.04	0.04	0.01	0.04	0.04
Crit Moves:		****					****				****	
Green/Cycle:	0.83	0.83	0.83	0.83	0.83	0.83	0.05	0.07	0.07	0.01	0.03	0.03
Volume/Cap:	1.13	1.13	1.13	0.72	0.72	0.72	1.13	0.60	0.60	0.60	1.13	1.13
Delay/Veh:	72.9	72.9	72.9	3.2	3.2	3.2	165.8	35.2	35.2	53.4	189	189.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	72.9	72.9	72.9	3.2	3.2	3.2	165.8	35.2	35.2	53.4	189	189.2
DesignQueue:	10	10	10	8	8	8	5	4	4	1	4	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec):	120	Critical Vol./Cap.(X):	1.233
Loss Time (sec):	9	Average Delay (sec/veh):	153.9
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	1 0	1! 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	1281	263	898	0	846	2374	897	619
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	1281	263	898	0	846	2374	897	619
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1281	263	898	0	846	2374	897	619
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1281	263	898	0	846	2374	897	619
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.05	1.00	1.05	1.03	1.05	1.05
FinalVolume:	0	0	0	0	1409	289	943	0	888	2445	942	650
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	0.89	1.00	0.89	0.93	0.92	0.92
Lanes:	0.00	0.00	0.00	0.00	2.49	0.51	1.51	0.00	1.49	3.00	1.18	0.82
Final Sat.:	0	0	0	0	4497	923	2572	0	2521	5309	2072	1430
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.31	0.31	0.37	0.00	0.35	0.46	0.45	0.45
Crit Moves:					****		****			****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.25	0.25	0.30	0.00	0.30	0.37	0.37	0.37
Volume/Cap:	0.00	0.00	0.00	0.00	1.23	1.23	1.23	0.00	1.18	1.23	1.22	1.22
Delay/Veh:	0.0	0.0	0.0	0.0	164	164.2	161.7	0.0	129.3	156.5	148	147.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	164	164.2	161.7	0.0	129.3	156.5	148	147.8
DesignQueue:	0	0	0	0	31	31	32	0	31	38	37	37

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.875
Loss Time (sec):	6	Average Delay (sec/veh):	16.9
Optimal Cycle:	85	Level Of Service:	C

Street Name:	Mission Blvd								B St			
Approach:	North Bound				South Bound				East Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Permitted			
Rights:	Include				Include				Include			
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0	0 4	1 0	0 0	0 0	1	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3680	692	0	0	0	568	414	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3680	692	0	0	0	568	414	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3680	692	0	0	0	568	414	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3680	692	0	0	0	568	414	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	4048	761	0	0	0	596	435	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.00	0.89	0.89	1.00
Lanes:	0.00	0.00	0.00	0.00	4.21	0.79	0.00	0.00	1.00	1.16	0.84	0.00
Final Sat.:	0	0	0	0	7683	1445	0	0	1900	1961	1429	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.53	0.53	0.00	0.00	0.00	0.30	0.30	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.00	0.35	0.35	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.87	0.87	0.00	0.00	0.00	0.87	0.87	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.3	14.3	0.0	0.0	0.0	29.1	29.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.3	14.3	0.0	0.0	0.0	29.1	29.1	0.0
DesignQueue:	0	0	0	0	29	29	0	0	0	24	24	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.901
Loss Time (sec):	6	Average Delay (sec/veh):	11.8
Optimal Cycle:	100	Level Of Service:	B

Street Name:	Mission Blvd								C St			
Approach:	North Bound				South Bound				East Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Permitted			
Rights:	Include				Include				Include			
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	1091	3075	0	0	817	102	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1091	3075	0	0	817	102	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	1091	3075	0	0	817	102	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1091	3075	0	0	817	102	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	1200	3383	0	0	899	112	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.94	0.94	1.00	1.00	0.96	0.96	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	4.00	0.00	0.00	2.67	0.33	0.00	0.00	0.00
Final Sat.:	0	0	0	1788	7153	0	0	4869	608	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.67	0.47	0.00	0.00	0.18	0.18	0.00	0.00	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.75	0.75	0.00	0.00	0.20	0.20	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.90	0.63	0.00	0.00	0.90	0.90	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	9.5	4.9	0.0	0.0	37.3	37.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	9.5	4.9	0.0	0.0	37.3	37.3	0.0	0.0	0.0
DesignQueue:	0	0	0	24	16	0	0	19	19	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec):	120	Critical Vol./Cap.(X):	1.041
Loss Time (sec):	9	Average Delay (sec/veh):	50.0
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0 0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	25	2981	175	0	1096	54	1219	324	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	25	2981	175	0	1096	54	1219	324	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	25	2981	175	0	1096	54	1219	324	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	25	2981	175	0	1096	54	1219	324	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	28	3279	193	0	1206	59	1256	340	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.04	4.69	0.27	0.00	2.86	0.14	2.00	2.00	0.00
Final Sat.:	0	0	0	72	8641	507	0	5273	260	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.38	0.38	0.38	0.00	0.23	0.23	0.35	0.09	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.36	0.36	0.36	0.00	0.22	0.22	0.34	0.56	0.00
Volume/Cap:	0.00	0.00	0.00	1.04	1.04	1.04	0.00	1.04	1.04	1.04	0.16	0.00
Delay/Veh:	0.0	0.0	0.0	47.6	47.6	47.6	0.0	61.2	61.2	56.6	8.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	47.6	47.6	47.6	0.0	61.2	61.2	56.6	8.2	0.0
DesignQueue:	0	0	0	33	33	33	0	23	23	30	5	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec):	75	Critical Vol./Cap.(X):	0.826
Loss Time (sec):	6	Average Delay (sec/veh):	14.7
Optimal Cycle:	60	Level Of Service:	B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2211	0	2685	1457	0	1699	131	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2211	0	2685	1457	0	1699	131	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2685	0	0	1699	131	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2685	0	0	1699	131	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	2954	0	0	1869	144	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.79	0.21	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5136	396	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.36	0.36	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.44	0.44	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.83	0.83	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.0	0.0	0.0	15.8	15.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.0	0.0	0.0	15.8	15.8	0.0	0.0	0.0
DesignQueue:	0	0	0	0	18	0	0	17	17	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.877
Loss Time (sec): 9 Average Delay (sec/veh): 26.6
Optimal Cycle: 106 Level Of Service: D

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	331	2406	358	231	2356	40	16	56	220	132	34	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	2406	358	231	2356	40	16	56	220	132	34	77
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	331	2406	358	231	2356	40	16	56	220	132	34	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	2406	358	231	2356	40	16	56	220	132	34	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	331	2647	394	231	2592	44	16	56	220	132	34	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.96	0.96	0.93	0.98	0.98	0.90	0.90	0.83	0.68	0.87	0.87
Lanes:	1.00	2.61	0.39	1.00	2.95	0.05	0.22	0.78	1.00	1.00	0.31	0.69
Final Sat.:	1770	4767	709	1770	5495	93	381	1333	1583	1285	508	1150
Capacity Analysis Module:												
Vol/Sat:	0.19	0.56	0.56	0.13	0.47	0.47	0.04	0.04	0.14	0.10	0.07	0.07
Crit Moves:		****		****					****			
Green/Cycle:	0.22	0.63	0.63	0.15	0.56	0.56	0.16	0.16	0.16	0.16	0.16	0.16
Volume/Cap:	0.84	0.88	0.88	0.88	0.84	0.84	0.27	0.27	0.88	0.65	0.42	0.42
Delay/Veh:	53.0	19.3	19.3	66.0	22.5	22.5	42.3	42.3	66.0	49.8	43.9	43.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.0	19.3	19.3	66.0	22.5	22.5	42.3	42.3	66.0	49.8	43.9	43.9
DesignQueue:	22	36	36	17	37	37	5	5	16	9	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.825
Loss Time (sec): 12 Average Delay (sec/veh): 13.8
Optimal Cycle: 94 Level Of Service: B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	54	2963	42	132	2470	76	93	18	19	41	5	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	2963	42	132	2470	76	93	18	19	41	5	59
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	54	2963	42	132	2470	76	93	18	19	41	5	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	2963	42	132	2470	76	93	18	19	41	5	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	3259	46	132	2717	84	93	18	19	41	5	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.90	0.90	0.93	0.84	0.84
Lanes:	1.00	2.96	0.04	1.00	2.91	0.09	1.00	0.49	0.51	1.00	0.08	0.92
Final Sat.:	1770	5510	78	1770	5421	167	1770	834	880	1770	125	1477
Capacity Analysis Module:												
Vol/Sat:	0.03	0.59	0.59	0.07	0.50	0.50	0.05	0.02	0.02	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.05	0.71	0.71	0.09	0.76	0.76	0.06	0.04	0.04	0.08	0.05	0.05
Volume/Cap:	0.66	0.83	0.83	0.83	0.66	0.66	0.83	0.55	0.55	0.30	0.75	0.75
Delay/Veh:	65.3	12.6	12.6	70.6	7.0	7.0	78.1	60.8	60.8	50.0	72.6	72.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.3	12.6	12.6	70.6	7.0	7.0	78.1	60.8	60.8	50.0	72.6	72.6
DesignQueue:	4	31	31	10	22	22	7	3	3	3	5	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.885
Loss Time (sec): 12 Average Delay (sec/veh): 39.1
Optimal Cycle: 123 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	91	1874	110	399	1718	332	806	345	218	105	181	265
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	91	1874	110	399	1718	332	806	345	218	105	181	265
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	91	1874	110	399	1718	332	806	345	218	105	181	265
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	1874	110	399	1718	332	806	345	218	105	181	265
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	91	2061	121	411	1890	365	830	345	218	108	190	265
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.78	0.22	2.00	3.35	0.65	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	6967	409	3539	6119	1183	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.30	0.30	0.12	0.31	0.31	0.23	0.19	0.14	0.03	0.05	0.17
Crit Moves:		****		****			****					****
Green/Cycle:	0.07	0.33	0.33	0.13	0.40	0.40	0.27	0.39	0.39	0.06	0.19	0.19
Volume/Cap:	0.77	0.88	0.88	0.88	0.77	0.77	0.88	0.47	0.35	0.47	0.27	0.88
Delay/Veh:	69.9	38.9	38.9	61.4	30.7	30.7	47.4	26.4	24.7	52.7	39.5	62.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.9	38.9	38.9	61.4	30.7	30.7	47.4	26.4	24.7	52.7	39.5	62.7
DesignQueue:	7	33	33	15	31	31	27	18	11	4	7	19

