ParkeBridge

Residential Subdivision

Draft Environmental Impact Report

SCH# 2005012119

Prepared for:
The City of Sacramento

Prepared by:
EIP Associates

October 2005

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Prepared for:

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Prepared by:

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Transportation and Circulation
Prepared by:

Dowling Associates
in coordination with the
City of Sacramento

October 2005

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1. INTRODUCTION

1.0 INTRODUCTION

PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

This Draft Environmental Impact Report (DEIR) has been prepared in conformance with the California Environmental Quality Act (CEQA) of 1970 (as amended) to evaluate the environmental impacts associated with the ParkeBridge project (proposed project). The project applicant is seeking a general plan amendment, community plan amendment, rezone, planned unit development (PUD) establishment, tentative subdivision map, subdivision modification, and special permit.

CEQA requires the preparation of an EIR when there is substantial evidence that a project could have a significant effect on the environment. The purpose of an EIR is to provide decision makers, public agencies, and the general public with an objective and informational document that fully discloses the potential environmental effects of the proposed project. The term "proposed project," as used in this EIR, refers to the ParkeBridge project (P04-212). The EIR process is specifically designed to describe the objective evaluation of potentially significant direct, indirect, and cumulative impacts of the proposed project; to identify alternatives that reduce or eliminate the project's significant effects; and to identify feasible measures that mitigate significant effects of the project. In addition, CEQA requires that an EIR identify those adverse impacts determined to remain significant after mitigation.

The City of Sacramento is the lead agency under CEQA for the preparation of this EIR. In accordance with CEQA regulations, a Notice of Preparation (NOP) was prepared on February 4, 2005, and distributed to responsible agencies, interested parties and organizations, as well as private organizations and individuals that have stated an interest in the project. The purpose of the NOP was to provide notification that an EIR for the project was being prepared and to solicit guidance on the scope and content of the document. A scoping meeting was held on February 14, 2005. Responses to the NOP were received from agencies, organizations, and individuals. A copy of the NOP and responses are included in Appendix B of this Draft EIR in accordance with CEQA.

Comments on the NOP expressed concerns regarding:

- Traffic on existing adjacent streets,
- Short-term construction air emissions,
- Traffic noise generated by the project, and
- Lighting impacts, including lighting of adjacent properties and sky lighting.

The DEIR is being circulated for public review and comment for a period of 45 days. During this period, comments on the DEIR's accuracy and completeness may be submitted to the lead agency from the general public, as well as organizations and agencies. The 45-day public review period will be from October 7, 2005 to November 22, 2005.

Upon completion of the public review period, a Final EIR (FEIR) will be prepared that will include written comments on the DEIR received during the public review period and responses to those comments. The FEIR will address any revisions to the DEIR made in response to public comments. The DEIR and FEIR will comprise the EIR for the proposed project.

Before the lead agency can approve the project, the agency must certify that the EIR has been completed in compliance with CEQA, that the decision-making body has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the lead agency.

LEAD AGENCY

The City of Sacramento is the lead agency for preparation of the ParkeBridge environmental analysis. In conformance with sections 15050 and 15367 of the State CEQA Guidelines, the City of Sacramento has been designated the "lead agency" which is defined as the "public agency which has the principal responsibility for carrying out or disapproving a project." The proposed project is subject to the approval of the City of Sacramento City Council. Project approval would also entail adoption of Findings of Fact and, if deemed appropriate, a Statement of Overriding Considerations by the City Council.

Required Discretionary Actions

The City of Sacramento would be required to certify that the EIR adequately identifies the significant environmental effects of the proposed project, pursuant to CEQA, the State CEQA Guidelines, and the City of Sacramento CEQA Guidelines. In order to develop the proposed project, approval of the following discretionary actions is necessary:

- Environmental Determination: Environmental Impact Report;
- Mitigation Monitoring Plan;
- Public Infrastructure Agreement between the City and Griffin Industries regarding the development of the site;
- City of Sacramento General Plan Amendment to modify the land use for a portion of the site to allow development of residential uses;
- South Natomas Community Plan Amendment to modify the land use for a portion of the site;
- Rezone;
- Establish Planned Unit Development; and
- Tentative Subdivision Map, subdivision modification, and PUD special permit to subdivide the parcel.

Responsible Agencies and Agencies with Interest

- Regional Water Quality Board (Waste Discharge Requirements Permit).

Lead Agency Contact

City of Sacramento Planning and Building Department

Tom Buford, Associate Planner
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Arena Boulevard, 2nd Floor
Sacramento, California 95834
(916) 808-7931

No Responsible Agency, which is defined as a public agency other than the lead agency that has discretionary approval over the project, has been identified.

USE OF THIS EIR

This EIR is a "Project EIR," pursuant to section 15161 of the CEQA Guidelines. A Project EIR examines the environmental impacts of a specific project. This type of EIR focuses on the changes in the environment that would result from implementation of the project, including construction and operation.

How to Use this Report

This report includes six principal parts: Project Description, Summary, Environmental Analysis (Setting, Impacts, and Mitigation Measures), Alternatives Analysis, and CEQA Considerations.

The **Project Description** (Chapter 2) describes the location of the project, project background, existing conditions on the project site, and the nature and location of specific elements of the proposed project that are proposed for construction.

The **Summary** (Chapter 3) presents an overview of the results and conclusions of the environmental evaluation. This section identifies impacts of the proposed project and available mitigation measures.

Land Use and Planning (Chapter 4) addresses the land use and planning implications of the project.

The **Environmental Analysis** (Chapter 5) includes a topic-by-topic analysis of impacts that would or could result from implementation of the proposed project or alternatives. Topics discussed are those identified in the Initial Study Checklist as requiring further analysis (see Appendix A). The analysis is organized in six topical sections. Each section is organized into two major subsections: Setting (existing conditions), and Impacts and Mitigation Measures, including cumulative impacts and mitigation measures. While the EIR only addresses the physical impacts associated with the development of the 85.2-acre ParkeBridge project (residential subdivision) described and depicted in Chapter 2, Project Description, the entire 113.3-acre site was analyzed for potential constraints to development. Therefore, any mitigation measures identified for the proposed project could apply to development on the site shown as the park site.

Alternatives (Chapter 6) includes a description of the project alternatives. An EIR is required by CEQA to provide adequate information for decision makers to make a reasonable choice between alternatives based on the environmental aspects of the proposed project and alternatives. This chapter also identifies the environmentally superior alternative.

CEQA Considerations (Chapter 7) discusses issues required by CEQA: unavoidable adverse impacts, irreversible environmental changes, growth inducement, and a summary of cumulative impacts.

The **References** (Chapter 8) used throughout the DEIR are included in this chapter.

Report Preparation (Chapter 9) includes a list of preparers of the DEIR.

The **Appendices** contain a number of reference items providing support and documentation of the analyses performed for this report.

Scope of this EIR

As lead agency, the City of Sacramento identified in the Initial Study for this EIR potentially significant impacts that could result from implementation of the proposed project. Based on the Initial Study (see Appendix A), the City determined that this EIR would address the following technical issues:

- Air Quality
- Biological Resources
- Hydrology and Water Quality
- Noise
- Solid Waste
- Transportation and Circulation
- Water Supply

Land use and planning is not considered a technical issue, but is addressed in Chapter 5 of this DEIR.

Issues focused out of this EIR that were identified as having less-than-significant project impacts in the Initial Study include:

- Aesthetics
- Agricultural Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Mineral Resources
- Population and Housing (Growth Inducement is addressed in CEQA Considerations)
- Public Services and Utilities (except Water Supply and Solid Waste, which are addressed in the EIR)
- Recreation

For a complete discussion of technical issues focused out of this EIR, please see the Initial Study in Appendix A.

2. PROJECT DESCRIPTION

2.0 PROJECT DESCRIPTION

INTRODUCTION

The proposed ParkeBridge residential development project (proposed project) includes a tentative subdivision map for the development of 531 residential units, and associated infrastructure, on an 86.7-acre site in the South Natomas area of Sacramento. The project applicant is in the process of purchasing 88.6 acres from the Natomas Unified School District (NUSD) and negotiating an agreement with the City of Sacramento to exchange approximately 29 acres (purchased from NUSD) with 25 acres of City land. As a separate project, approximately 28 net acres (from the land exchange) would be developed as a community park in the future by the City and would be planned and evaluated as part of a process separate from this EIR prior to development by the City.

PROJECT LOCATION AND CHARACTERISTICS

The project site is located in South Natomas in the City of Sacramento, southeast of the Interstate 80 (I-80) and Truxel Road interchange (see Figure 2-1, Project Location).

Project Site Land Uses

The site is flat and has historically been used for agriculture. Two irrigation ditches traverse the site - one on the parcel's eastern border and the other through the center of the site.

The project site is within Sacramento City limits and is subject to the provisions of the City of Sacramento General Plan. General Plan designations for the site include Low Density Residential (4-15 du/ac), Regional Commercial and Offices, and Parks-Recreation-Open Space. The project site is located within the South Natomas Community Plan (SNCP) area, which is bounded generally by the Sacramento River to the west, the American River to the south, I-80 to the north, and Northgate Boulevard to the east. The SNCP envisions residential development, parks, schools, shopping centers, and office/business uses within the plan area resulting in a high quality mixed-use community.[1] The project site is designated Residential 4-8 du/ac, Residential 7-15 du/ac, Office/Office Park, and Parks/Open Space in the South Natomas Community Plan. Zoning for the site includes low-density residential (R-1A), office (OB), and agriculture (A). Diagrams showing the applicable land use designations for each of the plans are provided in Chapter 4, Land Use.

Surrounding Land Uses

The site is bordered on the south by a drainage canal, operated by Reclamation District 1000 (RD 1000), and a low-density single-family housing development, similar in nature to the detached units in the proposed project. Natomas High School is located further to the southwest. There is an undeveloped City parcel to the west, I-80 to the north, and agricultural land to the east. The undeveloped area to the east of the project site is designated by the General Plan and SNCP for office and commercial development.

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1 City of Sacramento, Planning and Development Department, *South Natomas Community Plan,* November 1998, pages 1-2.

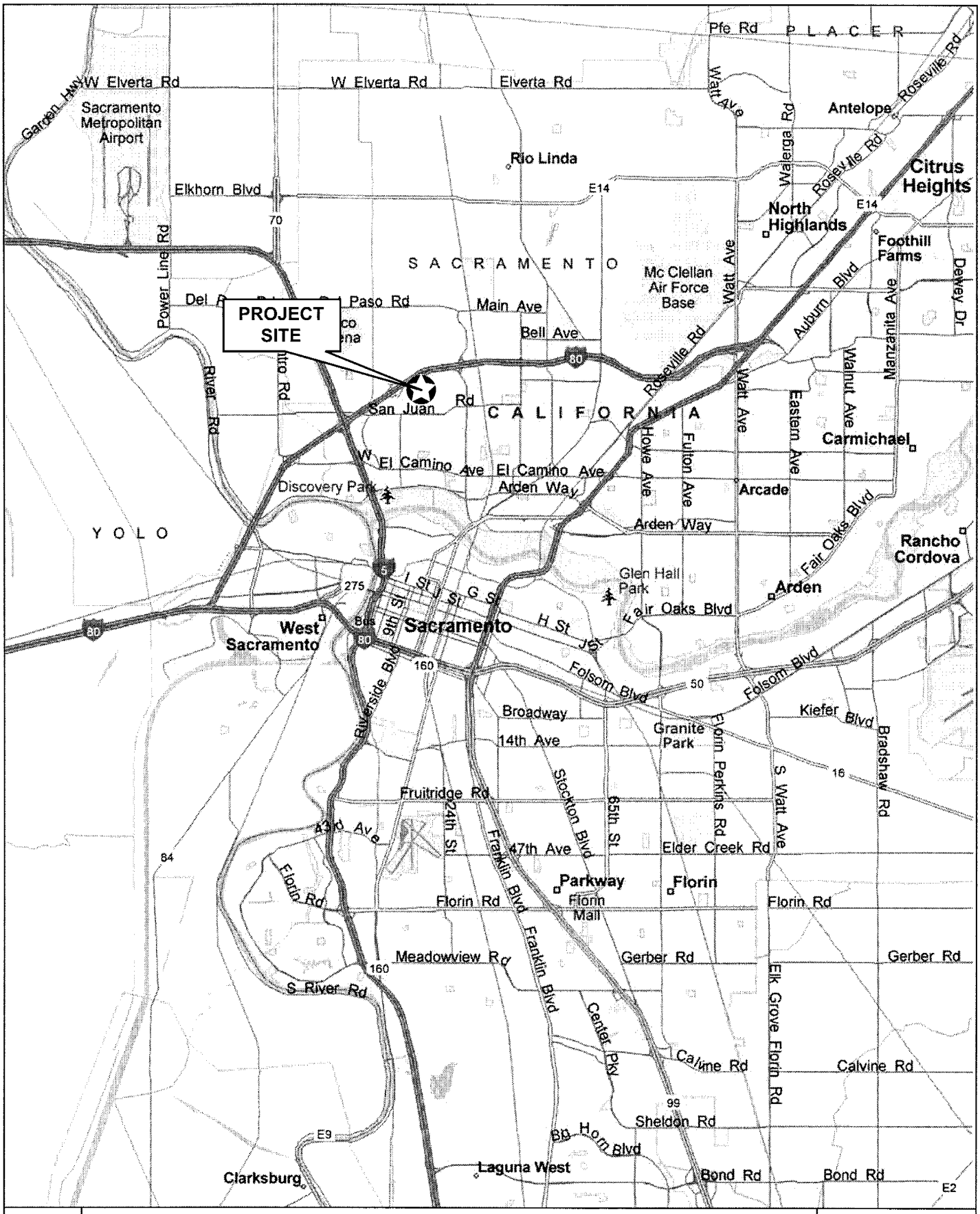

FIGURE **2-1**

Project Location

Not to Scale

10916-01

Source: Microsoft Streets & Trips, 2004

ParkeBridge

EIP ASSOCIATES

PROJECT OBJECTIVES

The objectives of the proposed project are listed below:

- Provide a residential development, consisting of low- and medium-density housing with a variety of architectural styles that compliments the adjacent residential development.
- Provide public services to meet the needs of the proposed development.
- Promote connectivity with the adjacent development by providing pedestrian and bicycle access between the existing and planned development.
- Provide bicycle facilities on the site as identified in the 2010 City/County Bikeway Master Plan.
- Create places to live that foster neighborliness and a sense of community.
- Provide access to open space and park facilities.

PROJECT ELEMENTS

The proposed project would include the development of a total of 531 residential units on approximately 86.7 acres; approximately 13 of those acres would include open space, drainage corridors, landscape corridors, and infrastructure required to support the proposed uses. The proposed project is divided into four residential villages, as follows: 142 townhouse cluster lots, 135 single-family units (34 foot by 73 foot lots), 154 single-family units (45 foot by 80 foot lots), and 100 single-family units (50 foot by 100 foot lots). The proposed land use plan is shown in Figure 2-2. A seasonal wetland along the southern portion of the site would be incorporated into the rear yards of future residential lots (see Figure 2-2), but the area would be fenced and development within the wetland would be restricted while the wetland feature exists. The project includes four neighborhood pocket parks totaling approximately 0.9 acres. In total, the proposed project would result in the development of approximately 86.7 acres.