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.567
Loss Time (sec): 9 Average Delay (sec/veh): 12.3
Optimal Cycle: 39 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	131	1777	10	158	1737	66	30	10	33	10	10	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	131	1777	10	158	1737	66	30	10	33	10	10	118
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	131	1777	10	158	1737	66	30	10	33	10	10	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1777	10	158	1737	66	30	10	33	10	10	118
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1955	11	158	1911	73	30	10	33	10	10	118
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	0.99	0.99	0.65	0.65	0.65	0.76	0.76	0.76
Lanes:	1.00	2.98	0.02	1.00	2.89	0.11	0.41	0.14	0.45	0.07	0.07	0.86
Final Sat.:	1805	5668	32	1805	5436	207	505	168	556	105	105	1242
Capacity Analysis Module:												
Vol/Sat:	0.07	0.34	0.34	0.09	0.35	0.35	0.06	0.06	0.06	0.10	0.10	0.10
Crit Moves:		****		****							****	
Green/Cycle:	0.13	0.61	0.61	0.15	0.63	0.63	0.17	0.17	0.17	0.17	0.17	0.17
Volume/Cap:	0.56	0.57	0.57	0.57	0.56	0.56	0.35	0.35	0.35	0.57	0.57	0.57
Delay/Veh:	36.4	10.0	10.0	34.9	8.9	8.9	31.4	31.4	31.4	34.4	34.4	34.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.4	10.0	10.0	34.9	8.9	8.9	31.4	31.4	31.4	34.4	34.4	34.4
DesignQueue:	8	20	20	10	19	19	4	4	4	8	8	8

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 Critical Vol./Cap.(X): 0.844
Loss Time (sec): 12 Average Delay (sec/veh): 29.1
Optimal Cycle: 98 Level Of Service: D

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	434	1737	397	164	1516	197	182	366	329	254	291	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	434	1737	397	164	1516	197	182	366	329	254	291	90
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	434	1737	397	164	1516	197	182	366	329	254	291	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	434	1737	397	164	1516	197	182	366	329	254	291	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	434	1911	437	164	1668	217	187	384	329	262	306	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.95	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.44	0.56	1.00	2.65	0.35	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4412	1008	1770	4847	630	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.25	0.43	0.43	0.09	0.34	0.34	0.05	0.10	0.21	0.07	0.08	0.06
Crit Moves:	****				****			****		****		
Green/Cycle:	0.29	0.57	0.57	0.12	0.41	0.41	0.08	0.12	0.41	0.09	0.13	0.25
Volume/Cap:	0.84	0.75	0.75	0.75	0.84	0.84	0.64	0.84	0.50	0.84	0.65	0.23
Delay/Veh:	41.5	16.5	16.5	51.1	28.7	28.7	47.0	51.9	22.1	57.3	43.2	29.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.5	16.5	16.5	51.1	28.7	28.7	47.0	51.9	22.1	57.3	43.2	29.5
DesignQueue:	24	27	27	11	29	29	6	13	15	9	10	5

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
PM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	100100	100100
2	Mission & A St	000000	002100	100011	301100
3	Mission & B St	000000	004100	000010	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Scenario Report

Scenario:	Cumul_2035_plus_pro_AM_Mit
Command:	Cumul_2035_plus_pro_AM_Mit
Volume:	Cumul_2035_plus_pro_AM
Geometry:	Mitigated
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	B	9.5	0.738	B	9.5	0.738	+ 0.000
# 2 Mission & A St	F	106.0	1.161	F	106.0	1.161	+ 0.000
# 3 Mission & B St	C	16.0	0.842	C	16.0	0.842	+ 0.000
# 4 Mission & C St	B	12.3	0.731	B	12.3	0.731	+ 0.000
# 5 Mission & D St	E	41.2	0.994	E	41.2	0.994	+ 0.000
# 6 Mission & Jackson-Foothill	B	13.4	0.796	B	13.4	0.796	+ 0.000
# 7 Mission & Fletcher	D	28.4	0.973	D	28.4	0.973	+ 0.000
# 8 Mission & Highland	B	13.5	0.822	B	13.5	0.822	+ 0.000
# 9 Mission & Carlos Bee	D	39.1	0.934	D	39.1	0.934	+ 0.000
# 10 Mission & Berry (signal)	B	12.6	0.760	B	12.6	0.760	+ 0.000
# 11 Mission & Harder	D	28.1	0.894	D	28.1	0.894	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	C	747.0	25.3	C	747.0	25.3	+ 0.0
# 2 Mission Blvd. (SB)	SB	D	886.2	20.0	D	886.2	20.0	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	E	387.9	13.3	E	387.9	13.3	+ 0.0
# 5 Mission no proj (NB)	NB	B	574.7	30.9	B	574.7	30.9	+ 0.0
# 6 Mission SB no-proj	SB	D	886.2	20.0	D	886.2	20.0	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec):	100	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	9	Average Delay (sec/veh):	9.5
Optimal Cycle:	57	Level Of Service:	B

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	23	346	2	32	1493	242	155	80	62	11	39	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	346	2	32	1493	242	155	80	62	11	39	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	346	2	32	1493	242	155	80	62	11	39	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	346	2	32	1493	242	155	80	62	11	39	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	363	2	34	1568	254	155	80	62	11	39	39
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	0.71	0.90	0.90	0.90	0.95	0.93	0.93	0.95	0.93	0.93
Lanes:	0.12	1.87	0.01	0.04	1.69	0.27	1.00	0.56	0.44	1.00	0.50	0.50
Final Sat.:	167	2516	15	62	2895	469	1805	995	772	1805	884	884
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.54	0.54	0.54	0.09	0.08	0.08	0.01	0.04	0.04
Crit Moves:					****		****				****	
Green/Cycle:	0.73	0.73	0.73	0.73	0.73	0.73	0.12	0.16	0.16	0.01	0.06	0.06
Volume/Cap:	0.20	0.20	0.20	0.74	0.74	0.74	0.74	0.49	0.49	0.49	0.74	0.74
Delay/Veh:	2.7	2.7	2.7	5.8	5.8	5.8	36.2	25.6	25.6	43.0	45.2	45.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	2.7	2.7	2.7	5.8	5.8	5.8	36.2	25.6	25.6	43.0	45.2	45.2
DesignQueue:	3	3	3	16	16	16	8	7	7	1	4	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec):	120	Critical Vol./Cap.(X):	1.161
Loss Time (sec):	9	Average Delay (sec/veh):	106.0
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	1 0	1! 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	1173	445	247	0	627	2621	1297	412
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	1173	445	247	0	627	2621	1297	412
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1173	445	247	0	627	2621	1297	412
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1173	445	247	0	627	2621	1297	412
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.05	1.00	1.05	1.03	1.05	1.05
FinalVolume:	0	0	0	0	1290	490	259	0	658	2700	1362	433
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.94	0.94	0.86	1.00	0.86	0.93	0.94	0.94
Lanes:	0.00	0.00	0.00	0.00	2.17	0.83	1.28	0.00	1.72	3.00	1.52	0.48
Final Sat.:	0	0	0	0	3889	1475	2105	0	2819	5309	2714	862
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.33	0.33	0.12	0.00	0.23	0.51	0.50	0.50
Crit Moves:					****				****	****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.29	0.29	0.20	0.00	0.20	0.44	0.44	0.44
Volume/Cap:	0.00	0.00	0.00	0.00	1.16	1.16	0.61	0.00	1.16	1.16	1.15	1.15
Delay/Veh:	0.0	0.0	0.0	0.0	116	115.5	33.7	0.0	125.8	106.1	99.8	99.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	116	115.5	33.7	0.0	125.8	106.1	99.8	99.8
DesignQueue:	0	0	0	0	31	31	11	0	22	39	38	38

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.842
Loss Time (sec):	6	Average Delay (sec/veh):	16.0
Optimal Cycle:	72	Level Of Service:	C