The proposed project would require an amendment of the General Plan and SNCP, a rezoning and approval of a tentative subdivision map and subdivision modification to divide the site. The new designations would be parks – recreation – open space, low-density residential, and medium-density residential. The project site is not located in an area that would require design guidelines or review by the City's Design Review Board.

Natomas Basin Habitat Conservation Plan Compliance

The project applicant will comply with mitigation prescribed in the Natomas Basin Multi-species Habitat Conservation Plan. Compliance will be accomplished through acquisition and dedication of mitigation land to the Natomas Basin Conservancy at a rate of one-half acre of habitat for every acre of land developed and payment of applicable mitigation fees to cover the costs of restoring and managing one-half acre of habitat for every acre of land developed. Mitigation fees will be paid to the Natomas Basin Conservancy and replacement habitat will be acquired prior to project development.

Infrastructure

Circulation

The proposed project would have four crossings of the RD 1000 canal: two for primarily automobile traffic and two strictly for bicycle and pedestrian traffic. The applicant intends to design the crossing

structures to completely span the canal so that there would be no footings or pilings placed within the canal; however, if that is not feasible, culverts could be placed in the canal for the two automobile crossings. During construction of drainage improvements when District canals and berms were worked on extensively, the canal was not considered jurisdictional waters by the U.S. Army Corps of Engineers (Corps).[2] Primary access to the site would be via Fong Ranch Road (currently Rosin Boulevard) at the western portion of the site. Secondary access to the site would be via an extension of the existing Bridgeford Drive from the subdivision located to the south of the project site. One of the bicycle crossings of the canal would be generally north of Rio Rosa Way and the other would be at the eastern portion of the project site.

A system of minor collectors and residential streets (as shown in Figure 2-2) is proposed to provide the circulation for the project. All streets within the project site would be built in accordance with City street standards.

The proposed extension of Fong Ranch Road ends at the eastern portion of the project site; however, to ensure adequate analysis of traffic impacts that could occur in the future, the Transportation section of this EIR (Section 5.6) includes analysis of a scenario that includes the extension of Fong Ranch Road to the east to Rosin Court.

Water Service

There is no existing water infrastructure on the site. There are, however, a sufficient number of connection points to the existing water main system within the vicinity of the ParkeBridge project to provide sufficient capacity for the proposed project. The proposed project would include connection to existing 8-inch water lines in Bridgeford Drive and Rio Largo Way and to an existing 12-inch water main in Rosin Boulevard to the south of the project site, each of which would be accessed by boring under the RD 1000 canal. No structures would be placed in the canal for connection to water facilities.

Storm Drainage

There is no existing storm drain infrastructure on the project site. The storm drain system for the proposed project would convey stormwater to the proposed detention ponds and subsequently to Sump 141. The project includes two detention basins along the eastern portion of the site and a drainage/open space corridor along the length of the southern border. Runoff from the site would be directed to the proposed detention basins and ultimately to Sump 141, south of the project site.

Wastewater Service

There is no existing sewer infrastructure on the project site. Improvements for the proposed project would include of a 24-inch sewer line along the western border of the project site that would connect to sewer trunk facilities to be constructed by the NUSD south of I-80, and subsequently connect to the facilities being constructed by Opus West Corporation north of I-80. The Opus West Corporation is expected to complete construction of their portion of the sewer trunk facilities by the end of summer/fall 2005. The project would also participate in planned downstream sewer lift station improvements to increase the capacity of the temporary sewer facilities.

2 Clifton, Jim, District Engineer, RD 1000, written communication, June 1, 2005.

Recreation Facilities

The proposed project would include four parks totaling approximately 0.9 acres along Fong Ranch Road at a central location on the project site (see Figure 2-2 for location) that would serve as a focal element and gathering place, with recreational opportunities for residents, including a basketball court and tot lot. The proposed project would also require the dedication of approximately seven acres (or payment of in-lieu fees) to the City to satisfy park dedication requirements, of which four acres would be adjacent to the City community park. Although the park would not be constructed as part of the proposed project, the dedicated acreage would be combined with other adjacent City land that the City would develop to create a 28.1-acre (net) community park on the parcel west of the project site. Although plans have not been developed for the City park, it is anticipated that it would include a baseball complex and other community-serving amenities.

A bike trail and parkway would be constructed as part of the proposed project along the southern border of the project site. Approximately 2.41 acres along the drainage canal (south border) would be dedicated as open space. An additional bike trail/landscaped parkway would be located along the northern border of the project site. The trail would travel through the recreation and open space area and provide a link to the detention basin along the eastern border of the project site. As previously stated, there would be two bicycle/pedestrian bridges with access from the bike path that would connect the proposed project with the existing residential development to the south.

Project Schedule

It is anticipated that grading for the proposed project would begin in the spring or summer of 2006, followed by the construction of the two vehicular bridges to provide primary and secondary access to the project site, along with the entry feature, most of main road and required infrastructure (drainage, sewer, detention basin) and required offsite improvements. The four villages would likely be constructed simultaneously, with 10 to 15 houses to be constructed at a time per phase per village. It is anticipated that the project could be completely built out by 2008.

Project Approvals

As a public agency principally responsible for approving the proposed project, the City of Sacramento is considered the Lead Agency under the CEQA. The City of Sacramento has the authority to either approve or reject the project. In addition to certification of the EIR, additional entitlements have been requested for the proposed project. The proposed project would require the approvals identified below.

City of Sacramento

- Environmental Determination: Environmental Impact Report;
- Mitigation Monitoring Plan;
- Public Infrastructure Agreement between the City and Griffin Industries regarding the development of the site;
- City of Sacramento General Plan Amendment to modify the land use for a portion of the site to allow development of residential uses;
- South Natomas Community Plan Amendment to modify the land use for a portion of the site;
- Rezone;

- Establish Planned Unit Development; and
- Tentative Subdivision Map, subdivision modification, and PUD special permit to subdivide the parcel.

Other Agencies

- Regional Water Quality Board (Waste Discharge Requirements Permit).

3. SUMMARY OF IMPACTS AND MITIGATION MEASURES

3.0 SUMMARY OF IMPACTS AND MITIGATION MEASURES

PROJECT UNDER REVIEW

The project applicant is seeking a City of Sacramento General Plan amendment, South Natomas Community Plan amendment, rezone, PUD establishment, tentative subdivision map and subdivision modification, and certification of the EIR.

The proposed ParkeBridge residential development project (proposed project) includes a tentative subdivision map for the development of 531 residential units, and associated infrastructure, on an 86.7-acre site in the South Natomas area of Sacramento. The project includes approximately 13 acres of open space, drainage corridors, landscape corridors, and infrastructure required to support the proposed uses. The proposed project is divided into four residential villages, as follows: 142 townhouse cluster lots, 135 single-family units (34 foot by 73 foot lots), 154 single-family units (45 foot by 80 foot lots), and 100 single-family units (50 foot by 100 foot lots). The proposed project would require an amendment of the General Plan and SNCP, a rezoning and approval of a tentative subdivision map and subdivision modification to divide the site. The new designations would be parks – recreation – open space, low-density residential, and medium-density residential. The proposed project is described in detail in Chapter 2, Project Description.

PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

An EIR analyzes the environmental effects of a proposed project, indicates ways to reduce or avoid potential environmental damage resulting from the project, and identifies alternatives to the proposed action. An EIR must also disclose significant environmental effects that cannot be avoided; growth-inducing effects; effects found not to be significant; and significant cumulative impacts of the proposed project. The purpose of an EIR is not to recommend either approval or denial of the project, but to provide information to aid in the decision-making process.

SUMMARY OF IMPACTS

Effects Found to be Less Than Significant

As shown in Table 3-1, a number of project impacts identified in the EIR were found to be less than significant, requiring no mitigation. These impacts are found in Section 5.1 (Air Quality), Section 5.2 (Biological Resources), Section 5.3 (Hydrology and Water Quality), Section 5.4 (Noise), Section 5.5 (Solid Waste), Section 5.6 (Transportation and Circulation), and Section 5.7 (Water Supply). In the course of drafting the EIR for this project, it was determined that numerous other identified impacts could be reduced to a less-than-significant level with implementation of the proposed mitigation measures described herein.

Environmental Impacts and Mitigation

Under CEQA, a significant effect 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 (CEQA Guidelines Section 15382). Implementation of the proposed project would result in significant impacts to some of these resources, which are fully analyzed in Sections 5.1 through 5.7 of this document and summarized in Table 3-1 (provided at the end of this chapter).

This EIR discusses mitigation measures that could be implemented by the City and/or the project applicant to reduce potential adverse impacts to a level that is considered less than significant. Such mitigation measures are noted in this document and are found in the following sections: Section 5.1 (Air Quality), Section 5.2 (Biological Resources), Section 5.3 (Hydrology and Water Quality), Section 5.4 (Noise), Section 5.6 (Transportation and Circulation), and Section 5.7 (Water Supply). However, even with the application of feasible mitigation measures, some impacts could not be reduced to less-than-significant levels. Below are the significant and unavoidable impacts that were identified at both the project-specific level and cumulative level.

Project-Specific Significant and Unavoidable Impacts

5.1-2 Construction of the proposed project would generate ozone precursors.

5.5-1 The proposed project would generate more than 500 tons per year of solid waste.

5.6-2 Freeway Mainline: the proposed project would contribute to unacceptable conditions on the I-80 mainline between Northgate and Norwood during the PM peak hour (EB) and AM peak hour (WB).

Cumulative Significant and Unavoidable Impacts

Cumulative Scenario Without Fong Ranch Road Extension

5.6-6 Intersections: the proposed project would exacerbate unacceptable conditions at the Truxel/San Juan intersection (AM peak hour).

5.6-7 Freeway Mainline: the proposed project would contribute to unacceptable conditions on the I-80 mainline EB and WB between Norwood Avenue and Northgate Boulevard during both the AM and PM peak hours; EB between I-5 and Truxel Road during the PM peak hour; and WB between Northgate Boulevard and Truxel Road during the AM peak hour.

5.6-8 Freeway Ramps: the proposed project would contribute to unacceptable conditions on the WB I-80 off-ramp to Truxel Road.

Cumulative Scenario With Fong Ranch Road Extension[1]

5.6-11 Intersections: the proposed project would exacerbate unacceptable conditions at the Truxel/San Juan intersection (AM peak hour).

5.6-12 Freeway Mainline: the proposed project would contribute to unacceptable conditions on the I-80 mainline EB and WB between Norwood Avenue and Northgate Boulevard during both the AM and PM peak hours; EB between I-5 and Truxel Road during the PM peak hour; and WB between Northgate Boulevard and Truxel Road during the AM peak hour.

5.6-13 Freeway Ramps: the proposed project would contribute to unacceptable conditions on the WB I-80 off-ramp to Truxel Road.

ALTERNATIVES TO THE PROPOSED PROJECT

A number of alternatives that could potentially meet the project objectives were considered as a part of the environmental review for the project. Characteristics of each of the following alternatives and an analysis of potential environmental effects are presented in Chapter 6, Alternatives, of this EIR. The following alternatives were evaluated:

[1] The extension of Fong Ranch Road is not part of the proposed project and may not be implemented in the future. Mitigation Measure 5.6-11e, therefore, is not applicable to the proposed project and is not part of project conditions.

- The **No Project/No Development Alternative** assumes the proposed project would not be developed. The project site would remain agricultural land and would not be developed in the future.

- The **No Project/Existing Land Use Designations Alternative** assumes that the project site would be developed based on the current land use designations, which would include a total of 296 residential units, 33.4 acres of park/open space, and approximately 331,000 square feet of office use on 30.1 acres.

- The **Reduced Density Alternative** assumes the land swap between the City and Griffin Industries does not occur. The western corner of the project site would be developed with residential units; the northern strip bordering I-80 would remain in the City's possession for potential development as a park. A total of 366 residential units would be constructed under this alternative.

- The **Off-Site Alternative** would involve development of the proposed 531 residential units on an alternate site located in the South Natomas area.

The relative effects of the alternatives are identified by impact area in Chapter 6, Alternatives.

Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126.6(e) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states that "if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." As discussed in Chapter 6, Alternatives, the No Project Alternative would be environmentally superior to the proposed project and the other alternatives. However, CEQA requires that if the No Project Alternative is selected as the environmentally superior alternative, another alternative be selected. Therefore, Alternative 3, the Reduced Density Alternative, would be considered the environmentally superior alternative.

POTENTIAL AREAS OF CONCERN

The City issued a Notice of Preparation (NOP) on February 4, 2005. In addition, a public scoping meeting on the project and EIR process was held on February 14, 2005 to describe the project to members of the community and explain the City's approach to preparing the EIR. Written responses to the NOP and comments presented at the scoping meeting indicated key areas of concern and potential controversy related to the proposed project. These comments addressed traffic impacts on existing adjacent streets, construction related air quality impacts, and noise and lighting impacts.

The list above reflects the issues that appear to be the issues of key concern to the local community, interest groups, and agencies. Additional comments were received and documented and all comments received were considered in the preparation of this EIR. Please see Appendix B for a copy of the February 4, 2005 NOP and comments received in response to both the NOP and public scoping meeting.

SUMMARY TABLE

Table 3-1 has been organized to correspond with environmental issues discussed in Chapter 5. The summary table, which is located at the end of this chapter, is arranged in four columns:

1. Environmental impacts ("Impact").
2. Level of significance without mitigation ("Significance").
3. Mitigation measures ("Mitigation Measure").
4. The level of significance after implementation of mitigation measures ("Residual Significance").

If an impact is determined to be significant or potentially significant, mitigation measures are identified, where appropriate and feasible. More than one mitigation measure may be required to reduce the impact to a less-than-significant level. This EIR assumes that all applicable plans, policies, and regulations would be implemented, including, but not necessarily limited to, City General Plan policies, laws, and requirements or recommendations of the City of Sacramento. Applicable plans, policies, and regulations are identified and described in the Regulatory Setting of each issue area and within the relevant impact analysis. A description of the organization of the environmental analysis, as well as key foundational assumptions regarding the approach to the analysis, is provided in Section 5.0 (Introduction to the Environmental Analysis).