Street Name:	Mission Blvd						B St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	4 1	0	0 0	0 0	1	1 1	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	3339	794	0	0	0	628	319	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	3339	794	0	0	0	628	319	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	3339	794	0	0	0	628	319	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	3339	794	0	0	0	628	319	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00
FinalVolume:	0	0	0	0	3673	873	0	0	0	659	335	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.88	0.88	1.00
Lanes:	0.00	0.00	0.00	0.00	4.04	0.96	0.00	0.00	1.00	1.33	0.67	0.00
Final Sat.:	0	0	0	0	7299	1736	0	0	1900	2223	1129	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.30	0.30	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.00	0.35	0.35	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.84	0.84	0.00	0.00	0.00	0.84	0.84	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	13.6	13.6	0.0	0.0	0.0	27.1	27.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	13.6	13.6	0.0	0.0	0.0	27.1	27.1	0.0
DesignQueue:	0	0	0	0	28	28	0	0	0	23	23	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.731
Loss Time (sec):	6	Average Delay (sec/veh):	12.3
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Mission Blvd						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	4 0	0	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	589	3158	0	0	243	374	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	589	3158	0	0	243	374	0	0	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	589	3158	0	0	243	374	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	589	3158	0	0	243	374	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	648	3474	0	0	267	411	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.96	0.96	1.00	1.00	0.89	0.89	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.79	4.21	0.00	0.00	2.00	1.00	0.00	0.00	0.00
Final Sat.:	0	0	0	1435	7693	0	0	3390	1695	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.45	0.45	0.00	0.00	0.08	0.24	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.00	0.00	0.62	0.62	0.00	0.00	0.33	0.33	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.73	0.73	0.00	0.00	0.24	0.73	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	10.7	10.7	0.0	0.0	18.8	24.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.7	10.7	0.0	0.0	18.8	24.9	0.0	0.0	0.0
DesignQueue:	0	0	0	24	24	0	0	6	19	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.994
Loss Time (sec):	9	Average Delay (sec/veh):	41.2
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	11	3380	170	0	426	46	1378	473	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	3380	170	0	426	46	1378	473	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	3380	170	0	426	46	1378	473	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	3380	170	0	426	46	1378	473	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	12	3718	187	0	469	51	1419	497	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.01	4.75	0.24	0.00	2.71	0.29	2.00	2.00	0.00
Final Sat.:	0	0	0	28	8752	440	0	4993	539	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.42	0.42	0.42	0.00	0.09	0.09	0.40	0.13	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.41	0.41	0.41	0.00	0.13	0.13	0.39	0.51	0.00
Volume/Cap:	0.00	0.00	0.00	1.03	1.03	1.03	0.00	0.75	0.75	1.03	0.26	0.00
Delay/Veh:	0.0	0.0	0.0	42.3	42.3	42.3	0.0	35.9	35.9	50.7	10.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	42.3	42.3	42.3	0.0	35.9	35.9	50.7	10.6	0.0
DesignQueue:	0	0	0	34	34	34	0	10	10	32	8	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec):	75	Critical Vol./Cap.(X):	0.796
Loss Time (sec):	6	Average Delay (sec/veh):	13.4
Optimal Cycle:	54	Level Of Service:	B

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2214	0	2918	1979	0	1417	99	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2214	0	2918	1979	0	1417	99	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2918	0	0	1417	99	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2918	0	0	1417	99	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	3210	0	0	1559	109	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.80	0.20	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5171	361	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.30	0.30	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.38	0.38	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.80	0.80	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	11.4	0.0	0.0	17.3	17.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	11.4	0.0	0.0	17.3	17.3	0.0	0.0	0.0
DesignQueue:	0	0	0	0	17	0	0	16	16	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec):	150	Critical Vol./Cap.(X):	0.973
Loss Time (sec):	9	Average Delay (sec/veh):	28.4
Optimal Cycle:	180	Level Of Service:	D

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	321	2105	77	116	2929	48	36	52	178	167	162	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	321	2105	77	116	2929	48	36	52	178	167	162	33
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	321	2105	77	116	2929	48	36	52	178	167	162	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	321	2105	77	116	2929	48	36	52	178	167	162	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	321	2316	85	116	3222	53	36	52	178	167	162	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.98	0.98	0.45	0.45	0.83	0.60	0.95	0.95
Lanes:	1.00	2.89	0.11	1.00	2.95	0.05	0.41	0.59	1.00	1.00	0.83	0.17
Final Sat.:	1770	5337	195	1770	5498	90	351	506	1583	1136	1501	306
Capacity Analysis Module:												
Vol/Sat:	0.18	0.43	0.43	0.07	0.59	0.59	0.10	0.10	0.11	0.15	0.11	0.11
Crit Moves:	****				****					****		
Green/Cycle:	0.19	0.69	0.69	0.10	0.60	0.60	0.15	0.15	0.15	0.15	0.15	0.15
Volume/Cap:	0.97	0.63	0.63	0.63	0.97	0.97	0.68	0.68	0.74	0.97	0.71	0.71
Delay/Veh:	77.4	10.2	10.2	53.8	29.3	29.3	54.7	54.7	54.3	93.2	51.8	51.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.4	10.2	10.2	53.8	29.3	29.3	54.7	54.7	54.3	93.2	51.8	51.8
DesignQueue:	23	24	24	9	43	43	6	6	13	12	14	14

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec):	150	Critical Vol./Cap.(X):	0.822
Loss Time (sec):	12	Average Delay (sec/veh):	13.5
Optimal Cycle:	94	Level Of Service:	B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	31	2316	16	54	3054	44	99	7	14	51	8	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	2316	16	54	3054	44	99	7	14	51	8	109
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	31	2316	16	54	3054	44	99	7	14	51	8	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	2316	16	54	3054	44	99	7	14	51	8	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	2548	18	54	3359	48	99	7	14	51	8	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.88	0.88	0.93	0.84	0.84
Lanes:	1.00	2.98	0.02	1.00	2.96	0.04	1.00	0.33	0.67	1.00	0.07	0.93
Final Sat.:	1770	5550	38	1770	5509	79	1770	559	1118	1770	110	1492
Capacity Analysis Module:												
Vol/Sat:	0.02	0.46	0.46	0.03	0.61	0.61	0.06	0.01	0.01	0.03	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.03	0.72	0.72	0.05	0.74	0.74	0.07	0.05	0.05	0.10	0.09	0.09
Volume/Cap:	0.66	0.64	0.64	0.64	0.83	0.83	0.83	0.24	0.24	0.28	0.83	0.83
Delay/Veh:	72.9	8.7	8.7	63.4	11.1	11.1	76.4	52.2	52.2	47.3	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	72.9	8.7	8.7	63.4	11.1	11.1	76.4	52.2	52.2	47.3	72.2	72.2
DesignQueue:	3	23	23	4	30	30	8	2	2	4	9	9

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec): 150 Critical Vol./Cap.(X): 0.934
Loss Time (sec): 12 Average Delay (sec/veh): 39.1
Optimal Cycle: 162 Level Of Service: D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	280	1838	74	259	2564	279	368	191	114	532	589	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	280	1838	74	259	2564	279	368	191	114	532	589	220
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	280	1838	74	259	2564	279	368	191	114	532	589	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	280	1838	74	259	2564	279	368	191	114	532	589	220
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	280	2022	81	267	2820	307	379	191	114	548	618	220
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.85	0.15	2.00	3.61	0.39	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	7091	285	3539	6585	717	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.16	0.29	0.29	0.08	0.43	0.43	0.11	0.10	0.07	0.15	0.17	0.14
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.50	0.50	0.13	0.46	0.46	0.11	0.12	0.12	0.18	0.18	0.18
Volume/Cap:	0.93	0.57	0.57	0.57	0.93	0.93	0.93	0.88	0.62	0.88	0.93	0.78
Delay/Veh:	72.0	20.4	20.4	47.8	33.5	33.5	70.8	71.3	52.2	55.6	61.1	53.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	72.0	20.4	20.4	47.8	33.5	33.5	70.8	71.3	52.2	55.6	61.1	53.8
DesignQueue:	20	24	24	10	40	40	14	14	9	20	22	16

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec): 130 Critical Vol./Cap.(X): 0.760
Loss Time (sec): 9 Average Delay (sec/veh): 12.6
Optimal Cycle: 64 Level Of Service: B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	56	1782	5	126	2649	46	73	5	57	5	5	163
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	1782	5	126	2649	46	73	5	57	5	5	163
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	56	1782	5	126	2649	46	73	5	57	5	5	163
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	1782	5	126	2649	46	73	5	57	5	5	163
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	1960	6	126	2914	51	73	5	57	5	5	163
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.45	0.45	0.45	0.76	0.76	0.76
Lanes:	1.00	2.99	0.01	1.00	2.95	0.05	0.54	0.04	0.42	0.03	0.03	0.94
Final Sat.:	1805	5684	16	1805	5603	97	466	32	364	42	42	1365
Capacity Analysis Module:												
Vol/Sat:	0.03	0.34	0.34	0.07	0.52	0.52	0.16	0.16	0.16	0.12	0.12	0.12
Crit Moves:	****				****			****				
Green/Cycle:	0.05	0.61	0.61	0.12	0.67	0.67	0.20	0.20	0.20	0.20	0.20	0.20
Volume/Cap:	0.58	0.57	0.57	0.57	0.77	0.77	0.77	0.77	0.77	0.59	0.59	0.59
Delay/Veh:	44.5	10.2	10.2	37.3	10.0	10.0	44.2	44.2	44.2	32.5	32.5	32.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.5	10.2	10.2	37.3	10.0	10.0	44.2	44.2	44.2	32.5	32.5	32.5
DesignQueue:	4	21	21	8	27	27	8	8	8	10	10	10

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec): 130 Critical Vol./Cap.(X): 0.894
Loss Time (sec): 12 Average Delay (sec/veh): 28.1
Optimal Cycle: 121 Level Of Service: D

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	248	1541	436	118	2327	151	354	361	360	265	155	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	1541	436	118	2327	151	354	361	360	265	155	58
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	248	1541	436	118	2327	151	354	361	360	265	155	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	1541	436	118	2327	151	354	361	360	265	155	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	248	1695	480	118	2560	166	365	379	360	273	163	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.95	0.93	0.97	0.97	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.34	0.66	1.00	2.82	0.18	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4225	1195	1770	5195	337	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.14	0.40	0.40	0.07	0.49	0.49	0.10	0.10	0.23	0.08	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.61	0.61	0.10	0.55	0.55	0.13	0.11	0.27	0.09	0.07	0.17
Volume/Cap:	0.89	0.66	0.66	0.66	0.89	0.89	0.78	0.89	0.84	0.89	0.64	0.22
Delay/Veh:	60.9	13.1	13.1	48.7	22.4	22.4	47.5	57.9	43.7	63.4	48.4	35.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.9	13.1	13.1	48.7	22.4	22.4	47.5	57.9	43.7	63.4	48.4	35.4
DesignQueue:	16	23	23	8	34	34	12	12	20	9	6	4

Note: Queue reported is the number of cars per lane.

Mission Blvd EIR (124070)
Cumulative 2035 Plus Projet
AM Peak Hour

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
1	Mission & Sunset	010100	010100	100100	100100
2	Mission & A St	000000	002100	100011	301100
3	Mission & B St	000000	004100	000010	110000
4	Mission & C St	000000	014000	002100	000000
5	Mission & D St	000000	013100	002100	202000
6	Mission & Jackson-Foothill	000030	004020	002100	000000
7	Mission & Fletcher	102100	102100	010010	100100
8	Mission & Highland	102100	102100	100100	100100
9	Mission & Carlos Bee	103100	203100	201010	202010
10	Mission & Berry (signal)	102100	102100	000001	000001
11	Mission & Harder	102100	102100	202010	202010

Mission Boulevard EIR
PM Peak Hour

Scenario Report

Scenario:	Cumul_2035_plus_pro_PM_Mit
Command:	Cumul_2035_plus_pro_PM_Mit
Volume:	Cumul_2035_plus_pro_PM
Geometry:	Mitigated
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	miniloop
Configuration:	Default Configuration

Mission Boulevard EIR
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in D/V
# 1 Mission & Sunset	E	54.9	1.161	E	54.9	1.161	+ 0.000
# 2 Mission & A St	F	168.7	1.252	F	168.7	1.252	+ 0.000
# 3 Mission & B St	C	17.5	0.891	C	17.5	0.891	+ 0.000
# 4 Mission & C St	B	11.9	0.906	B	11.9	0.906	+ 0.000
# 5 Mission & D St	E	55.8	1.059	E	55.8	1.059	+ 0.000
# 6 Mission & Jackson-Foothill	C	15.1	0.843	C	15.1	0.843	+ 0.000
# 7 Mission & Fletcher	D	27.2	0.888	D	27.2	0.888	+ 0.000
# 8 Mission & Highland	B	14.5	0.838	B	14.5	0.838	+ 0.000
# 9 Mission & Carlos Bee	D	39.9	0.898	D	39.9	0.898	+ 0.000
# 10 Mission & Berry (signal)	B	13.2	0.597	B	13.2	0.597	+ 0.000
# 11 Mission & Harder	D	29.8	0.857	D	29.8	0.857	+ 0.000

Arterial	Dir	Base LOS	Base Trvl Time	Base Avg. Speed	Future LOS	Future Trvl Time	Future Avg. Speed	Change in Avg. Speed
# 1 Mission Blvd. (NB)	NB	D	992.0	19.1	D	992.0	19.1	+ 0.0
# 2 Mission Blvd. (SB)	SB	D	970.6	18.3	D	970.6	18.3	+ 0.0
# 3 Jackson/Foothill (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 4 Foothill/Jackson (SB/WB)	SB	F	480.4	10.7	F	480.4	10.7	+ 0.0
# 5 Mission no proj (NB)	NB	C	733.3	24.3	C	733.3	24.3	+ 0.0
# 6 Mission SB no-proj	SB	D	970.6	18.3	D	970.6	18.3	+ 0.0
# 7 Jack/Foothill no proj (EB/NB)	NB	B	145.0	32.8	B	145.0	32.8	+ 0.0
# 8 Foothill/Jack no proj (SB/WB)	SB	B	145.0	32.8	B	145.0	32.8	+ 0.0

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mission & Sunset

Cycle (sec):	100	Critical Vol./Cap.(X):	1.161
Loss Time (sec):	9	Average Delay (sec/veh):	54.9
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Mission						Sunset					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	143	1590	48	38	1365	142	101	42	31	15	53	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	1590	48	38	1365	142	101	42	31	15	53	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	1590	48	38	1365	142	101	42	31	15	53	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	1590	48	38	1365	142	101	42	31	15	53	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	1670	50	40	1433	149	101	42	31	15	53	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.51	0.51	0.51	0.68	0.68	0.68	0.95	0.94	0.94	0.95	0.97	0.97
Lanes:	0.16	1.79	0.05	0.05	1.77	0.18	1.00	0.58	0.42	1.00	0.82	0.18
Final Sat.:	156	1730	52	64	2293	239	1805	1028	758	1805	1503	340
Capacity Analysis Module:												
Vol/Sat:	0.96	0.96	0.96	0.62	0.62	0.62	0.06	0.04	0.04	0.01	0.04	0.04
Crit Moves:		****					****				****	
Green/Cycle:	0.83	0.83	0.83	0.83	0.83	0.83	0.05	0.07	0.07	0.01	0.03	0.03
Volume/Cap:	1.16	1.16	1.16	0.75	0.75	0.75	1.16	0.63	0.63	0.63	1.16	1.16
Delay/Veh:	87.9	87.9	87.9	3.5	3.5	3.5	182.1	36.3	36.3	56.9	208	208.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.9	87.9	87.9	3.5	3.5	3.5	182.1	36.3	36.3	56.9	208	208.1
DesignQueue:	10	10	10	9	9	9	5	4	4	1	4	4

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mission & A St

Cycle (sec):	120	Critical Vol./Cap.(X):	1.252
Loss Time (sec):	9	Average Delay (sec/veh):	168.7
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Mission Blvd						A St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	15	15	15	15	15	15	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	2 1	0	1 0	1! 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	0	1315	263	911	0	865	2397	900	640
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	1315	263	911	0	865	2397	900	640
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	1315	263	911	0	865	2397	900	640
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1315	263	911	0	865	2397	900	640
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.05	1.00	1.05	1.03	1.05	1.05
FinalVolume:	0	0	0	0	1447	289	957	0	908	2469	945	672
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.95	0.95	0.89	1.00	0.89	0.93	0.92	0.92
Lanes:	0.00	0.00	0.00	0.00	2.50	0.50	1.51	0.00	1.49	3.00	1.17	0.83
Final Sat.:	0	0	0	0	4517	903	2569	0	2525	5309	2047	1455
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.32	0.32	0.37	0.00	0.36	0.47	0.46	0.46
Crit Moves:						****	****			****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.26	0.26	0.30	0.00	0.30	0.37	0.37	0.37
Volume/Cap:	0.00	0.00	0.00	0.00	1.25	1.25	1.25	0.00	1.21	1.25	1.24	1.24
Delay/Veh:	0.0	0.0	0.0	0.0	178	177.6	175.3	0.0	144.9	170.3	166	166.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	178	177.6	175.3	0.0	144.9	170.3	166	166.2
DesignQueue:	0	0	0	0	31	31	32	0	31	39	38	38

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #3 Mission & B St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.891
Loss Time (sec):	6	Average Delay (sec/veh):	17.5
Optimal Cycle:	94	Level Of Service:	C

Street Name:	Mission Blvd								B St					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Permitted					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	15	15	0	0	15	15	0	0	0	15	15	15								
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
Lanes:	0	0	0	0	0	0	0	4	1	0	0	0	0	0	1	1	1	0	0	0
Volume Module:																				
Base Vol:	0	0	0	0	3746	702	0	0	0	586	415	0								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	0	0	0	0	3746	702	0	0	0	586	415	0								
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Volume:	0	0	0	0	3746	702	0	0	0	586	415	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	0	0	0	0	3746	702	0	0	0	586	415	0								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.05	1.05	1.00								
FinalVolume:	0	0	0	0	4121	772	0	0	0	615	436	0								
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900								
Adjustment:	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.00	0.89	0.89	1.00								
Lanes:	0.00	0.00	0.00	0.00	4.21	0.79	0.00	0.00	1.00	1.17	0.83	0.00								
Final Sat.:	0	0	0	0	7687	1441	0	0	1900	1985	1406	0								
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.00	0.54	0.54	0.00	0.00	0.00	0.31	0.31	0.00								
Crit Moves:					****						****									
Green/Cycle:	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.00	0.35	0.35	0.00								
Volume/Cap:	0.00	0.00	0.00	0.00	0.89	0.89	0.00	0.00	0.00	0.89	0.89	0.00								
Delay/Veh:	0.0	0.0	0.0	0.0	14.8	14.8	0.0	0.0	0.0	30.1	30.1	0.0								
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.8	14.8	0.0	0.0	0.0	30.1	30.1	0.0								
DesignQueue:	0	0	0	0	30	30	0	0	0	25	25	0								

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #4 Mission & C St

Cycle (sec):	120	Critical Vol./Cap.(X):	0.906
Loss Time (sec):	6	Average Delay (sec/veh):	11.9
Optimal Cycle:	103	Level Of Service:	B