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
5.1 Air Quality			
5.1-1 Construction of the proposed project would generate emissions of PM_{10}.	S	5.1-1 *The project applicant shall ensure that no more than 15 acres of the proposed project site are disturbed on any day. During grading, the proposed project shall also:* • *Keep soil moist at all times.* • *Maintain two feet of freeboard space on haul trucks.* • *Use emulsified diesel or diesel catalysts on applicable heavy duty diesel construction equipment.*	LS
5.1-2 Construction of the proposed project would generate ozone precursors.	S	5.1-2 (a) *The project shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project-wide fleet-average 20 percent NO_x reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at time of construction.* (b) *The project representative shall submit to SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline, including start date and name and phone number of the project manager and on-site foreman.* (c) *The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or*	SU

LS = Less than Significant S = Significant SU = Significant and Unavoidable NA = Not Applicable NI = No Impact

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

	Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
			Ringelmann 2.0) shall be repaired immediately and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.	
5.1-3	**Operation of the proposed project would contribute permanent emissions of ozone precursors.**	LS	*None required.*	NA
5.1-4	**The proposed project would increase traffic that would contribute to CO concentrations at local intersections.**	LS	*None required.*	NA
5.1-5	**The proposed project could result in an increased health risk due to exposure to TACs.**	LS	*None required.*	NA
5.1-6	**The proposed project, in combination with other cumulative development in the region, would contribute to cumulative CO levels.**	LS	*None required.*	NA
5.1-7	**The proposed project, in combination with other cumulative development in the region, would contribute to cumulative levels of ozone precursors.**	LS	*None required.*	NA
5.1-8	**The proposed project, in combination with other cumulative development in the region, could result in an increased health risk due to exposure to TACs.**	LS	*None required.*	NA
	5.2 Biological Resources			
5.2-1	**Development of the proposed project would result in the loss of potential foraging habitat for Swainson's hawk, white-tailed kite, burrowing owl and other raptors.**	LS	*None required.*	NA
5.2-2	**Development of the proposed project could result in the loss of one active burrowing owl nest burrow.**	S	5.2-2 *The project proponent shall hire a qualified biologist to conduct a pre-construction burrowing owl survey. If nesting owls are found, no disturbance shall be allowed within 160-feet of the active nest burrow between February 1 and August 31. Outside*	LS

LS = Less than Significant S = Significant SU = Significant and Unavoidable NA = Not Applicable NI = No Impact

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

	Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation
				the nesting season, and/or upon confirmation by the qualified biologist that all young have fledged and left an active nest, burrowing owls present in the burrow shall be excluded from the burrow(s) by a qualified biologist through a passive relocation as outlined in the California Burrowing Owl Consortium's April 1993 Burrowing Owl Survey Protocol and Mitigation Guidelines. Once the burrows have been cleared, they must be hand-excavated and collapsed prior to project construction.	
5.2-3	**Development of the proposed project could result in the loss of individual giant garter snakes and their upland habitat.**	S	*5.2-3*	*The project applicant shall hire a qualified (i.e., permitted) biologist to monitor the project site to prevent the accidental loss of any giant garter snakes during construction. If any giant garter snakes are found, construction shall be halted until the biologist moves the snake to a safe location outside the construction area.*	LS
5.2-4	**Implementation of the proposed project could conflict with the Natomas Basin Habitat Conservation Plan.**	LS	*None required.*		NA
5.2-5	**Development of the proposed project, in combination with other cumulative development in the City and County of Sacramento, could contribute to the loss of habitat for plant and wildlife species in the region.**	LS	*None required.*		LS
	5.3 Hydrology and Water Quality				
5.3-1	**The proposed project would result in an increase in the rate and amount of stormwater runoff, which could cause or exacerbate on- or off-site flooding.**	LS	*None required.*		NA
5.3-2	**The proposed project would cause an increase or accumulation of urban contaminants in stormwater runoff that could be discharged to the Sacramento River; this could adversely affect surface water quality.**	LS	*None required.*		NA
5.3-3	**The proposed project, in combination with other development identified in the City of Sacramento General Plan, could result in or exacerbate on- or off-site flooding.**	LS	*None required.*		NA

LS = Less than Significant S = Significant SU = Significant and Unavoidable NA = Not Applicable NI = No Impact

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

	Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
5.3-4	**The proposed project, in combination with other development identified in the City of Sacramento General Plan, could adversely affect water quality in the Sacramento River.**	LS	*None required.*	NA
	5.4 Noise			
5.4-1	**Construction of the proposed project would produce temporary noise.**	LS	*None required.*	NA
5.4-2	**The proposed project would expose new sensitive receptors to freeway noise levels.**	S	5.4-2 *The project applicant shall ensure that the sound wall adjacent to Interstate 80 would be at least seven feet above the grade of the backyard of the nearest residences, and would achieve a 20 dBA transmission loss.*	LS
5.4-3	**The proposed project would not expose existing uses to significant increases in ambient noise.**	LS	*None required.*	NA
5.4-4	**The proposed project would contribute to future noise levels in the area.**	LS	*None required.*	NA
	5.5 Solid Waste			
5.5-1	**The proposed project could require or result in the construction of new landfills or the expansion of existing facilities or generate more than 500 tons of solid waste per year.**	S	*None available.*	SU
5.5-2	**The proposed project, in combination with other development in the County, could require or result in the construction of new landfills or the expansion of existing facilities.**	LS	*None required.*	NA
	5.6 Transportation and Circulation			
5.6-1	**Intersections (project-specific)**	NI	*None required.*	NA
5.6-2	**Freeway Mainline (project-specific)**	S	*None available.*	SU
5.6-3	**Freeway Ramps (project-specific)**	LS	*None required.*	NA
5.6-4	**Transit System (project-specific)**	LS	*None required.*	NA
5.6-5	**Pedestrian System and Bicycle Facilities (project-specific)**	NI	*None required.*	NA

LS = Less than Significant S = Significant SU = Significant and Unavoidable NA = Not Applicable NI = No Impact

Cumulative without Fong Ranch Road Extension				
5.6-6	**Intersections**		*5.6-6*	
(a)	San Juan Road and Northgate Boulevard	LS	*(a) None required.*	NA
(b)	Truxel Road and San Juan Road	S	*(b) None available.*	SU
(c)	Truxel Road and El Camino Avenue	LS	*(c) None required.*	NA
(d)	Truxel Road and I-80 Westbound Ramps	LS	*(d) None required.*	NA
(e)	Northgate Boulevard and Rosin Court	LS	*(e) None required.*	NA
5.6-7	**Freeway Mainline**			
(a)	I-80 WB mainline between Norwood Avenue and Northgate Boulevard	S	*(a) None available.*	SU
(b)	I-80 EB mainline between Northgate Boulevard and Norwood Avenue	S	*(b) None available.*	SU
(c)	I-80 EB mainline between I-5 and Truxel Road	S	*(c) None available.*	SU
(d)	I-80 WB mainline between Northgate Boulevard and Truxel Road	S	*(d) None available.*	SU
5.6-8	**Freeway Ramps**			
(a)	I-80 WB off-ramp to Northgate Boulevard	LS	*(a) None required.*	NA
(b)	I-80 WB off-ramp to Truxel Road	S	*(b) None available.*	SU
(c)	I-80 EB on-ramp from northbound Northgate Boulevard	LS	*(c) None required.*	NA
5.6-9	**Transit System**	LS	*None required.*	NA
5.6-10	**Pedestrian System and Bicycle Facilities**	NI	*None required.*	NA
Cumulative with Fong Ranch Road Extension[1]				
5.6-11	**Intersections**		5.6-11	NA
(a)	San Juan Road and Northgate Boulevard	LS	*a) None required.*	NA
(b)	Truxel Road and San Juan Road	S	*b) None available.*	SU
(c)	Truxel Road and El Camino Avenue	LS	*c) None required.*	NA
(d)	Truxel Road and I-80 Westbound Ramps	LS	*d) None required.*	NA
(e)	Northgate Boulevard and Rosin Court	S	*e) Add a second left-turn lane creating dual left turn lanes to the eastbound approach.*	LS
5.6-12	**Freeway Mainline**		5.6-12	
(a)	I-80 WB mainline between Norwood Avenue and Northgate Boulevard	S	*(a) None available.*	SU
(b)	I-80 EB mainline between Northgate Boulevard and Norwood Avenue	S	*(b) None available.*	SU
(c)	I-80 EB mainline between I-5 and Truxel Road	S	*(c) None available.*	SU
(d)	I-80 WB mainline between Northgate Boulevard and Truxel Road	S	*(d) None available.*	SU

[1] The extension of Fong Ranch Road is not part of the proposed project and may not be implemented in the future. Mitigation Measure 5.6-11e, therefore, is not applicable to the proposed project and is not part of project conditions.

LS = Less than Significant S = Significant SU = Significant and Unavoidable NA = Not Applicable NI = No Impact

5.6-13	**Freeway Ramps**		5.6-13	
(a)	I-80 WB off-ramp to Northgate Boulevard	LS	*(a) None required.*	NA
(b)	I-80 WB off-ramp to Truxel Road	S	*(b) None available.*	SU
(c)	I-80 EB on-ramp from northbound Northgate Boulevard	LS	*(c) None required.*	NA
5.6-14	**Transit System**	LS	*None required.*	NA
5.6-15	**Pedestrian System and Bicycle Facilities**	NI	*None required.*	NA
			5.7 Water Supply	
5.7-1	**The proposed project's demand for water could exceed available sources of water supply sources.**	LS	*None required.*	NA
5.7-2	**The proposed project could increase water demand in excess of 10 million gallons per day.**	LS	*None required.*	NA
5.7-3	**The proposed project's demand for water could exceed the availability of treated water and the distribution systems, resulting in the need for new or expanded facilities.**	LS	*None required.*	NA
5.7-4	**The proposed project, in combination with buildout of the General Plan in the City of Sacramento, would increase water demand throughout the City that could exceed water supplies.**	LS	*None required.*	NA
5.7-5	**The proposed project, in combination with buildout of the City of Sacramento's General Plan, would contribute to increased water demands throughout the City that could exceed treatment or pumping capabilities within the City's service area.**	LS	*None required.*	NA

LS = Less than Significant S = Significant SU = Significant and Unavoidable NA = Not Applicable NI = No Impact

4. LAND USE AND PLANNING

4.0 LAND USE AND PLANNING

INTRODUCTION

This chapter of the EIR provides an overview of the land use and planning issues that may result from development of the ParkeBridge project. An EIR may provide information regarding land use, planning, and socio-economic effects, but CEQA does not recognize land use, socio-economic, population, employment, or housing issues as direct physical impacts to the environment. A direct physical change in the environment is caused by and immediately related to the project (CEQA Guidelines section 15064(d)(1)). Therefore, this chapter does not identify environmental impacts and mitigation measures. Physical impacts on the environment that could result from implementation of the project or project alternatives are addressed in the appropriate technical sections of this EIR.

This chapter describes existing and planned land uses in and adjacent to the project site, including current land uses, land use designations, and zoning. Section 15125 of the CEQA Guidelines states that the EIR shall discuss "any inconsistencies between the proposed project and applicable general plans and regional plans." Potential inconsistencies between the proposed project and the City of Sacramento General Plan, the South Natomas Community Plan (SNCP), and the City's Comprehensive Zoning Ordinance are evaluated in this chapter.

Comments received in response to the NOP (Appendix B) included suggestions for alternate land uses, but did not raise specific land use issues.

ENVIRONMENTAL SETTING

The 113.3-acre project site is in the northwest portion of the City of Sacramento. The site is southeast of the interchange of Interstate 80 (I-80) with Truxel Road, within the SNCP area (see Figure 2-1, Project Location, and Figure 2-2, Proposed Land Use Plan). The project site is currently used for agriculture. Land uses in the project vicinity include Natomas High School to the southwest, existing single-family residential development to the south, and vacant land to the east (zoned for office and commercial development). I-80 forms the northern boundary of the parcel. The approved, but not yet built, Natomas Promenade commercial development is located immediately north of the site, across I-80.

Land Use and Zoning Designations

The City of Sacramento General Plan designations for the site include Low and Medium-Density Residential, Regional Commercial and Office, and Parks-Recreation-Open Space. The community plan designates the project site as Residential (4-8 du/ac and 7-15 du/ac), Office/Office Park, and Parks/Open Space. Current zoning districts for the site include low-density residential (R-1A), office (OB), and agriculture (A). Figures 4-1 through 4-3 show the existing General Plan, SNCP, and zoning designations. The proposed land use designations and zoning are shown in Figures 4-4 through 4-6.

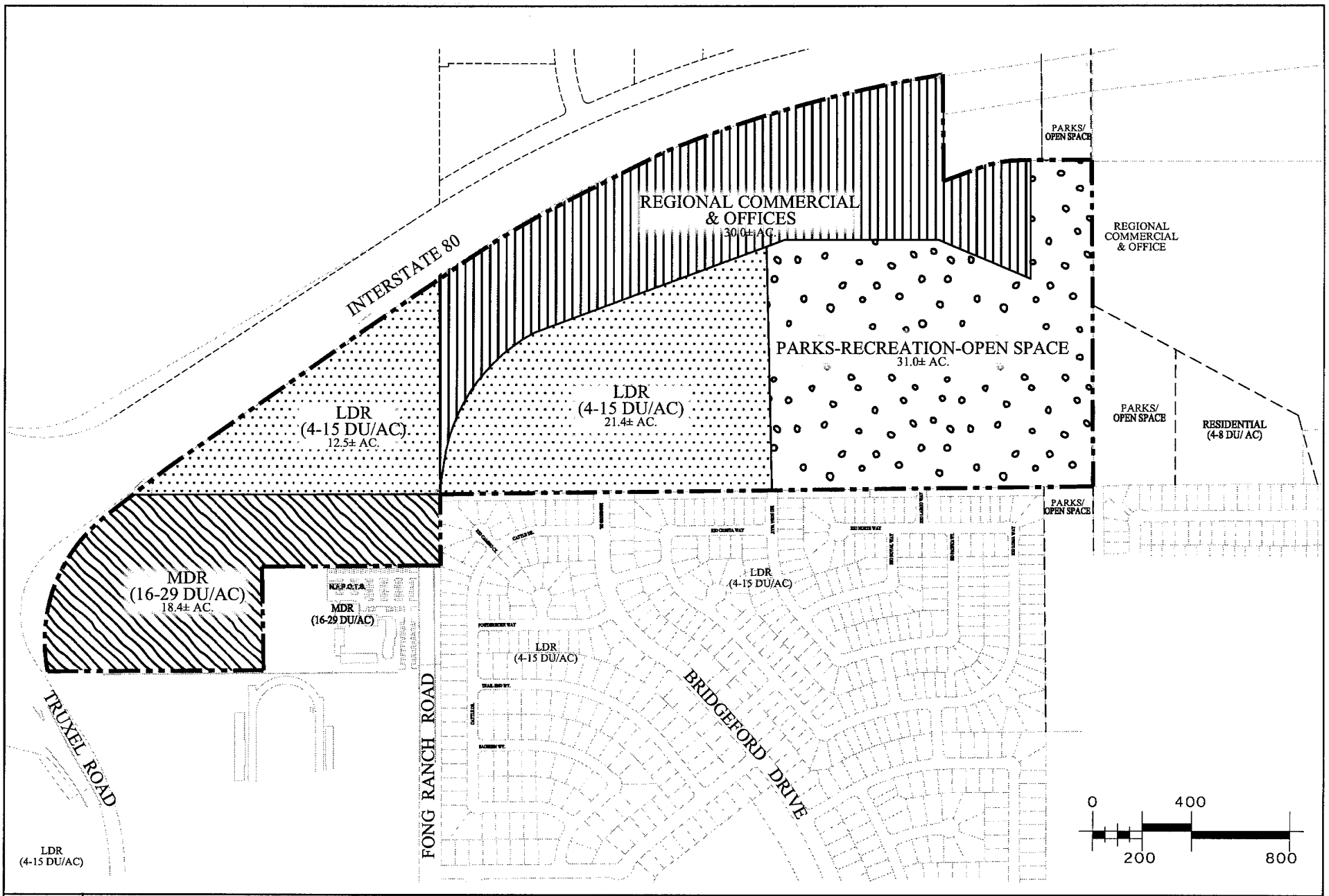

FIGURE **4-1**

Existing General Plan Designations

Sources: City of Sacramento General Plan and Wood Rodgers, 2005

10916-01

ParkeBridge

EIP ASSOCIATES

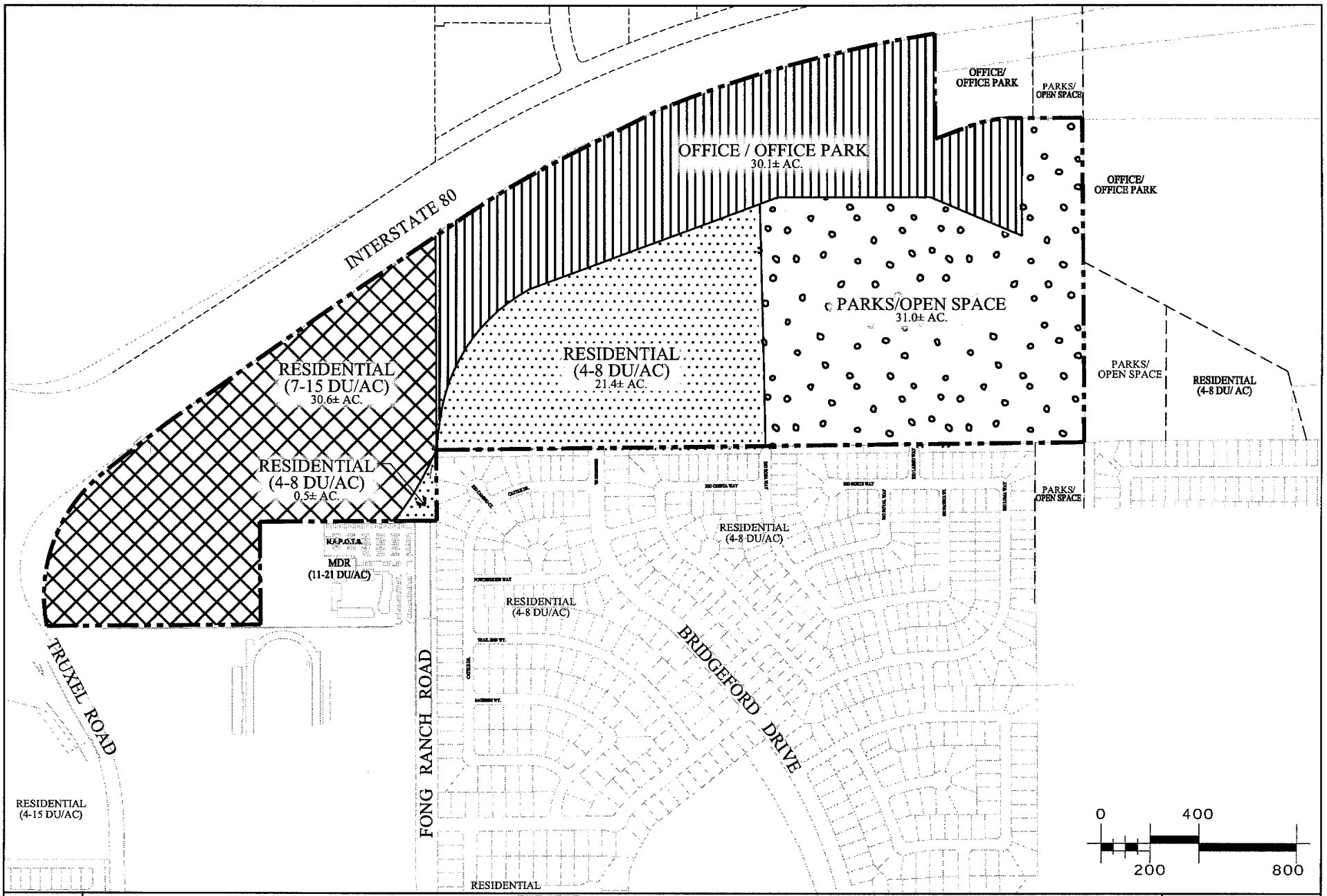

FIGURE **4-2**

Existing Community Plan Designations

10916-01

Sources: City of Sacramento General Plan, South Natomas Community Plan, and Wood Rodgers, 2005

ParkeBridge

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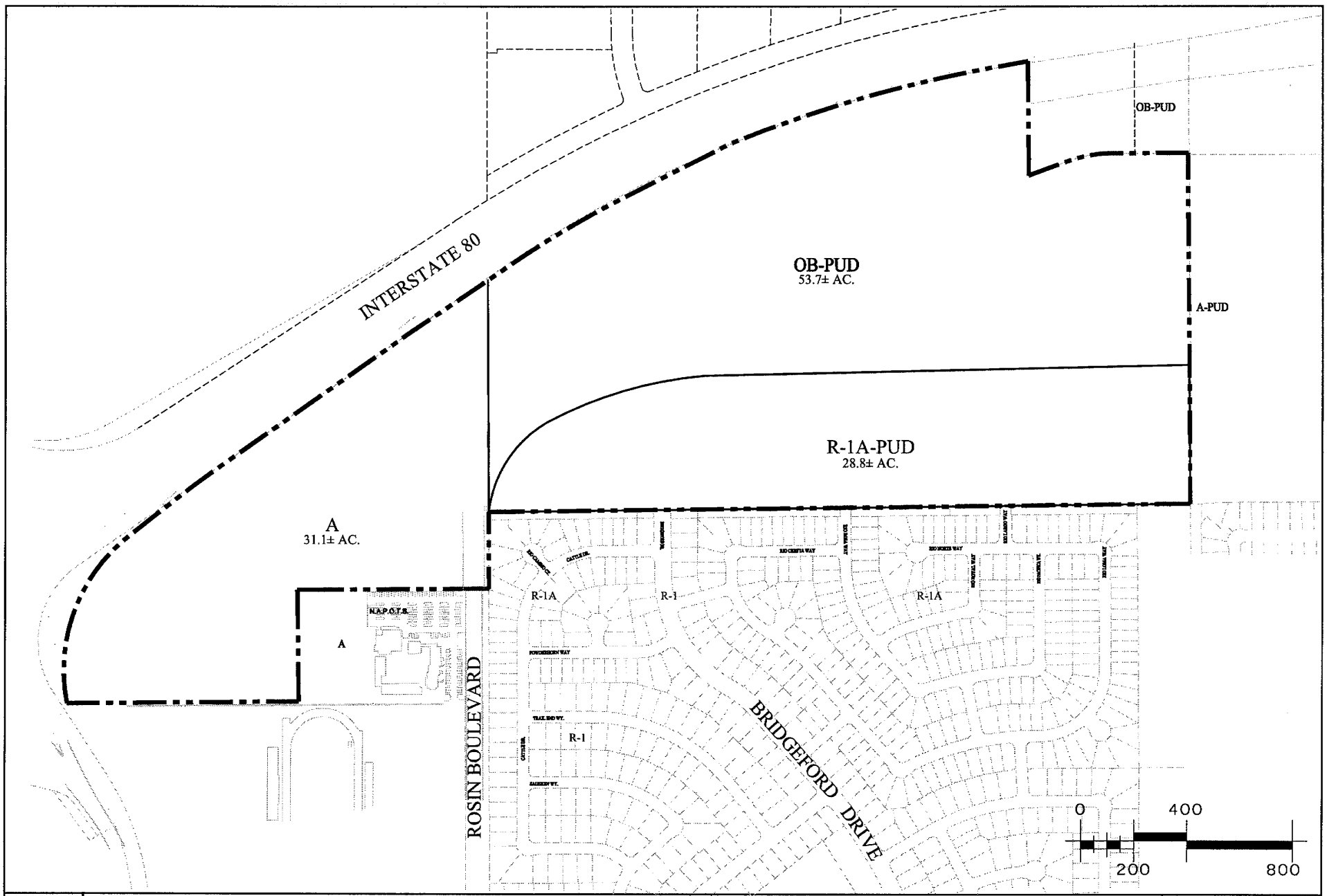

FIGURE **4-3**

Existing Zoning

Sources: City of Sacramento, http://www.sacramento.org/dsd/maps/zoningbook/index.htm, and Wood Rodgers, 2005

ParkeBridge

10916-01

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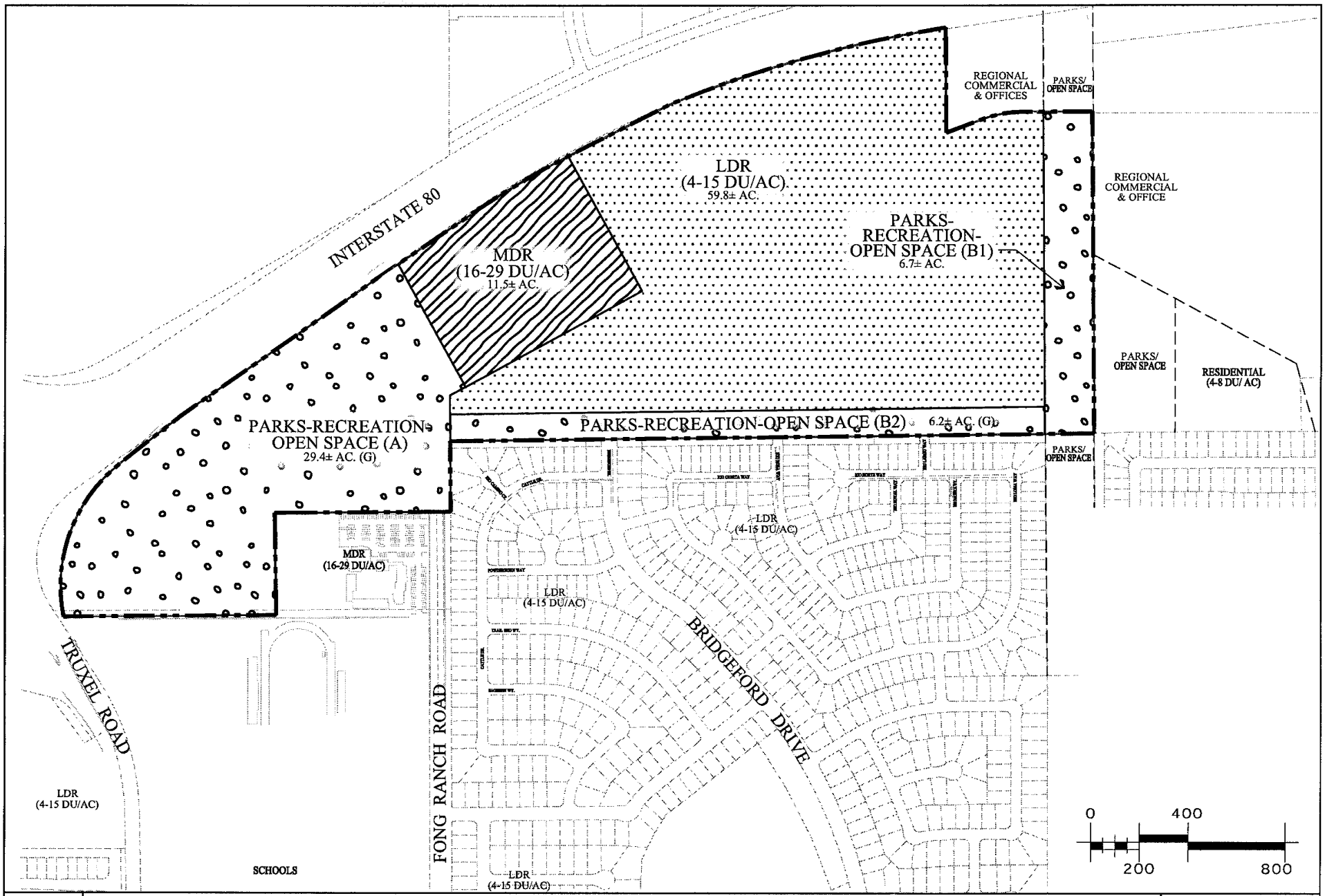

FIGURE **4-4**

Proposed General Plan Designations

10916-01

Sources: Griffin Industries and Wood Rodgers, 2005

ParkeBridge

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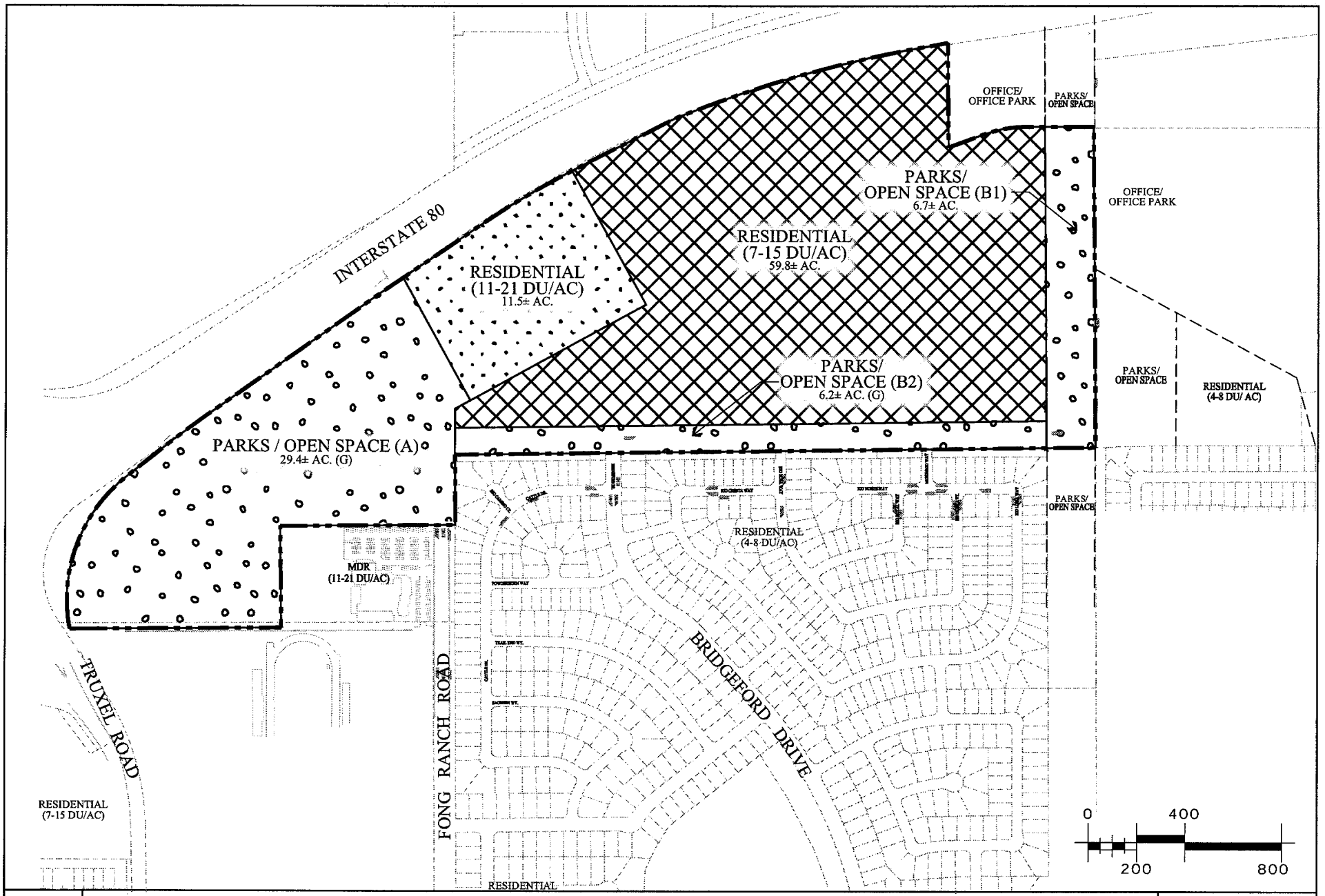