Street Name:	Mission Blvd								C St					
Approach:	North Bound				South Bound				East Bound				West Bound	
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Permitted					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	0	15	15	15	15	0	15	15	15	0	0	0								
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
Lanes:	0	0	0	0	0	0	0	2	1	0	0	0	0	1	4	0	0	0	0	0
Volume Module:																				
Base Vol:	0	0	0	1096	3154	0	0	817	110	0	0	0								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	0	0	0	1096	3154	0	0	817	110	0	0	0								
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
PHF Volume:	0	0	0	1096	3154	0	0	817	110	0	0	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	0	0	0	1096	3154	0	0	817	110	0	0	0								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.10	1.10	1.00	1.00	1.00								
FinalVolume:	0	0	0	1206	3469	0	0	899	121	0	0	0								
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900								
Adjustment:	1.00	1.00	1.00	0.94	0.94	1.00	1.00	0.96	0.96	1.00	1.00	1.00								
Lanes:	0.00	0.00	0.00	1.00	4.00	0.00	0.00	2.64	0.36	0.00	0.00	0.00								
Final Sat.:	0	0	0	1788	7153	0	0	4827	650	0	0	0								
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.67	0.49	0.00	0.00	0.19	0.19	0.00	0.00	0.00								
Crit Moves:				****				****												
Green/Cycle:	0.00	0.00	0.00	0.74	0.74	0.00	0.00	0.21	0.21	0.00	0.00	0.00								
Volume/Cap:	0.00	0.00	0.00	0.91	0.65	0.00	0.00	0.91	0.91	0.00	0.00	0.00								
Delay/Veh:	0.0	0.0	0.0	9.7	5.1	0.0	0.0	37.6	37.6	0.0	0.0	0.0								
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
AdjDel/Veh:	0.0	0.0	0.0	9.7	5.1	0.0	0.0	37.6	37.6	0.0	0.0	0.0								
DesignQueue:	0	0	0	25	17	0	0	19	19	0	0	0								

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #5 Mission & D St

Cycle (sec):	120	Critical Vol./Cap.(X):	1.059
Loss Time (sec):	9	Average Delay (sec/veh):	55.8
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Mission Blvd						D St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	15	15	15	0	15	15	15	15	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0 0	0 1	3 1	0	0 0	2 1	0	2 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	25	3070	175	0	1096	54	1239	325	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	25	3070	175	0	1096	54	1239	325	0
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	25	3070	175	0	1096	54	1239	325	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	25	3070	175	0	1096	54	1239	325	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00
FinalVolume:	0	0	0	28	3377	193	0	1206	59	1276	341	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.97	0.97	0.93	0.98	1.00
Lanes:	0.00	0.00	0.00	0.04	4.69	0.27	0.00	2.86	0.14	2.00	2.00	0.00
Final Sat.:	0	0	0	70	8657	493	0	5273	260	3539	3725	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.39	0.39	0.39	0.00	0.23	0.23	0.36	0.09	0.00
Crit Moves:					****			****		****		
Green/Cycle:	0.00	0.00	0.00	0.37	0.37	0.37	0.00	0.22	0.22	0.34	0.56	0.00
Volume/Cap:	0.00	0.00	0.00	1.06	1.06	1.06	0.00	1.06	1.06	1.06	0.16	0.00
Delay/Veh:	0.0	0.0	0.0	53.7	53.7	53.7	0.0	67.5	67.5	62.6	8.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	53.7	53.7	53.7	0.0	67.5	67.5	62.6	8.4	0.0
DesignQueue:	0	0	0	34	34	34	0	23	23	31	5	0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #6 Mission & Jackson-Foothill [3579]

Cycle (sec):	75	Critical Vol./Cap.(X):	0.843
Loss Time (sec):	6	Average Delay (sec/veh):	15.1
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Mission						Jackson-Foothill					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	10	0	0	10	4	5	0	0	16	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	3	0 0	4 0	2	0 0	2 1	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	0	2260	0	2786	1463	0	1702	131	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	2260	0	2786	1463	0	1702	131	0	0	0
User Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	0	2786	0	0	1702	131	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	2786	0	0	1702	131	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.10	0.00	1.00	1.10	1.10	1.00	1.00	1.00
FinalVolume:	0	0	0	0	3065	0	0	1872	144	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	0.97	1.00	1.00	1.00
Lanes:	0.00	0.00	3.00	0.00	4.00	2.00	0.00	2.79	0.21	0.00	0.00	0.00
Final Sat.:	0	0	5700	0	7451	3800	0	5137	395	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.36	0.36	0.00	0.00	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.43	0.43	0.00	0.00	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.84	0.84	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	14.1	0.0	0.0	16.6	16.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	14.1	0.0	0.0	16.6	16.6	0.0	0.0	0.0
DesignQueue:	0	0	0	0	18	0	0	18	18	0	0	0

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #7 Mission & Fletcher [3580]

Cycle (sec):	150	Critical Vol./Cap.(X):	0.888
Loss Time (sec):	9	Average Delay (sec/veh):	27.2
Optimal Cycle:	113	Level Of Service:	D

Street Name:	Mission						Fletcher					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	4	4	4
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 1	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	331	2447	368	231	2442	55	26	58	220	133	37	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	2447	368	231	2442	55	26	58	220	133	37	77
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	331	2447	368	231	2442	55	26	58	220	133	37	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	2447	368	231	2442	55	26	58	220	133	37	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	331	2692	405	231	2686	61	26	58	220	133	37	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.96	0.96	0.93	0.98	0.98	0.85	0.85	0.83	0.62	0.87	0.87
Lanes:	1.00	2.61	0.39	1.00	2.93	0.07	0.31	0.69	1.00	1.00	0.32	0.68
Final Sat.:	1770	4761	716	1770	5465	123	502	1119	1583	1174	538	1120
Capacity Analysis Module:												
Vol/Sat:	0.19	0.57	0.57	0.13	0.49	0.49	0.05	0.05	0.14	0.11	0.07	0.07
Crit Moves:		****		****					****			
Green/Cycle:	0.22	0.64	0.64	0.15	0.57	0.57	0.16	0.16	0.16	0.16	0.16	0.16
Volume/Cap:	0.87	0.89	0.89	0.89	0.87	0.87	0.33	0.33	0.89	0.72	0.44	0.44
Delay/Veh:	55.9	19.6	19.6	67.8	23.0	23.0	43.1	43.1	67.9	54.6	44.3	44.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.9	19.6	19.6	67.8	23.0	23.0	43.1	43.1	67.9	54.6	44.3	44.3
DesignQueue:	23	36	36	17	38	38	6	6	16	10	8	8

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #8 Mission & Highland [9895]

Cycle (sec):	150	Critical Vol./Cap.(X):	0.838
Loss Time (sec):	12	Average Delay (sec/veh):	14.5
Optimal Cycle:	100	Level Of Service:	B

Street Name:	Mission						Highland					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	16	16	4	16	16	4	4	4	8	8	8
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	64	3003	47	132	2549	83	96	18	22	42	6	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	64	3003	47	132	2549	83	96	18	22	42	6	61
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	64	3003	47	132	2549	83	96	18	22	42	6	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	3003	47	132	2549	83	96	18	22	42	6	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	3303	52	132	2804	91	96	18	22	42	6	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.98	0.98	0.93	0.89	0.89	0.93	0.84	0.84
Lanes:	1.00	2.95	0.05	1.00	2.91	0.09	1.00	0.45	0.55	1.00	0.09	0.91
Final Sat.:	1770	5502	86	1770	5412	176	1770	763	932	1770	143	1459
Capacity Analysis Module:												
Vol/Sat:	0.04	0.60	0.60	0.07	0.52	0.52	0.05	0.02	0.02	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.05	0.71	0.71	0.09	0.75	0.75	0.06	0.04	0.04	0.08	0.05	0.05
Volume/Cap:	0.69	0.84	0.84	0.84	0.69	0.69	0.84	0.60	0.60	0.30	0.78	0.78
Delay/Veh:	65.9	13.0	13.0	72.5	7.8	7.8	79.7	63.4	63.4	50.0	77.1	77.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.9	13.0	13.0	72.5	7.8	7.8	79.7	63.4	63.4	50.0	77.1	77.1
DesignQueue:	5	32	32	10	23	23	8	3	3	3	5	5

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #9 Mission & Carlos Bee [3545]

Cycle (sec):	150	Critical Vol./Cap.(X):	0.898
Loss Time (sec):	12	Average Delay (sec/veh):	39.9
Optimal Cycle:	131	Level Of Service:	D

Street Name:	Mission						Carlos Bee					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	12	12	4	12	12	6	10	10	4	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 1	0	2 0	3 1	0	2 0	1 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	94	1896	117	400	1778	337	830	359	221	111	185	266
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	94	1896	117	400	1778	337	830	359	221	111	185	266
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	94	1896	117	400	1778	337	830	359	221	111	185	266
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	1896	117	400	1778	337	830	359	221	111	185	266
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.03	1.10	1.10	1.03	1.00	1.00	1.03	1.05	1.00
FinalVolume:	94	2086	129	412	1956	371	855	359	221	114	194	266
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	3.77	0.23	2.00	3.36	0.64	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	6948	429	3539	6138	1163	3539	1863	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.30	0.30	0.12	0.32	0.32	0.24	0.19	0.14	0.03	0.05	0.17
Crit Moves:		****		****			****					****
Green/Cycle:	0.07	0.33	0.33	0.13	0.40	0.40	0.27	0.39	0.39	0.07	0.19	0.19
Volume/Cap:	0.80	0.90	0.90	0.90	0.80	0.80	0.90	0.49	0.36	0.49	0.28	0.90
Delay/Veh:	73.3	39.6	39.6	63.1	31.6	31.6	48.2	26.7	24.8	52.8	39.8	64.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.3	39.6	39.6	63.1	31.6	31.6	48.2	26.7	24.8	52.8	39.8	64.9
DesignQueue:	7	33	33	15	32	32	28	19	12	4	7	19