FIGURE **4-5**

Proposed Community Plan Designations

10916-01

Source: Griffin Industries and Wood Rodgers, 2005

ParkeBridge

EIP ASSOCIATES

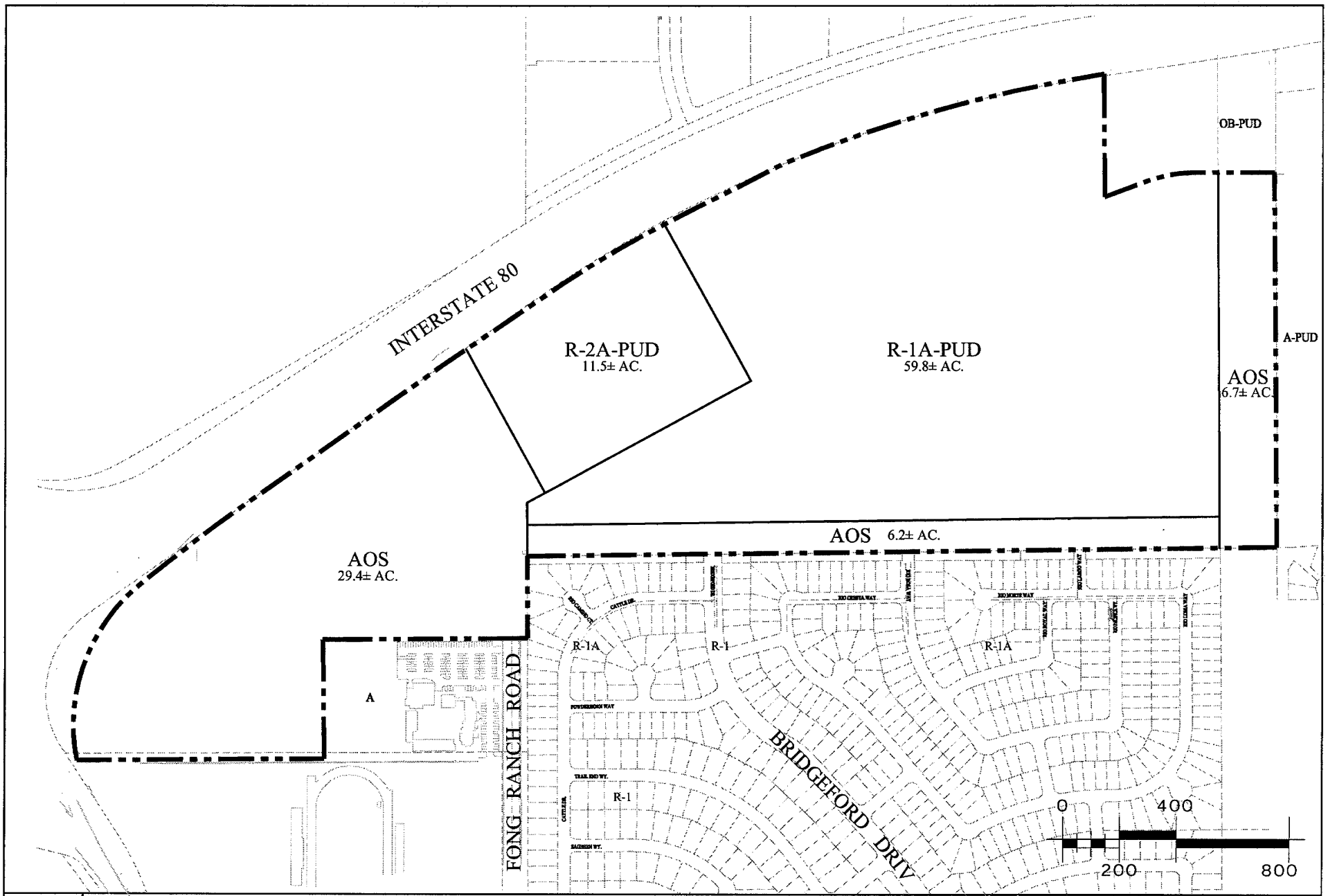

FIGURE **4-6**

Proposed Zoning

10916-01

Sources: Griffin Industries and Wood Rodgers, 2005

ParkeBridge

EIP ASSOCIATES

Regulatory Context

Federal

There are no federal regulations applicable to land use for the project site.

State

There are no State regulations applicable to land use for the project site.

Local

City of Sacramento General Plan

The Sacramento General Plan Update (SGPU) was adopted on January 19, 1988. The SGPU replaced the heavily amended 1974 General Plan for Sacramento and brought local issues into a contemporary framework for action. The General Plan is a 20-year policy guide for physical, economic, and environmental growth and renewal of the City. A total of nine sections are contained within the SGPU. Each section contains goals and policies intended to guide buildout of the City. Applicable goals and policies from the SGPU are listed below. The City is presently in the process of updating its General Plan, with completion anticipated in 2007.

Goals and Policies for Residential Land Use

Goal A

Improve the quality of residential neighborhoods citywide by protecting, preserving and enhancing their character.

6 Prohibit the intrusion of incompatible uses into residential neighborhoods through adequate buffers, screening and zoning practices that do not preclude pedestrian access to arterials that may serve as transit corridors.

Goal B

Provide affordable housing opportunities for all income household categories throughout the City.

3 Develop a monitoring system to track residential development in each Community Plan area and to determine buildout of each type of residential use category.

Goal C

Develop residential land uses in a manner which is efficient and utilizes existing and planned urban uses.

4 Promote infill development as a means to meet future housing needs by expanding the benefits for this type of development and actively promote infill development in identified infill areas through outreach programs designed to inform the development community and property owners of this program.

7 Continue to support energy conservation measures incorporated in the subdivision ordinance and during the review of building permits.

Goal D

Maintain orderly residential growth in areas where urban services are readily available or can be provided in an efficient cost effective manner.

2 Approve residential development only where City services are provided in a manner which meets the needs of the proposed development.

Goal E

Provide appropriate residential opportunities to meet the City's required fair share of the region's housing needs.

1 Provide housing opportunities in newly developing communities and in large mixed-use developments in an effort to reduce travel time to and from employment centers.

2 Use mixed-use housing and employment centers to help meet housing needs and reduce traffic in new development within the City.

Goals and Policies for Conservation and Open Space

Goal A

Implement the Master Plan for Park Facilities and Recreation Services.

Goal D

Work with the County of Sacramento to identify, protect and enhance physical features and settings that are unique to the area to the maximum extent feasible.

1 Preserve vernal pools with rare and endangered species to whatever extent feasible.

Goals and Policies for the Managed Production of Resources

Goal A

Retain land inside the City for agricultural use until the need arises for development, and support actions of Sacramento County to similarly conserve its land until needed for urban growth.

Goals and Policies for Parks and Recreation Services

Goal A

Provide adequate parks and recreational services in all parts of the City, adapted to the needs and desires of each neighborhood and community. Attempt to achieve the park acreage standards established in the Parks and Recreation Master Plan.

3 Continue to acquire land utilizing the Quimby Act.

5 Design parks to enhance and preserve the natural site characteristics.

9 Continue the practice of providing neighborhood outdoor recreation facilities on or adjacent to public schools.

The land use designations of the SGPU define the appropriate types, densities, and function of uses for each land use designation. The SGPU land use designations for the project site include Low-Density Residential, Medium-Density Residential, Regional Commercial and Office, and Parks-Recreation-Open Space, which are defined below:

LDR – The low-density residential designation allows residential uses with densities from 4-15 dwelling units per net acre. Typical development in these areas will consist of single family detached units, duplexes, halfplexes, townhouses, condominiums, zero lot line units and cluster houses. Since General Plan designations include large areas of land, other related neighborhood uses and specific residential densities may be indicated in community plans.

MDR – The medium-density residential designation will generally consist of multiple family dwellings with densities ranging from 16-29 dwelling units per net acre. Development under this designation will consist of condominiums, garden apartments and light density apartment uses. Some commercial or office use may be located within multiple family districts since an overlap of land uses is expected in higher density residential areas which are located along major streets. Specific land use designations for each parcel may be indicated in community plans.

RCO – The regional commercial and office designation includes larger (regional) shopping centers, the Central Business District, and suburban office parks. A grouping of smaller retail centers or office buildings, or a single facility with a regional trade area would also fall into this category. The Central Business District is included in this category because of its regional function as an employment, retail trade, service, and office center.

OS - Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas

which serve as links between major recreation and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.

South Natomas Community Plan

The SNCP serves as a development guide to be used by the public and private sector when planning physical improvements in the South Natomas area. The SNCP includes text and land use diagrams that were adopted by the Sacramento City Council in May 1994. The SNCP is part of the City's General Plan, and provides a refinement of the goals and objectives of the General Plan to serve as a guideline for development specifically within the SNCP area. The guiding policy of the plan is to develop a high quality mixed-use community with residential development, parks, schools, offices, and businesses within the plan area.

The project site is designated for residential, office, and park/open space uses in the SNCP. The plan includes two types of residential uses: Low-Density residential (4-8 units per acre, single family attached and detached units), and Medium-Density residential (7-10 units per acre, detached single family, zero lot line, patio home, duplex, halfplex, townhouse, and condominium units). The office/office park designation is intended for large-scale developments near I-5 and I-80 with building sizes of 40,000 square feet or larger. The SNCP includes the following goals and policies which are applicable to the proposed project.

Guiding Policies for Population and Housing

A Provide housing of varied types, densities and prices, arranged to enhance neighborhood identity, to create and maintain family-oriented environments, and to avoid visual monotony.

B Evaluate the City's ability to provide public services and facilities and the Plan area's traffic capacity prior to granting plan amendments for increased residential densities.

Guiding Policies for Bicycle Routes

A Provide a system of on-street bicycle routes for bicycle commuters and attractive off-street bicycle paths for recreational bicyclists.

Guiding Policies for Parks

A Plan the South Natomas park system to serve anticipated population holding capacity in order to reserve the most desirable sites.

B Locate new community parks on highly visible sites where they will make contributions to community form and quality. These parks should extend the Sacramento identity established by McKinley Park and other parks seen from thoroughfares to South Natomas, preventing it from becoming a slice of the standardized "walled" city common in California metropolitan areas.

C Locate new neighborhood parks adjoining elementary schools, allow combination (joint use) City-school parks.

D Park acreage in South Natomas should meet the city goal of five acres per thousand population.

City of Sacramento Zoning Ordinance

The City of Sacramento Zoning Ordinance (Sacramento City Code Title 17) is intended to encourage the most appropriate use of land, conserve, stabilize and improve the value of property, provide adequate open space for recreational, aesthetic and environmental amenities, and control the distribution of population to promote health, safety, and the general welfare of the population of the City (§17.04.020). To achieve this goal, the Zoning Ordinance regulates the use of land, buildings, or other structures for residences, commerce, industry, and other uses required by the community. The Zoning Ordinance also regulates the location, height, and size of buildings or structures, yards, courts, and other open spaces, the amount of building coverage permitted in each zone, and

population density, and divides the city into zones of such shape, size, and number best suited to carry out these regulations, and to provide for their enforcement.

Zoning districts for the site include low-density residential (R-1A), office (OB), and agriculture (A); both the residential and office portions of the site are also designated Planned Unit Development (PUD). These districts are generally defined below.

> R-1A - The R-1A district is a low to medium-density residential zone intended to permit the establishment of single family, individually owned, attached or detached residences where lot sizes, height, area and/or setback requirements vary from Standard Single Family. This zone is intended to accommodate alternative single-family designs, which are determined to be compatible with Standard Single Family areas. Maximum density in this zone is 15 dwelling units per net acre. Maximum height is 35 feet; maximum lot coverage is 40%.
>
> OB - The office zone is primarily for development of business office centers, and institutional or professional buildings.
>
> A - The agriculture zone restricts the use of land primarily to agriculture and farming. It is also considered an open space zone. Property in this zone will be considered for reclassification when proposed for urban development, which is consistent with the General Plan.
>
> PUD - The Planned Unit Development designation provides for greater flexibility in the design of integrated developments than is otherwise possible through the strict application of the City's zoning regulations. Residential PUD developments may include a variety of housing types and site plans, accessible open "green spaces," or common recreational areas, an attractive and well-oriented community meeting place or recreational facility, and other features of substantial benefit to a viable and balanced community.

LAND USE EVALUATION

This section evaluates the proposed project for compatibility with existing and planned adjacent land uses and for consistency with adopted plans, policies, and zoning designations. Environmental impacts resulting from the proposed project are discussed in the applicable environmental sections in this EIR. This section differs from impact discussions in that only compatibility and consistency issues are discussed, as opposed to environmental impacts and mitigation measures. This discussion complies with Section 15125(d) of the CEQA Guidelines, which requires EIRs to discuss inconsistencies with general plans and regional plans as part of the environmental setting.

Compatibility With Existing And Planned Adjacent Land Uses

Long-term incompatibilities arise when adjacent land uses result in activities that could conflict with each other. For example, land uses that produce excessive noise, light, dust, odors, traffic, or hazardous emissions may be undesirable when they intrude on places where people sleep and recreate (residences and parks). Therefore, some industrial or agricultural uses (which can produce noise, odor, and so on) would not be considered compatible with residential uses, unless buffers, landscaping or screening can be used to protect residents from health hazards or nuisances.

The proposed project includes development of primarily residential uses with accompanying infrastructure, including parks and roadways (for details please see Chapter 2, Project Description). The surrounding land uses include vacant land to the east, I-80 to the north, and a single-family

residential subdivision and Natomas High School to the south and southwest, respectively. During project construction, the project vicinity could experience short-term temporary impacts from noise and dust as the site is developed. These impacts are analyzed in the appropriate technical sections of this EIR.

The vacant land east of the project site is currently zoned for agricultural use, but is designated for parks/open space, regional commercial and office, and residential uses under both the SGPU and SNCP. The project applicant, Griffin Industries, is currently negotiating a land exchange with the City of Sacramento. If the exchange is approved, Griffin would exchange approximately 29 acres in the west corner of the site for 25 acres in the north portion of the site, bordering I-80. It is assumed that the City would develop the 29-acre parcel (28.1 net acres) as a park; however, the development of this area would be subject to separate environmental review. This EIR assumes the land exchange will be approved and the City may or may not develop a park in the future.

Residential uses typically do not generate excessive noise, light, dust, odors, or hazardous emissions that could be considered incompatible with existing or planned adjacent land uses. In addition, the proposed project includes a 200-foot wide open space/drainage area at the eastern border of the project site, between the ParkeBridge residential area and the land to the east, which is currently used for agriculture but could eventually be developed as an office park area. Any future commercial or office uses east of the site would be required to evaluate potential impacts to the residential uses to the west and south at the time of project application. The existing and planned adjacent land uses are either similar uses to the proposed project or would be considered compatible uses in an urban environment; therefore, it is not anticipated that any land use incompatibility with existing and planned adjacent land uses would occur.

Consistency with Adopted Plans, Policies, and Zoning

City of Sacramento General Plan

This consistency analysis provides the reader with a general overview of the City's goals and policies and explains whether the project is essentially in harmony with the overall intent of the goal or policy. It is within the City's purview to interpret its own General Plan and to ultimately decide if the proposed project is consistent or inconsistent with any City goals or policies.

The project site is designated in the SGPU for Low and Medium-Density Residential, Regional Commercial and Office, and Parks, Recreation, Open Space uses. The proposed project would require a General Plan amendment to modify the location of residential and park uses, and to replace the office uses with residential use. Because a General Plan is not intended to be a static document, this amendment, in and of itself, would not be considered an inconsistency.

The General Plan goals and policies are designed to ensure quality, affordable residential development, and the provision of adequate park space. The proposed project site is within the City's urban service area and would receive adequate public services and utilities. In addition, the proposed project includes a range of housing types, including both traditional single-family residential units and denser town homes. The range of lot sizes in the proposed project would provide a variety of price ranges. In addition, the project would include approximately one acre of pocket parks and would be required to satisfy park requirements, consistent with General Plan and Park Facilities and Recreation Services Master Plan, either through dedication of park land, payment of fees, or a combination of the two. A seasonal wetland along the southern portion of the site would be incorporated into the rear yards of future residential lots and development within the wetland would be restricted while the wetland feature exists, consistent with the policy to preserve natural

site characteristics. Therefore, the proposed project is considered consistent with the City's General Plan goals and policies pertaining to residential and open space uses.

South Natomas Community Plan

As discussed earlier in this chapter, the SNCP was adopted by the City Council in 1994 and refines the goals and policies of the City's General Plan and provides a guideline for future development within the South Natomas area. The SNCP designates the project site for residential, office, and park/open space development. The ParkeBridge project would require a community plan amendment to permit residential and park uses and to allow residential use in place of the current office designation, but this amendment, in and of itself, would not result in an inconsistency.

The SNCP requires the development of a variety of housing types in the plan area. The proposed project includes units of various sizes, styles, and price ranges. Lots range in size, allowing for varied lot sizes for single family units and town homes. The SNCP policies also promote recreation and commuter bike paths, require the provision of adequate parks, and promote the development of community parks in highly visible areas and adjacent to schools. The proposed project includes a meandering bike path through the designated open space area at the southern border of the site, and an additional bike path/parkway along the northern edge of the project site, as well as bike paths on the internal roadway system. Four pocket parks, totaling approximately one acre, would be built to serve the future residents of the project site. Because the project adheres to the residential requirements outlined in the SNCP, the proposed project would be generally consistent with the goals and policies of the SNCP.

City of Sacramento Zoning Ordinance

To implement the General Plan and Community Plan goals, the Zoning Ordinance provides regulations that control the uses of land, density of population, the uses and locations of structures, as well as other standards to ensure that the goals are met. Zoning districts are generally based on the General Plan designation for each site and provide specific requirements for the site. The Zoning Ordinance designates districts in which specific uses are permitted and other uses are permitted only conditionally. Conditional uses must be reviewed by the Zoning Administrator or the Planning Commission and would be subject to any conditions imposed upon the use in order to be allowed to operate within the zoning district. With conditions imposed upon conditional uses, these would be considered compatible with other allowed uses in the district.

The Zoning Ordinance also contains standards for siting uses in different districts adjacent to one another. Assuming that uses allowed in each district comply with applicable regulations, these uses are considered compatible with one another. For example, commercial or office zoning districts contain performance standards to be compatible with residential uses. Standards to reduce incompatibility with residential zones include, but are not limited to, setbacks, orientation away from residences, fencing or walls and landscaping, restrictions on hours of operation, and maximum allowable noise levels. Conditionally permitted uses require Zoning Administrator or Planning Commission approval, and if additional conditions are required to be compatible with adjacent residential uses, those would be imposed as conditions of approval.

The proposed project would require a rezone from Office (OB-PUD) and Agriculture (A) to Residential (R-2A-PUD, RD-5) and Open Space (OS). The proposed residential and park uses are consistent with the intent of the residential and open space zoning designations and would comply with the zoning ordinance regarding building heights, setbacks, landscaping, and shading.

5. ENVIRONMENTAL ANALYSIS

5.0 Introduction to the Analysis

5.0 INTRODUCTION TO THE ANALYSIS

FORMAT OF THE ENVIRONMENTAL ANALYSIS

ENVIRONMENTAL SETTING

According to Section 15125 of the CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project to provide the "baseline condition" against which project-related impacts are compared. Normally, the baseline condition is the physical condition that exists when the Notice of Preparation (NOP) is published. The NOP for the proposed project EIR was published in February 2005. CEQA Guidelines recognize that the date for establishing an environmental baseline cannot be rigid. Because physical environmental conditions may vary over a range of time periods, the use of environmental baselines that differ from the date of the NOP is reasonable and appropriate when doing so results in a more accurate or conservative environmental analysis.

For analytical purposes, impacts associated with implementation of the proposed project are derived from two fundamental components of the existing baseline environmental setting—existing conditions at the time the NOP was published and conditions that would exist at buildout of the Sacramento General Plan. It is appropriate to evaluate project-level impacts against the conditions that exist when the NOP was published for most issue areas. For issue areas either directly or indirectly related to infrastructure, however, project-level impacts are more conservatively analyzed against future baseline conditions that consider General Plan and approved growth, because improvements (e.g., roadway widenings, intersection improvements, wastewater distribution and conveyance, solid waste disposal, water supply, electricity and natural gas supplies) must consider and accommodate ultimate demand. The assumptions inherent in the air quality and noise analysis are derived from the transportation and circulation analysis (prepared by Dowling Associates in coordination with the City of Sacramento); therefore, the baseline year is the same as the other issue areas related to infrastructure.

Regulatory Context

The Regulatory Context provides a summary of regulations, plans, policies, and laws that are relevant to each issue area.

Impacts and Mitigation Measures

This section is further divided into the following subsections, as described below.

Method of Analysis

This subsection identifies the methodology used to analyze potential environmental impacts.

Standards of Significance

The CEQA Guidelines define a significant effect on the environment 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 and aesthetic significance" (CEQA Guidelines Section 15382). Definitions of significance vary with the physical

conditions affected and the setting in which the change occurs. The CEQA Guidelines set forth physical impacts that trigger the requirement to make "mandatory findings of significance" (CEQA Guidelines, Section 15091). For all environmental issues, this EIR identifies specific standards of significance.

Where explicit quantification of significance is identified, such as a violation of an ambient air quality standard, this quantity is used to assess the level of significance of a particular impact in this EIR. For less easily quantifiable impacts, events or occurrences that would be regarded as significant or potentially significant are identified. For example, growth-inducing impacts would be identified as significant if the project results in a level, rate, or character of growth that (among other criteria) exceeds the capacity of existing infrastructure and services. Where the "substantial" effect of an impact is not identified in the CEQA Guidelines, the criteria for evaluating the significance of potential impacts were determined and identified in this document.

This subsection describes the potential environmental impacts of the proposed project and, based upon the thresholds of significance, concludes whether the environmental impacts would be considered significant, potentially significant, or less than significant. Each impact is summarized in an "impact statement," followed by a more detailed discussion of the potential impacts and the significance of each impact before mitigation.

Each impact is provided as a "summary block" prior to the impact discussion to allow for easy reference. The impact number consists of the section of the EIR in which that impact is identified followed by a "-" to indicate the number of the impact in that section. For example, Impact 5.1-1 is the first impact identified in Section 5.1.

It is assumed that the project applicant would comply with all applicable local, State, and federal laws and regulations, and these laws and regulations are considered to be part of the project description. A level of significance is determined with implementation of applicable laws and regulations. If, after application of those laws and regulations, the proposed project would result in a significant impact, mitigation measures would be included, if feasible. The subsection concludes with a statement regarding whether the impact, following implementation of the mitigation measure(s) and/or the continuation of existing policies and regulations, or would reduce the impact to a less-than-significant level or if the impact would remain significant and unavoidable.

The analysis of environmental impacts considers both the construction and operational phases associated with implementation of the proposed project. As required by Section 15126.2(a) of the CEQA Guidelines, direct, indirect, short-term, long-term, on-site, and/or off-site impacts are addressed, as appropriate, for the environmental issue area being analyzed.

A "significant effect" is defined by Section 15382 of the CEQA Guidelines 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. An economic or social change by itself shall not be considered a significant effect on the environment [but] may be considered in determining whether the physical change is significant." The Draft EIR uses the following terms to describe the level of significance of impacts identified during the course of the environmental analysis:

- **Significant and Unavoidable Impact (SU)**—Impact that exceeds the defined threshold(s) of significance and cannot be eliminated or reduced to a less-than-significant level through the implementation of feasible mitigation measures.

- **Significant Impact (S)**—Impact that exceeds the defined threshold(s) of significance. For purposes of this document, pre-mitigation impacts that exceed the defined threshold(s) of significance are referred to as significant; however, when the impacts cannot be eliminated or reduced to a less-than-significant level through the implementation of feasible mitigation measures, these impacts are referred to as significant and unavoidable.
- **Less-Than-Significant Impact (LS)**—Impact that does not exceed the defined threshold(s) of significance. This term is used for impacts for which mitigation measure(s) identified can reduce a pre-mitigation impact to a less-than-significant level.
- **No Impact (NI)**—The project would result in no impact.

Mitigation Measures

This subsection includes feasible mitigation measures that could reduce the severity of the impact. In many instances, the actions that are necessary to reduce a project impact are already required by local, State, or federal law. As stated above, it is assumed that the project applicant would also continue to comply with all applicable local, State, and federal laws and regulations, and these laws and regulations are considered to be part of the project description. Similarly, established design guidelines or other requirements that the City regularly recognizes and follows for development projects are also considered part of the project description. In this EIR, such requirements are identified and considered in the impact assessment prior to the identification of additional project-specific mitigation measures that would reduce the level of significance of impacts.

5.1 Air Quality

5.1 AIR QUALITY

INTRODUCTION

This section assesses the potential air quality effects of the proposed ParkeBridge project (proposed project) and recommends mitigation measures to reduce or eliminate significant impacts. This section describes the climate in the project site; existing air quality conditions in the project site for both "criteria air pollutants" and "toxic air contaminants", and applicable federal, State, and regional air quality standards. The section also analyzes the air quality effects caused by stationary and mobile sources related to construction and operation of the proposed project.

As described in the Initial Study (see Appendix A), the proposed project would not alter air movement or affect climate or result in the exposure of persons to substantial odors. Public comments received in response to the Notice of Preparation (see Appendix B) requested that potential impacts to regional air quality be analyzed and mitigated. In addition, the local air pollution control district also provided guidance on preparing the air quality section of the EIR. All of these issues and concerns have been addressed in this section.

ENVIRONMENTAL SETTING

A region's air quality is influenced by the region's climate, topography, and pollutant sources. The characteristics of the region encompassing the City of Sacramento are such that the area has a potential for high concentrations of regional and localized air pollutants. These characteristics are discussed below.

Climate and Topography

The proposed project site is located just north of the central, downtown area of the City of Sacramento, which is the major metropolitan area of Sacramento County. Sacramento County is located at the southern end of the Sacramento Valley, which is bounded by the Coast and Diablo ranges on the west and the Sierra Nevada on the east. The County is 55 miles northeast of the Carquinez Strait, a sea-level gap between the Coast Range and the Diablo Range; the intervening terrain is flat.

The prevailing wind is from the South, primarily because of marine breezes through the Carquinez Strait, although during winter, the sea breezes and winds from the north occur more frequently.

Between late spring and early fall, a layer of warm air often overlays a layer of cool air from the Delta and San Francisco Bay, resulting in stagnation of air called an inversion. Typical winter inversions are formed when the sun heats the upper layers of air, trapping below them air that has been cooled by contact with the colder surface of the earth during the night. Although each inversion type predominates at certain times of the year, both types can occur at any time of the year. Because inversions inhibit the mixing of air in the atmosphere, they can prevent air pollution from dispersing, contributing to higher pollutant concentrations.

Criteria Air Quality Pollutants

Criteria air pollutants are a group of pollutants for which federal or state regulatory agencies have adopted ambient air quality standards. Criteria air pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead. Most of the criteria

pollutants are directly emitted. Ozone, however, is a secondary pollutant that is formed in the atmosphere by chemical reactions between oxides of nitrogen (NO_x) and reactive organic gases (ROG). According to the most recent emissions inventory data for Sacramento County, mobile sources are the largest contributors of both ROG and NO_x.

Criteria air pollutants are classified in each air basin, county, or in some cases, within a specific urbanized area. The classification is determined by comparing actual monitoring data with State and federal standards. If a pollutant concentration is lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "non-attainment" for that pollutant. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified". The ambient air quality standards, and Sacramento County's attainment status for the criteria pollutants are summarized in Table 5.1-1. Table 5.1-2 lists the health effects associated with these pollutants.

Monitors that collect air quality data are located throughout the County. The closest monitoring station to the project site is the Sacramento - 3801 Airport Road Monitoring Station, located in downtown Sacramento. This monitoring station is operated by the California Air Resources Board (CARB). Recent air quality data collected at this monitoring site is summarized in Table 5.1-3. Classifications for the key criteria pollutants in the Sacramento Valley Air Basin (SVAB) are discussed below under Existing Attainment Status.

Existing Attainment Status

The criteria air pollutants most relevant to air quality planning and regulation in the County include O_3, CO, and fine particulate matter 10 microns or smaller (PM_{10}). Each of the relevant criteria pollutants is briefly described below in the context of the County's attainment status.

Ozone is a gas that is formed when volatile organic compounds (VOCs) and NO_x—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. The federal government uses a number of different classifications to describe the extent to which an area is in nonattainment for the federal ozone standard. Since ozone problems are regional in nature, the federal Environmental Protection Agency (EPA) assigns ozone nonattainment designations to multi-county areas. Sacramento County is part of the "Sacramento Regional Ozone Nonattainment Area", which is currently classified as being in "severe" nonattainment for ozone. This means that the nonattainment area has a deadline of 2005 for meeting the federal one-hour ozone standard.

Carbon Monoxide is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines—unlike ozone—and motor vehicles operating at slow speeds are the primary source of CO in the SVAB, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Additional traffic generated by a project may increase congestion at nearby intersections, and consequently increase the likelihood of creating high levels of CO.