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #10 Mission & Berry (signal) [Future Signalization for Project scen

Cycle (sec):	130	Critical Vol./Cap.(X):	0.597
Loss Time (sec):	9	Average Delay (sec/veh):	13.2
Optimal Cycle:	42	Level Of Service:	B

Street Name:	Mission						Berry					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	131	1791	10	190	1741	101	38	10	33	10	10	130
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	131	1791	10	190	1741	101	38	10	33	10	10	130
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	131	1791	10	190	1741	101	38	10	33	10	10	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1791	10	190	1741	101	38	10	33	10	10	130
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1970	11	190	1915	111	38	10	33	10	10	130
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	0.99	0.99	0.58	0.58	0.58	0.76	0.76	0.76
Lanes:	1.00	2.98	0.02	1.00	2.84	0.16	0.47	0.12	0.41	0.06	0.07	0.87
Final Sat.:	1805	5668	32	1805	5334	309	517	136	449	97	97	1259
Capacity Analysis Module:												
Vol/Sat:	0.07	0.35	0.35	0.11	0.36	0.36	0.07	0.07	0.07	0.10	0.10	0.10
Crit Moves:		****		****							****	
Green/Cycle:	0.13	0.58	0.58	0.18	0.63	0.63	0.17	0.17	0.17	0.17	0.17	0.17
Volume/Cap:	0.57	0.60	0.60	0.60	0.57	0.57	0.43	0.43	0.43	0.60	0.60	0.60
Delay/Veh:	36.9	11.5	11.5	34.1	9.1	9.1	32.0	32.0	32.0	34.8	34.8	34.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.9	11.5	11.5	34.1	9.1	9.1	32.0	32.0	32.0	34.8	34.8	34.8
DesignQueue:	8	22	22	12	20	20	5	5	5	9	9	9

Note: Queue reported is the number of cars per lane.

Mission Boulevard EIR
PM Peak Hour

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #11 Mission & Harder [3546]

Cycle (sec):	130	Critical Vol./Cap.(X):	0.857
Loss Time (sec):	12	Average Delay (sec/veh):	29.8
Optimal Cycle:	103	Level Of Service:	D

Street Name:	Mission						Harder					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	4	15	15	4	15	15	7	7	7	7	7	7
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	438	1752	406	164	1526	197	188	389	329	258	303	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	438	1752	406	164	1526	197	188	389	329	258	303	91
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	438	1752	406	164	1526	197	188	389	329	258	303	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	438	1752	406	164	1526	197	188	389	329	258	303	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.03	1.05	1.00	1.03	1.05	1.00
FinalVolume:	438	1927	447	164	1679	217	194	408	329	266	318	91
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.95	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.44	0.56	1.00	2.66	0.34	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1770	4401	1020	1770	4850	626	3539	3725	1583	3539	3725	1583
Capacity Analysis Module:												
Vol/Sat:	0.25	0.44	0.44	0.09	0.35	0.35	0.05	0.11	0.21	0.08	0.09	0.06
Crit Moves:	****				****			****		****		
Green/Cycle:	0.29	0.57	0.57	0.12	0.40	0.40	0.08	0.13	0.42	0.09	0.13	0.25
Volume/Cap:	0.86	0.77	0.77	0.77	0.86	0.86	0.65	0.86	0.50	0.86	0.65	0.23
Delay/Veh:	42.7	17.0	17.0	52.3	29.5	29.5	47.3	52.3	21.7	58.7	42.9	29.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.7	17.0	17.0	52.3	29.5	29.5	47.3	52.3	21.7	58.7	42.9	29.4
DesignQueue:	24	28	28	11	30	30	6	13	15	9	10	5

Note: Queue reported is the number of cars per lane.

Appendix D

Water Supply Assessment

CITY OF HAYWARD
WATER SUPPLY ASSESSMENT
FOR MISSION BLVD CORRIDOR SPECIFIC PLAN

SECTION 1.0 BACKGROUND

The City of Hayward has prepared a draft Mission Blvd. Corridor Specific Plan to provide strategies for revitalizing the Corridor, attracting appropriate commercial development, and developing pedestrian-friendly residential housing. The City is preparing an Environmental Impact Report (EIR) for the Plan, under the requirements of the California Environmental Quality Act (CEQA), including an assessment of the water available to serve the Planning area, required as a result of the enactment of Senate Bill 610 in 2002. SB 610 reflects the awareness that water supply and demand analysis is critical at the early stages of major land use planning projects. The basic premise of the legislation, as described in Water Code Section 10910, Paragraph C.3, is to determine whether "total projected water supplies, available during normal, single dry, and multiple dry years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system existing and planned future uses, including agricultural and manufacturing uses."

SB 610 requires the water supplier to build on information contained in the agency's most recent Urban Water Management Plan (UWMP) regarding water demand and supply projections. The UWMP is the basic planning tool used by agencies to document current and future water use, describe water supplies that will be available to meet the demand, in both normal and dry years, and to verify that adequate supplies will be available to meet the demand over a 20-year planning period. UWMPs are updated every five years, most recently in 2011 (the 2010 UWMP was completed in 2011 in accordance with the extended submittal deadline). Water supply assessments are required when qualifying projects are being developed.

SECTION 2.0 PROJECT DESCRIPTION

The draft Mission Blvd. Corridor Specific Plan has been prepared to articulate a vision and supporting implementation strategies that will result in attractive development, vibrant commercial uses, and housing of sufficient density to support public transit. Other goals of the Plan include revitalization of the corridor and existing property uses, and development that incorporates economic and environmental sustainability. Mission Blvd. is a major transportation corridor. The Plan includes detailed and comprehensive design and development standards, encompassed in a form based code, a system for ensuring that the design of private buildings and the public realm is coordinated.

The Planning area incorporates about 600 parcels and 240 acres with a total length of about two miles, including two segments along Mission Blvd. An area map is included in the Plan and in the EIR. The Plan envisions a mix of high density housing and commercial development along two segments of Mission Blvd extending from Harder Road in the south to the City boundary in

the north, excluding the downtown area. It encompasses three Hayward neighborhood planning areas: North Hayward, Jackson Triangle, and Mission/Foothills. At buildout, the Plan provides for a total of 3,025 housing units, a net increase of 1,303 over the number allowed by the current General Plan, and 1,567,319 square feet of commercial space, an increase of 325,986 over existing commercial square footage. For the purposes of this assessment, it is assumed 30% of the housing units in the General Plan are medium density, and 70% are high density1. The net increase in the Specific Plan is assumed to be entirely high density development. The Specific Plan will not allow more commercial space than is already allowed under the current General Plan.

Table 2.1 compares the total development potential per the Mission Blvd Corridor Specific Plan, to the General Plan potential.

Table 2.1
Mission Blvd Corridor Specific Plan Development Potential

	Commercial (Sq. Ft.)	Dwelling Units (High Density)	Dwelling Units (Medium Density)
Existing	1,241,333	799	342
Potential with Current General Plan	1,567,319	1,205	517
Potential with Proposed Specific Plan	1,567,319	2,683	342

Source: Comparison of Form-Based Code Buildout to Current General Plan Build-Out to Projections 2009

SECTION 3.0 REQUIREMENT FOR SB 610 WATER SUPPLY ASSESSMENT

An SB 610 water assessment is required if the following three conditions exist:

- *The project is subject to CEQA.*

  The Mission Blvd. Corridor Specific Plan meets the criteria for CEQA review, and the City has determined that an EIR is needed for the project. The City is currently preparing the CEQA documentation for consideration by City Council.

- *The project meets the definition of "project" under Water Code Section 10912 (a).*

  Water Code Section 10912 (a) defines a qualifying "project" as one that meets any of the following criteria:

  1. A proposed residential development of more than 500 dwelling units;

1 Medium Density is 17 to 35 units per acre. High density is 36 to 55 units per acre.

2. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
3. A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
4. A hotel or motel with more than 500 rooms;
5. A proposed industrial, manufacturing or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
6. A mixed-use project that includes one or more of these elements; or
7. A project creating the equivalent demand of 500 residential units.

The Plan meets the above SB 610 criteria in that full implementation of the Mission Blvd. Corridor Specific Plan could result in a net increase of more than 500 dwelling units over the number reflected in the City's current General Plan.

- *The water agency's current UWMP does not account for the water demand associated with the project.*

  The City's 2010 UWMP is the most current. The water demand projections were developed, in part, through updating the "end use" model (also known as a Decision Support System or DSS model) used to prepare the City's 2005 UWMP. Two major steps are involved in developing and maintaining the model: 1) establishing base year water demand at the end-use level, such as toilets and showers, and calibrating the model to initial conditions; and 2) forecasting future water demand based on anticipated growth in the number of water service accounts. The projected water demand documented in the 2010 UWMP through 2035 incorporated development potential in accordance with the City's General Plan, including land use designations for properties within the Planning area, and Projections 2009 developed by the Association of Bay Area Governments (ABAG).