TABLE 5.1-1

STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]	National Standards[2]		Sacramento County State Status/ Classification	Sacramento County National Status/ Classification
		Concentrations[3]	Primary[3,4]	Secondary[4,5]		
Ozone	8-hour 1-hour[6]	-- 0.09 ppm	0.08 ppm 0.12 ppm	Same as Primary	Nonattainment/ Severe	Nonattainment/ Severe
Carbon Monoxide	8-hour 1-hour	9.0 ppm 20.0 ppm	9 ppm 35 ppm	Same as Primary	Attainment/ None	Attainment/ None
Nitrogen Dioxide	Annual Mean 1-hour	-- 0.25 ppm	0.053 pm --	Same as Primary	Attainment/ None	Attainment/ None
Sulfur Dioxide	Annual Mean 24-hour 3-hour 1-hour	-- 0.04 ppm -- 0.25 ppm	0.03 ppm 0.14 ppm -- --	-- -- 0.5 ppm --	Attainment/ None	Attainment/ None
Fine Particulate Matter (PM_{10})	Annual Mean Annual Geometric Mean 24-hour	-- 30 µg/m^3 50 µg/m^3	50 µg/m^3 -- 150 µg/m^3	Same as Primary -- Same as Primary	Nonattainment	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean 24-hour	-- --	15 µg/m^3 65 µg/m^3	Same as Primary	Nonattainment/ None	Attainment/ None

Notes:

ppm = parts per million, µg/m^3 = micrograms per cubic meter

1. California standards, other than carbon monoxide, sulfur dioxide (1-hour), and fine particulate matter, are values that are not to be equaled or violated. The carbon monoxide, sulfur dioxide (1-hour), and fine particulate matter standards are not to be violated.
2. National standards, other than ozone, the 24-hour $PM_{2.5}$, the PM_{10}, and those standards based on annual averages, are not to be exceeded more than once a year. The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or les than one. The 8-hour ozone standard is attained when the 3-year average of the annual fourth highest daily maximum concentration is less than 0.08 ppm. The 24-hour PM_{10} standard is attained when the 99th percentile of 24-hour PM_{10} concentrations in a year, averaged over 3 years, at the population-oriented monitoring site with the highest measured values in the area, is below 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when the 98th percentile of 24-hour $PM_{2.5}$ concentrations in a year, averaged over 3 years, at the population-oriented monitoring site with the highest measured values in the area, is below 65 µg/m^3. The annual average $PM_{2.5}$ standard is attained when the 3-year average of the annual arithmetic mean $PM_{2.5}$ concentrations, from single or multiple community oriented monitors is les than or equal to 15 µg/m^3.
3. All measurements of air quality are to be corrected to a reference temperature of 25° C and a reference pressure of 760 mm of mercury (Hg) (1013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality deemed necessary by the federal government, with an adequate margin of safety, to protect the public health.
5. National Primary Standards: The levels of air quality deemed necessary by the federal government, to protect the public welfare from any known or anticipated adverse effects to a pollutant.
6. The 1-hour ozone standard will be replaced by the 8-hour standard on an area-by-area basis when the area has achieved 3 consecutive years of air quality data meeting the 1-hour standard.

Source: CARB, http:///www.arb.ca.gov, February 2005.

Table 5.1-2

HEALTH EFFECTS SUMMARY OF THE MAJOR CRITERIA AIR POLLUTANTS

Air Pollutant	Adverse Effects
Ozone	Eye irritation Respiratory function impairment
Carbon Monoxide	Impairment of oxygen transport in the blood stream Aggravation of cardiovascular disease Impairment of central nervous system function Fatigue, headache, confusion, dizziness Can be fatal in the case of very high concentrations in enclosed places
Particulate Matter	May be inhaled and lodge in and irritate the lungs Increased risk of chronic respiratory disease with long exposure Altered lung function in children May produce acute illness with sulfur dioxide
Nitrogen Dioxide	Increased risk of acute and chronic respiratory disease
Sulfur Dioxide	Irritation of lung tissue Increased risk of acute and chronic respiratory disease

Source: Monterey Bay Unified Air Pollution Control District, *CEQA Air Quality Guidelines*, 1995, revised 2004. Pages 3-1 to 3-5.

TABLE 5.1-3

SUMMARY OF AIR POLLUTANT DATA FROM SACRAMENTO, 3801 AIRPORT ROAD MONITORING STATION, SACRAMENTO (COMPARED TO FEDERAL AND STATE STANDARDS)

Pollutant	2002	2003	2004
OZONE (1-hour)			
Highest 1-hour (ppm)	0.10	0.097	0.090
Days>0.125 ppm (Fed)	0	0	0
Days>0.09 ppm (Cal)	4	2	0
OZONE (8-hour)			
Highest 8-hour (ppm)	0.081	0.085	0.072
Days>0.08 (Fed)[1]	0	1	0
CARBON MONOXIDE			
Highest 8-hour (ppm)	3.23	3.13	3.53
Days>=9.5 ppm (Fed)	0	0	0
Days>=9.1 ppm (Cal)	0	0	0
PARTICULATE MATTER (PM_{10})			
Highest federal Concentration	73.0	57.0	37.0
Highest State Concentration	73.0	58.0	38.0
Days>50 $\mu g/m^3$ (Cal)	4	2	0
Days>150 $\mu g/m^3$ (Fed)	0	0	0
PARTICULATE MATTER ($PM_{2.5}$)[2]			
Highest 24-hour ($\mu g/m^3$)	N/A	N/A	N/A
Days>65 µg/m3 (Fed)	N/A	N/A	N/A
NITROGEN DIOXIDE			
Highest 1-hour (ppm)	0.090	0.102	0.082
Days>.25 ppm (Cal)[3]	0	0	0

1. There is no State 8-hour ozone standard.
2. The Sacramento, 3801 Airport Road monitoring station does not monitor for $PM_{2.5}$.
3. There is no federal standard for nitrogen dioxide.

Source: CARB, www.arb.ca.gov, site accessed February 9, 2005.

Through control measures adopted by State, local and federal agencies, all areas of the SVAB have attained the California and federal CO standards.

Fine Particulate Matter (PM_{10} and $PM_{2.5}$) consists of extremely small, suspended particles or droplets 10 microns or smaller in diameter (PM_{10}) or 2.5 microns or smaller in diameter ($PM_{2.5}$). Some sources of PM_{10}, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM_{10} is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. Agricultural operations can also produce PM_{10}. Particulates are of concern because they can be inhaled deep into the lungs and cause respiratory problems. The very fine $PM_{2.5}$ particles are generated mostly as a by-product of fuel combustion.

Monitoring data for Sacramento County shows that the County currently is in attainment of the federal PM_{10} standard. However, EPA has not officially changed the County's designation to attainment. The County is in attainment of the new federal $PM_{2.5}$ standard. Sacramento County is officially nonattainment for the more stringent State PM_{10} and $PM_{2.5}$ standards.

Other Criteria Pollutants: The Sacramento Region is in attainment of State and federal standards for all other criteria pollutants.

Toxic Air Contaminants

In addition to the criteria air pollutants, another group of airborne substances, called Toxic Air Contaminants (TACs) are known to be highly hazardous to health, even in small quantities. TACs are airborne substances capable of causing short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effect (i.e., injury or illness).

TACs can be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. Natural source emissions include windblown dust and wildfires. Farms, construction sites, and residential areas can also contribute to toxic air emissions. CARB has also recently identified diesel particulate matter as a toxic air contaminant. Regulation of TACs is achieved through federal and State controls on individual sources.

TAC impacts are assessed using a standard Maximally Exposed Individual (MEI) health risk of 10 in 1 million. The CARB and the local air district have determined that any source that poses a risk to the general population that is equal to or greater than 10 people out of 1 million contracting cancer as excessive. When estimating this risk, it is assumed that an individual is exposed to the maximum concentration of any given TAC, continuously for 70 years. If the risk of such exposure levels meets or exceeds the threshold of 10 excess cancer cases per 1 million people, then the CARB and local air district require the installation of best available control technology (BACT) or maximum available control technology (MACT) to reduce the risk threshold. This ensures that the toxics source is being controlled to the fullest extent possible using current technology.

Sensitive Receptors

Some individuals are considered to be more sensitive than others to air pollution. The reasons for this greater sensitivity can include health problems, proximity to the emission source, or duration of exposure to air pollutants. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be sensitive land receptors to poor air quality because the very young, the old and the infirm are more susceptible to respiratory infections and other air quality related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they can be exposed

to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function.

Sensitive receptors in the vicinity of the proposed project site include existing residential development and school uses adjacent to the property to the south and southwest.

Existing Emission Sources and Concentrations

There are many types of air pollutant sources in Sacramento County. These sources can be divided into two categories: mobile and stationary sources. The CARB maintains an emission inventory of air pollutants within the State's air basins and counties inside those air basins. Table 5.1-4 presents the latest emission inventory of reactive organic gases, nitrogen oxides, carbon monoxide, and particulate matter for Sacramento County. The "On-road Mobile Sources" category of the inventory is the primary source of ROG, NO_x, and CO in Sacramento County. The "Miscellaneous Processes" category, which includes activities such as construction and farming operations, contributes almost all of the particulate matter generated in Sacramento County.

TABLE 5.1-4

2004 ESTIMATED ANNUAL EMISSIONS SUMMARY FOR SACRAMENTO COUNTY (tons/day)

Source Category	ROG	CO	NO_x	PM_{10}
Stationary Sources				
Fuel Combustion	0.58	3.02	3.20	0.93
Waste Disposal	0.24	0.14	0.04	0.01
Cleaning and Surface Coatings	5.34	-	-	-
Petroleum Production and Marketing	4.11	-	-	-
Industrial Processes	0.88	0.50	0.28	1.21
Total Stationary Sources	*11.16*	*3.66*	*3.52*	*2.15*
Area-Wide Sources				
Solvent Evaporation	13.46	-	-	0.01
Miscellaneous Processes	4.16	40.70	3.17	38.29
Total Area-Wide Sources	*17.62*	*40.70*	*3.17*	*38.30*
Mobile Sources				
On-Road Vehicles	29.32	276.06	54.88	1.75
Other Mobile	12.06	91.21	25.62	1.77
Total Mobile Sources	*41.38*	*367.28*	*80.50*	*3.52*
GRAND TOTAL	**70.16**	**411.64**	**87.18**	**43.96**

Source: CARB, www.arb.ca.gov/app/emsinv/emssumcat_query, accessed January 24, 2005.

Toxics

The CARB has conducted studies to determine the total cancer inhalation risk to individuals due to outdoor toxic pollutant levels. According to the map prepared by the CARB showing the estimated inhalation cancer risk for TACs in the State of California, the project site has an existing estimated risk that is between 250 and 500 cancer cases per one million people in 2010. This represents the lifetime risk that between 250 and 500 people in one million may contract cancer from inhalation of toxic compounds at current ambient concentrations. While TACs are produced by many different sources, the largest contributor to inhalation cancer risk in California is diesel particulates. Diesel particulate matter is emitted into the air via heavy-duty diesel trucks, construction equipment, and passenger cars. According to CARB's *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, the existing average statewide potential cancer risk from diesel particulate matter is over 500 potential cancer cases per one million people. Based on the

CARB data, the existing ambient TAC risk at the project site already exceeds the 10 cancer cases per one million people risk threshold. Levels of TACs are likely exacerbated by the fact that the project site is located adjacent to Interstate 80 (I-80), which experiences high volumes of heavy-duty truck traffic.

Regulatory Context

Air quality in the project area is regulated by the U.S. EPA, the CARB, and the Sacramento Metropolitan Air Quality Management District (SMAQMD). These agencies develop rules or regulations to meet the goals or directives imposed on them through legislation. Although U.S. EPA regulations may not be superseded, both state and local regulations may be more stringent. In general, air quality evaluations are based on air quality standards developed by the federal and state government.

Since many air pollution problems are regional in nature, the federal government sometimes designates multi-county areas as "Nonattainment Areas". Because it covers a large area, a nonattainment area can be composed of several different air districts. The "nonattainment area" designation means that these individual local agencies must work together to solve regional air pollution problems. The Sacramento Ozone Nonattainment Area includes all of Sacramento County and parts of Yolo, Solano, Sutter, and Placer Counties.

Federal

The U.S. EPA is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The U.S. EPA also has jurisdiction over emissions sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

As part of its enforcement responsibilities, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs.

Clean Air Act

The Federal Clean Air Act (FCAA), as amended, establishes air quality standards for several pollutants. These standards are divided into primary standards and secondary standards. Primary standards are designed to protect public health, and secondary standards are intended to protect public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. The FCAA requires that regional plans be prepared for non-attainment areas illustrating how the federal air quality standards could be met. The CARB approved the most recent revision of the State Implementation Plan for Sacramento County in 1994, and submitted it to the U.S. EPA. The SIP was approved by the U.S. EPA in 1996. The SIP consists of a list of reactive organic gas and nitrogen oxide control measures for demonstrating future attainment of ozone standards. The steps to achieve attainment will continue to require significant emissions reductions in both stationary and mobile sources.

Eight-Hour Ozone Standard

The federal eight-hour ozone standard was established in response to human health studies indicating that longer ozone exposures at lower levels also resulted in adverse health effects, including coughing, increased asthma attacks, chronic lung inflammation, decreased lung function, and decreased lung defenses against bacterial infections. The eight-hour standard was established in order to complement, not replace, the existing one-hour standard. Both federal ozone standards now apply, along with California's own one-hour ozone standard.

Federal Ozone Attainment Plan

The Sacramento Regional Ozone Nonattainment Area is subject to a Federal Ozone Attainment Plan (the Sacramento Area Regional Ozone Attainment Plan). This plan was adopted by five air districts in the Sacramento area in order to build upon existing State and local air quality programs. The Plan contains adopted measures, implementation and adoption schedules for new measures, emission inventories, modeling results, contingency measures, and emissions reduction demonstrations that guide reduction of emissions in the Sacramento region. Sacramento County was required to reach attainment for the federal one-hour ozone standards by 2005. However, the EPA plans to revoke the one-hour standard in 2005, after which time only the eight-hour standard will apply. The Sacramento Ozone Nonattainment Area must develop a plan showing how attainment of the eight-hour standard will be accomplished by 2013.

State

The CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, the CARB conducts research, sets State ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The CARB also has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

Toxic Air Contaminants

Regulation of TACs is achieved through federal and state controls on individual sources. The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), California Health and Safety Code Section 44300 et seq, provides for the regulation of over 200 air toxics and is the primary air contaminant legislation in the State. Under the Act, local air districts may request that a facility account for its TAC emissions. Local air districts then prioritize facilities on the basis of emissions, and high-priority designated facilities are required to submit a health risk assessment and communicate the results to the affected public. The TAC control strategy involves reviewing new sources to ensure compliance with required emission controls and limits, maintaining an inventory of existing sources of TACs, and developing new rules and regulations to reduce TAC emissions. The purpose of AB 2588 is to identify and inventory toxic air emissions and to communicate the potential for adverse health effects to the public.

Assembly Bill 1807 (AB 1807), enacted in September 1983, sets forth a procedure for the identification and control of TACs in California. The CARB is responsible for the identification and control of TACs, except in their pesticide use. AB 1807 defines a TAC as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a

present or potential hazard to human health. The CARB prepares identification reports on candidate substances under consideration for listing as TACs. The reports and summaries describe the use of and the extent of emissions in California resulting in public exposure, together with their potential health effects.