  The 2010 UWMP identifies a number of areas within Hayward with potential for residential and commercial development, including the Mission-Foothill Corridor, South Hayward BART station, and other sites; however, the Mission Blvd Corridor Specific Plan, which has potential for development that exceeds General Plan and ABAG projections by more than the equivalent of 500 dwelling units, is not specifically called out.

Given the above criteria and conditions, an SB 610 water supply assessment is deemed technically necessary for the Mission Blvd Corridor Specific Plan. As noted later in this document, however, the City anticipated densification and rehabilitation of existing developed properties in its current UWMP, recognizing that such potential exists in Hayward, and accounted for this potential in developing water use projections.

SECTION 4.0 CITY OF HAYWARD WATER SYSTEM

The City of Hayward owns and operates a water distribution system to supply water to all but a small portion of the residential, commercial, industrial and institutional entities within the City boundaries and a small number of properties outside of the City limits through special approvals.

The small areas within the City boundaries not served by the City are within the service area of, and are served by the East Bay Municipal Utility District (EBMUD). The properties included in the draft Mission Blvd. Corridor Specific Plan are served by the City of Hayward.

4.1 Wholesale Water Supplier

Hayward's sole source of drinking water since 1962 has been the City and County of San Francisco's regional system, operated by the Public Utilities Commission (SFPUC). This supply is predominantly from the Sierra Nevada, delivered through the Hetch Hetchy aqueducts, but also includes a small amount of treated water produced by the SFPUC from its local watershed and facilities in Alameda County.

The amount of imported water available to the SFPUC's retail and wholesale customers is constrained by hydrology, physical facilities, and the institutional parameters that allocate the water supply of the Tuolumne River. Due to these constraints, the SFPUC is very dependent on reservoir storage to firm up its water supplies. The SFPUC serves its retail and wholesale water demands with an integrated operation of local Bay Area water production and imported water from Hetch Hetchy. In practice, the local watershed facilities are operated to capture local runoff.

The business relationship between SFPUC and its wholesale customers is largely defined by the "Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County" (WSA) that was agreed to by all parties in 2009. The new WSA replaced the Settlement Agreement and Master Water Sales Contract that expired in June 2009. The WSA addresses issues such as the rate-making methodology used to set wholesale water rates for its wholesale customers, in addition to addressing water supply and allocation of water in the event of shortages in the regional system. The current Water Sales Contract expires in 2034.

In terms of water supply, the WSA provides for a 184 million gallon per day (mgd) supply assurance, expressed on an annual average basis, to the SFPUC's 28 wholesale customers collectively, including Hayward, subject to reduction in the event of drought, water shortage, earthquake, other disasters, or rehabilitation and maintenance of the system, which may affect water distribution. The SFPUC's wholesale customers have agreed to the allocation of 184 mgd among themselves, with each entity's share of the supply assurance set forth in Attachment C to the WSA. The supply assurance survives the termination or expiration of the WSA.

While the WSA addresses issues of common interest, such as rate setting and water shortage allocation methodologies, Hayward's individual water supply from SFPUC is governed by an agreement signed by both agencies in 1962. This agreement, which does not have an expiration date, states that the SFPUC will provide a sufficient quantity of water to meet the total needs of Hayward's service area on a permanent basis, as long as such supplies are within SFPUC's ability to deliver and water supply conditions are normal. Section 3.02 .C of the WSA recognizes Hayward's individual agreement with SFPUC.

While, in effect, Hayward's agreement with SFPUC does not include a pre-set numerical cap on

the amount of water that is provided, Hayward's allocation is subject to certain limitations. Notably an Interim Supply Allocation (ISA) was imposed by SFPUC on all wholesale customers, including Hayward, in December 2010 in order to implement the Commission's decision to limit supplies from the Tuolumne River to 265 mgd, at least through 2018. In the event that collective use exceeds an average 265 mgd in a year, any agency that exceeds its ISA in that year will be subject to an environmental surcharge. Hayward's ISA of 22.9 mgd is based on projected purchases in 2018.

The City does not receive any portion of its water supply from groundwater sources; thus, the additional information required by SB610 relative to groundwater sources is not applicable to this water supply assessment.

Over the past five years, (CY 2007 through CY 2011) average daily water deliveries to Hayward have ranged as summarized in Table 4.1.

Table 4.1
Five-Year Water Deliveries to Hayward (2007-2011)

Year	Total Deliveries (in hundred cubic feet)	Average Daily Consumption (in million gallons per day)
2007	8,899,579	18.2
2008	9,522,646	19.5
2009	8,860,770	18.2
2010	8,467,138	17.4
2011	7,650,698	15.7

Source: SFPUC Billing Records

Hayward currently has very low per-capita water usage, and strives to keep water demands low through water conservation and demand management. As can be seen in Table 4.1, water consumption has decreased by nearly 20% in the past four years. The factors that contributed to this decrease are not yet definitively known, although potential considerations include reduced economic activity, rate increases, and higher awareness of resource conservation and water use efficiency.

4.2 City of Hayward Water Distribution System

The distribution system is comprised of 5 pressure zones, 14 water storage tanks, seven pump stations, five emergency water supply wells, three emergency interties, and a number of pressure reducing valves. Water is delivered from SFPUC to Hayward through two connections. The City updated its Water Distribution Master Plan in 2002 to identify needed improvements through 2020, and most of the recommended projects have either been constructed or are incorporated into the City's capital improvement program. The Master Plan is scheduled to be updated in FY 2013.

SECTION 5.0 PROJECT DEMAND ANALYSIS

5.1 Existing Water Demand Estimates

The 2010 UWMP includes water demand projections that were developed as described in Section 3.0. In summary, residential demand estimates were based on a net growth in housing units in conformance with existing General Plan policies and ABAG Projections 2009 data. The projections account for special circumstances related to Hayward growth, including rehabilitation of some existing housing units, intensification of use, increased number of persons per household, and projected higher use at some newly constructed larger homes. Commercial demand estimates were based on existing General Plan policies to continue attracting commercial businesses, such as retail establishments, restaurants, auto dealerships and other businesses that will serve City residents as well as the region as a whole. The estimates incorporated anticipated demand from identified future commercial and mixed-use development. The 2010 demand projections also incorporate cost effective water conservation measures for all customer sectors.

The total projected water deliveries, as shown in the 2010 UWMP, are summarized in Table 5.1. The City received written notification from SFPUC in March 2011 outlining its water supply options in both normal and dry years. Hayward expects to meet its water demand almost exclusively through purchases from SFPUC. Given potential deficits in SFPUC supplies, however, the Bay Area Water Supply and Conservation Agency (BAWSCA), of which Hayward is a member, is developing a Long-Term Reliable Water Supply Strategy to meet the projected collective water needs of its member agencies and to increase water supply reliability.

It should be noted that this assessment will address only potable water supplies. A portion of Hayward's future water demand largely related to operation of a power generation facility will be met with the use of recycled water. However, since the Planning area would be entirely served with potable water, only SFPUC sources will be considered in this assessment.

Table 5.1
Total Projected Potable Water Deliveries in 2010 UWMP

Unit	2015	2020	2025	2030	2035
Acre-Feet/Year	24,200	26,200	28,500	31,000	34,200
Average Million Gallons/Day	21.6	23.4	25.4	27.7	30.5

Source: 2010 UWMP

5.2 Project Water Demand Estimates

The projected potable water deliveries summarized in Table 5.1 incorporate adopted General Plan Policies, including land use designations for the Planning area, as well as ABAG Projections 2009 estimates. This section will discuss and summarize the projected net increase in water demand associated with the Mission Blvd. Corridor Specific Plan.

5.2.1 *Water Use Assumptions*

In order to develop water use projections for the Mission Blvd. Corridor Specific Plan, certain assumptions were made regarding average water demand for various land use designations. The water demand estimates, which are summarized in Table 5.2, are based on assumed ongoing average usage. As noted earlier, the City, like other Bay Area communities, has seen a significant decrease in water demand. In Hayward, the decline has been nearly 20% in the last four years. While current use was reviewed, it is prudently assumed for planning purposes that usage will return to previous levels as the economy recovers and residential rehabilitations and new construction reach anticipated levels.

Table 5.2
Water Demand Estimates by Land Use Designation

Land Use Designation	Water Demand Unit	Water Demand
Residential		
Medium Density	Gallons/Dwelling Unit/Day	275
High Density	Gallons/Dwelling Unit/Day	210
Commercial		
General Commercial	Gallons/1000 sq ft/Day	260

Sources: City of Hayward Water Use Records

5.2.2 *Projected Water Demand from Existing General Plan Land Use Policies*

Based on the water use numbers in Table 5.2, it is assumed that the existing General Plan Land Use Policies would result in the following water demand at buildout.

Table 5.3
Water Demand from Existing General Plan Land Use Designations

Land Use	Dwelling Units	Square Feet	Water Demand (gallons/day)
Medium Density	517		142,175
High Density	1,205		253,050
General Commercial		1,567,319	407,503
Totals	**1,722**	**1,567,319**	**802,728**

Sources: Comparison of Form-Based Code Buildout to Current General Plan Build-Out to Projections 2009 and Table 5.2

5.2.3 *Projected Water Demand from the Mission Blvd Corridor Specific Plan*

Table 5.4 summarizes the expected water demand from the Mission Blvd Corridor Specific Plan.

Table 5.4
Projected Water Demand from Mission Blvd Corridor Specific Plan

Land Use	Dwelling Units	Square Feet	Water Demand (gallons/day)
Medium Density	342		94,050
High Density	2,683		563,430
General Commercial		1,567,319	407,503
Totals	**3,025**	**1,567,319**	**1,064,983**

Sources: Comparison of Form-Based Code Buildout to Current General Plan Build-Out to Projections 2009 and Table 5.2

5.2.4 *Summary of Water Demand Estimates and Net Changes*

Table 5.5 summarizes the water use estimates, at buildout, for the existing General Plan and the Mission Blvd Corridor Specific Plan, as well as the net increase in water use that would result from implementation of the Specific Plan.

Table 5.5
Summary of Water Demand Estimates and Net Changes in Planning Area

	Estimated Water Use (gal/day)	Net Increase over General Plan (gal/day)	% Chg
General Plan	802,728		
Specific Plan	1,064,983	262,255	32.7%

Sources: Tables 5.3 and 5.4

SECTION 6.0 SUPPLY AND DEMAND COMPARISONS AND SUPPLY RELIABILITY

6.1 Supply and Demand Comparisons in Normal Water Supply Years

The 2010 UWMP compares Hayward's demand projections with SFPUC's ability to meet the demand in years of average and below-average precipitation levels. Implementation of the Mission Blvd Corridor Specific Plan would result in modest increases in water use over the UWMP planning period. Per the Implementation Plan contained in the Plan, development of residential and commercial properties would be roughly equal in the years between 2010 and 2020, and between 2020 and 2030. Thus, the net increase in water use can be expected to increase accordingly.

Table 6.1 compares the supply and demand projections, including increased consumption in the Study area.

Table 6.1
Projected Normal Year Supply and Demand Comparison – w/Mission Corridor Specific Plan

	2015	2020	2025	2030	2035
Demand (mgd)	21.7	23.5	25.6	27.9	30.8
Supply from SFPUC (mgd)	21.6	23.4	25.4	27.7	30.5
Difference (mgd)	0.1	0.1	0.2	0.2	0.3
% Deficiency	0.5%	0.4%	0.8%	0.7%	1%

Sources: Demand data interpolated from Table 5.5 and supply data from 2010 UWMP

6.2 Supply and Demand Comparisons in Dry Water Supply Years

In preparation for the 2010 UWMP, the SFPUC evaluated the reliability of the water system, given the estimated system purchases for the years 2010 through 2035 and the expected performance of the water system based on a repeat of the historical hydrology from 1920 through 2002. For the purposes of the analysis, SFPUC assumed that the historical hydrologic period is indicative of future events. The analytical results indicated that system-wide rationing, from 10% to 20% would be implemented in 8 out of the 82 years.

6.2.1 Water Shortage Allocation

Hayward's actual reduction would be based on the provisions of two documents: 1) Water Shortage Allocation Plan (Tier 1), which allocates water between the SFPUC and wholesale customers; and 2) Drought Implementation Plan (Tier 2), which allocates water among wholesale customers. The Tier 1 Plan was adopted as part of the Water Supply Agreement and is in effect until the Agreement expires. The Tier 2 Plan, which was adopted by each agency in 2010, including Hayward, remains in effect through December 2018. The Tier 2 wholesale customer allocations are based on a formula which accounts for: 1) each agency's Individual Supply Guarantee (or agreed-to alternative); 2) seasonal use of all available water supplies; and 3) residential per-capita use.

6.2.2 Supply and Demand Comparisons in a Single Dry Year

Table 6.2 compares the projected single-dry-year supply and demand, including projected demand from the Planning area, over the next 25 years. SFPUC anticipates that in the event of one critically dry year, a system-wide reduction of 10% would be necessary. The deficiencies identified in Table 6.2 assume a 10% system-wide reduction and Hayward-specific reductions are calculated in accordance with the Tier 2 Drought Implementation Plan and based on recent consumption. Demand includes additional consumption from the Planning area.

Table 6.2
Projected Single-Dry Year Supply and Demand Comparison-w/Mission Corridor Specific Plan

	2015	2020	2025	2030	2035
Demand (mgd)	21.7	23.5	25.6	27.9	30.8
Supply from SFPUC (mgd)	20.1	20.1	20.1	20.1	20.1
Difference (mgd)	1.6	3.4	5.5	7.8	10.7
% Deficiency	7%	14%	21%	28%	35%

Sources: Demand data interpolated from Table 5.5 and supply data from 2010 UWMP

Note from 2010 UWMP: Supply estimates are based on the current Drought Implementation Plan allocation methodology and on a Final Allocation Factor of 13.12% of available water for Hayward, calculated using recent consumption data. Under the terms of the existing Drought Implementation Plan, which expires in 2018, the actual Allocation Factor will depend on consumption by Hayward and other SFPUC wholesale customers in the years immediately preceding the drought. Beyond 2018, actual supply totals would be based on the drought implementation plan in effect at the time of shortage and actual usage by Hayward and other SFPUC wholesale customers.

6.2.3 Supply and Demand Comparisons in Multiple Dry Years

Table 6.3 compares projected supply and demand during multiple dry years through 2035, including projected demand from the Planning area. The deficiencies identified in Table 6.3 assume a 10% to 20% system-wide reduction and Hayward-specific reductions are calculated in accordance with the Tier 2 Drought Implementation Plan and based on recent consumption. Demand includes additional consumption from the Planning area.

Table 6.3
Projected Multiple-Dry-Year Supply and Demand Comparison-w/Mission Corridor Specific Plan

	2015	2020	2025	2030	2035
Multiple Dry Water Years – Year 1					
Demand (mgd)	21.7	23.5	25.6	27.6	30.8
Supply from SFPUC (mgd)	20.1	20.1	20.1	20.1	20.1
Difference (mgd)	1.6	3.4	5.5	7.8	10.7
% Deficiency	7%	14%	21%	28%	35%
Multiple Dry Water Years – Year 2					
Demand (mgd)	22.1	23.9	26.0	28.2	30.8
Supply from SPUC (mgd)	17.4	17.4	17.4	17.4	17.4
Difference (mgd)	4.7	6.5	8.6	10.8	13.4
% Deficiency	21%	27%	33%	38%	44%
Multiple Dry Water Years – Year 3					
Demand (mgd)	22.4	24.3	26.4	28.9	30.8
Supply from SFPUC (mgd)	17.4	17.4	17.4	17.4	17.4
Difference (mgd)	5.0	6.9	9.0	11.5	13.4
% Deficiency	22%	28%	34%	40%	44%

Sources: Demand data interpolated from Table 6.1 and supply data from 2010 UWMP
Note from 2010 UWMP: See Table 6.2

SECTION 7.0 WATER SUPPLY SUFFICIENCY

Table 7.1 recaps the 2035 water demand and supply analyses shown in the previous section. For the purposes of comparison, the tables include demand with and without the additional consumption from the Planning Area.

Table 7.1 Comparison of 2035 Demand and Supply for Normal, Dry-Year and Multiple Dry Years –w/Mission Corridor Specific Plan

2035 Demand and Supply	Normal	Single Dry	Multiple Dry Year 2	Multiple Dry Year 3
Demand Total (without project)	30.5	30.5	30.5	30.5
Demand Total (with project)	30.8	30.8	30.8	30.8
Supply Total	30.5	20.1	17.4	17.4
Difference (without project)	0.0	10.4	13.1	13.1
Difference (with project)	**0.3**	**10.7**	**13.4**	**13.4**

Sources: Tables 6.2 and 6.3

In normal years, a small deficit exists between the revised water demand projection and SFPUC's ability to deliver water. However, in these years, the City anticipates being able to deliver sufficient water supplies to the Planning area, considering the following relevant factors:

- Anticipated demand to date has not been fully realized. Climatic conditions, slower-than-expected residential and business development, and effective water conservation programs, has reduced Hayward's water consumption over the past four years by nearly 20%. The UMWP anticipated that potable demand in 2015 would be 21.6 mgd; however, the actual demand may be lower. The 2015 UWMP update will adjust the actual current consumption, and the resulting analysis is expected to verify that demand from the Planning area can be met within SFPUC's ability to deliver water.

- The 2010 UWMP anticipates the rehabilitation and intensification of underutilized properties within Hayward, such as the type of development envisioned for the Mission Blvd. Corridor Specific Plan. The "end use" model used to prepare the projections included adjustments to account for additional anticipated use that could not be associated with a specific development project.

- The City will continue to implement aggressive water conservation efforts in order to manage demand and meet requirements of the Water Conservation Act of 2009, which requires local agencies to develop and meet specific per-capita water use targets.

For single and multiple dry years, the Mission Blvd. Corridor Specific Plan increases the deficiency between supply and demand by a small amount over those reflected in the 2010 UWMP. Hayward does have an aggressive Water Shortage Contingency Plan, involving up to four stages of action depending on the severity of the drought. However, even with these actions,

the reductions are clearly not sustainable, even before the addition of the Mission Corridor Specific Plan adjustments, given Hayward's already low per capita use. Therefore, it is important to note that the cutbacks are theoretical numbers only and based on assumptions that may or may not be borne out, and on a Drought Implementation Plan that the Hayward City Council has not approved beyond 2018. At that time, the City will have an opportunity to review the Drought Implementation Plan and ensure that resulting cutbacks can be managed with activities included in the Water Shortage Contingency Plan.

In conclusion, the City of Hayward deems that the water supply is sufficient to satisfy the demands of the Mission Blvd. Corridor Specific Plan, in addition to existing and planned future uses.