The CARB has recently identified diesel particulate matter as a toxic air contaminant under the 1807 program. Diesel particulate matter is emitted into the air via heavy-duty diesel trucks, construction equipment, and passenger cars. In October 2000, the CARB released the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. This plan identifies diesel particulate matter as the predominant TAC in California and proposes methods for reducing diesel emissions.

Local

Sacramento Metropolitan Air Quality Management District

The SMAQMD is the primary agency responsible for planning to meet federal and State ambient standards in Sacramento County and the SVAB. In order to demonstrate the area's ability to eventually meet the federal ozone standards, the SMAQMD, along with the other air districts in the nonattainment area, maintain the region's portion of the SIP for ozone. The SVAB's part of the SIP is a compilation of regulations that govern how the region and State will comply with the FCAA requirements to attain and maintain the federal ozone standard. The compilation of rules that comprises the Sacramento Nonattainment Area's portion of the SIP is contained in a document called the Sacramento Area Regional Ozone Attainment Plan. The most recent update of the Plan was adopted on November 15, 1994. Currently, the Region is working to update the 1994 Plan in recognition of the new federal eight-hour standard for ozone. This process is currently ongoing.

For PM_{10}, the other criteria pollutant of concern for the Sacramento Region, Sacramento currently meets the federal standard, but has not yet been officially re-designated to attainment by the U.S. EPA. Since monitoring data shows that the PM_{10} standard is being met in practice, no PM_{10} plan exists in the SMAQMD.

SMAQMD Guide to Air Quality Assessment in Sacramento County

The SMAQMD has published a *Guide to Air Quality Assessment in Sacramento County* (Guide) that describes the air quality background in the Sacramento area, sets thresholds of significance for the various criteria pollutants, and describes methodologies that can be used to determine the significance of projects in Sacramento County. This Guide is the primary source of guidance for any air quality analysis in the County.

Local Air District Rules

The SMAQMD has several rules that relate to the proposed project, which are summarized below:

> **Rule 402 – Nuisance:** Prohibits a person from discharging, from any source whatsoever, such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.
>
> **Rule 403 – Fugitive Dust:** Requires a person to take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation.

Rule 442 – Architectural Coatings: Sets VOC limits for coatings that are applied to stationary structures or their appurtenances. The rule also specifies storage and cleanup requirements for these coatings.

Rule 460 – Adhesives and Sealants: Limits VOC from the application of products used for bonding two surfaces. Also regulates the storage and disposal of solvents associated with such applications.

Rule 401 – Ringelmann Chart: Prohibits individuals from discharging into the atmosphere from any single source of emissions whatsoever any air contaminant whose opacity exceeds certain specified limits.

City of Sacramento General Plan

The City of Sacramento General Plan does not contain an Air Quality Element and there are no specific goals or policies that pertain to air quality.

South Natomas Community Plan

The City of Sacramento has adopted Community Plans for the various communities in the City. The proposed project would be covered by the South Natomas Community Plan. This plan contains guiding and implementing policies related to air quality. These are listed below.

AIR QUALITY

Guiding Policy

A. Identify a strategy to improve air quality by reducing the quantity of auto and stationary source emissions.

Implementing Policy

B. To improve air quality, implement a Transportation System management program that will encourage 35% of employees to arrive at their worksite by means other than a single occupant vehicle.

C. To discourage further deterioration of regional air quality, encourage South Natomas office/business park developers and employer tenants to work with the Sacramento County Air Pollution Control District to develop a mitigation program consisting of new traffic and air quality mitigation measures not already identified in the South Natomas Community Plan and Environmental Impact Report.

D. Encourage the Air Pollution Control District to establish air quality monitoring stations in South Natomas.

E. Upon adoption by the City Council, the interim and final Air Quality Plans shall be incorporated into the South Natomas Community Plan.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

The analysis in this section focuses on the nature and magnitude of the change in the air quality environment due to construction and operation of the proposed project. Air pollutant emissions would result from construction activities, project operations, and increased traffic volumes. The net increase in emissions generated by these activities and other secondary sources have been estimated and compared to thresholds of significance recommended by the SMAQMD.

The SMAQMD is the primary local agency responsible for air quality in Sacramento County, and has published air quality thresholds of significance for use by lead agencies when making a determination of significance for a project. The SMAQMD thresholds establish standards for three types of impacts – short-term impacts from construction, long-term impacts from project operation, and cumulative impacts.

Construction

Construction emissions were calculated by estimating the equipment that would be used during the most intensive periods of clearing and grading of the project site, excavation of the site, and construction of the proposed structures and their associated support facilities. The "worst-case" daily construction emissions associated with these activities were estimated using emission factors from the URBEMIS 2002 emissions model developed for CARB. The complete results of the URBEMIS model are available in Appendix C.

Operational Emissions

Operational emissions refer to the emissions that are generated by the normal day-to-day activity of the project. These activities include the heating and cooling of buildings, landscape maintenance, emissions from increased traffic, and the use of consumer products by hospital patients and employees.

The average daily emission factors for operational emissions of criteria pollutants are estimated by using emission factors in the URBEMIS 2002 emissions model. Emissions from increased vehicle traffic, also known as mobile source emissions, are also calculated using URBEMIS 2002 emissions model and the daily trip generation rates used in the traffic study.

Localized CO Concentrations

The CALINE4 dispersion model for predicting CO concentrations is the preferred method of estimating pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak-hour turning volumes to the existing ambient CO air concentrations. For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District. The simplified model is intended as a screening analysis in order to identify a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations. The results of the CALINE4 analysis are included in Appendix C.

The closest monitoring station to the project site is the Sacramento - 3801 Airport Road Monitoring Station. This station collects CO data for the eight-hour standard, but not the one-hour standard. Consequently, CO modeling was performed only for the more stringent eight-hour standard. To

ensure an adequate margin of safety, the highest eight-hour CO reading for 2003 from the Airport Road station was used as the background concentration.

Standards of Significance

For the purposes of this EIR, impacts to air quality are considered significant if the proposed project would:

- Cause a predicted violation of the CO ambient air quality standards (eight-hour State standards) due to project traffic on the local street network on both a project and a cumulative level.
- Create emissions of an ozone precursor or PM_{10} exceeding the SMAQMD recommended thresholds of significance. The SMAQMD considers the following generation of emissions to represent a significant adverse impact:

Pollutant	Construction	Operation
ROG	None	65 lbs/day
NO_x	85 lbs/day	65 lbs/day
PM_{10}	30 $\mu g/m^3$*	30 $\mu g/m^3$*
Notes: * $\mu g/m^3$ - micrograms per cubic meter Source: SMAQMD, 2002.		

- Result in a net increase of any criteria pollutants, on a project specific and cumulative level, for which the project region is non-attainment under an applicable federal or State ambient air quality standard; or

- Create a stationary source of TAC that would result in the exposure of sensitive receptors to substantial pollutant concentrations that would result in 10 excess cancer cases per million people, as recommended by the SMAQMD.

Project-Specific Impacts and Mitigation Measures

5.1-1 Construction of the proposed project would generate emissions of PM_{10}. This is a *significant impact.*

During the different phases of construction, PM_{10} would be generated. The most PM_{10} would be generated during the grading phase, when heavy-duty equipment would be moving soil and leveling the project site. The SMAQMD Guide specifies a threshold of significance of 50 $\mu g/m^3$ for PM_{10}. The Guide also provides a screening table (Table B.1, Appendix B of the Guide) that prescribes PM_{10} mitigations based on maximum acres graded daily to ensure that the project will be less than significant. The maximum daily acreage allowed in the screening table is 15 acres. PM_{10} mitigations required at the 15 acre level are:

- Keep soil moist at all times.

- Maintain two feet of freeboard space on haul trucks.

- Use emulsified diesel or diesel catalysts on applicable heavy duty diesel construction equipment.

The proposed project would develop approximately 86.7 acres; the development of the City park would eventually be developed by the City, independent of the proposed project, and therefore, would not contribute emissions associated with construction concurrent with the proposed project. The URBEMIS 2002 emissions modeling program calculates that maximum daily graded acreage is normally 25 percent of the total project acreage. Consequently, URBEMIS 2002 assumes 21 acres as the maximum daily graded acreage. This would place the proposed project outside of the acreage values found in the screening table. The SMAQMD Guide suggests that if daily graded acreages exceed those in the screening table, concentration modeling can be performed to determine if PM_{10} concentrations during grading would exceed the 50 $\mu g/m^3$ outside of the project boundaries. In the case of the proposed project, modeling would almost certainly show that grading emissions would exceed this standard, since grading would occur over the entire site, including at the property line. This would be a *significant impact.*

Instead of performing concentration modeling, the better option is to specify mitigation measures that would ensure that the maximum acres per day graded during construction of the proposed project would be less than significant according to the SMAQMD Guide. Implementation of the following mitigation measure(s) would keep grading within the acreages specified in the Screening Table B.1, and would ensure that mitigations required in the SMAQMD Guide for the specified graded area are implemented, which would reduce this impact to a ***less-than-significant level.***

Mitigation Measure

5.1-1 *The project applicant shall ensure that no more than 15 acres of the proposed project site are disturbed on any day. During grading, the proposed project shall also:*

- *Keep soil moist at all times.*
- *Maintain two feet of freeboard space on haul trucks.*
- *Use emulsified diesel or diesel catalysts on applicable heavy duty diesel construction equipment.*

5.1-2 Construction of the proposed project would generate ozone precursors. This is a *significant impact.*

In addition to PM_{10} generated by construction, the other criteria pollutants of concern are the ozone precursors ROG and NO_x. The SMAQMD has not developed a threshold of significance for ROG from construction, however, because heavy-duty diesel construction equipment emits low levels of ROG, and because ROG from architectural coatings can be regulated by SMAQMD Rule 442. The SMAQMD has developed a threshold for construction NO_x of 85 pounds per day.

Modeling results for construction of the proposed project, shown in Table 5.1-5, indicate that emissions of NO_x during the grading phase of construction could reach maximum levels of 125.65 pounds per day, levels of NO_x during the building phase could reach maximum levels of 150.76 pounds per day, and maximum levels of NOx during the paving phase could reach maximum levels of 36.34 pounds per day. Inputs for the grading phase take into account mitigation measure 5.1-1 that specifies that the maximum acreage that would be graded in one day would be 15 aces. NO_x emissions during the grading and building phases would be above the 85 pounds-per-day threshold of significance for construction NO_x, and would be a *significant impact.*

Mitigation measures exist that can reduce emissions of construction NO_x. The SMAQMD recommends standard mitigation for all construction projects. These mitigations are listed below.

With the 20 percent off-road NO_x reduction required by Mitigation Measure 5.1-2 (a), maximum daily amounts of NO_x generated during construction would be lowered to 100.52 pounds per day during grading and 120.59 pounds per day during building construction. These daily maximum amounts would still be above SMAQMD thresholds of significance for construction.

TABLE 5.1-5

ESTIMATED PEAK DAILY CONSTRUCTION EMISSIONS

Emissions Source	NO_x (pounds/day)
Site Excavation and Grading Phase (2006)	
Fugitive Dust	-
Off-Road Diesel	125.49
On-Road Diesel	-
Worker Trips	0.16
Total Grading Phase Emissions	125.65
Total Grading Phase Emissions (Mitigated)	100.52
Construction Phase (2006)	
Building Construction Off-Road Diesel	149.46
Building Construction Worker Trips	1.30
Total Construction Phase Emissions	150.76
Total Construction Phase Emissions (Mitigated)	120.59
Construction Phase (2007)	
Building Construction Off-Road Diesel	142.54
Building Construction Worker Trips	1.20
Total Construction Phase Emissions	143.74
Total Construction Phase Emissions (Mitigated)	115
Paving Phase (2007)	
Asphalt Off-Gas	-
Asphalt Off-Road Diesel	26.57
Asphalt On-Road Diesel	9.75
Asphalt Worker Trips	0.02
Total Construction Phase Emissions	36.34
Total Construction Phase Emissions (Mitigated)	29.07

Notes:
URBEMIS output sheets can be found in Appendix C.
Source: EIP Associates, 2005.

For emissions above thresholds after mitigation has been applied, the SMAQMD allows the payment of an offsite mitigation fee. The fee is used to fund NO_x-reducing projects in the Sacramento Ozone Nonattainment Area such as diesel engine retrofits or re-powers. The fee is calculated by multiplying the amount of emissions above the threshold for each construction phase by the number of days in that phase. The result in tons is multiplied by the current price of reducing one ton of NOx. Payment of this fee would mitigate the proposed project's impact to below SMAQMD thresholds of significance. The residual impact would be ***less than significant***.

Mitigation Measure

5.1-2 (a) *The project shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project-wide fleet-average 20 percent NO_x reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at time of construction.*

(b) *The project representative shall submit to SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline, including start date and name and phone number of the project manager and on-site foreman.*

(c) *The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.*

(d) *Once mitigation measures 5.1-2 (a) – (c) are applied, an offsite mitigation fee will be paid to the SMAQMD to reduce residual construction emissions above SMAQMD thresholds. The fee will be based on the SMAQMD's current price per ton of NO_x reduction.*

5.1-3 Operation of the proposed project would contribute permanent emissions of ozone precursors. This is a *less-than-significant impact.*

Once the proposed project is built and occupied, activities associated with the residential uses would generate ozone precursors. The largest source of these emissions would be the vehicle trips that are created by people living at the project site. Smaller sources of precursors would be created by fuel-burning equipment such as that used for the heating and cooling of the buildings, and by various consumer products used by building occupants. Wood-burning fireplaces and wood stoves, which can potentially contribute large amounts of PM_{10} and ROG, are not proposed to be part of the project.

The operational emissions of the proposed project were modeled using URBEMIS 2002. The results of this modeling are shown in Table 5.1-6. As identified in the table, emissions of neither ROG nor NO_x would be above the SMAQMD thresholds of significance for operational emissions during the summer months.

The SMAQMD recommends that the City require an operational air quality mitigation plan for every project where emissions exceed thresholds. As part of the plan, which is designed to reduce NO_x and ROG emissions by at least 15 percent, the SMAQMD has developed a list of mitigation measures that can be used to achieve this reduction by giving point values to measures, with each point correlating to percentage reductions of ROG and NO_x (i.e., ten points would lower ROG and

NO_x levels by ten percent). Although the emissions from the proposed project do not exceed thresholds, the following SMAQMD recommended measures (with the applicable point/percentage reduction) are included in the project design:

- Average residence density seven dwelling units per acre or greater. **(1.5 points)**
- Install only natural gas fireplaces. **(1 point)**
- Wider sidewalks in compliance with City of Sacramento policy. **(1 point)**
- Multiple grid style street layout. **(2.5 points)**
- Bike/Pedestrian paths/bridges over creek to connect project to existing residential. **(1 point)**

TABLE 5.1-6

ESTIMATED PEAK DAILY OPERATIONAL EMISSIONS (SUMMER)

Emissions Source	ROG (pounds/day)	NO_x (pounds/day)
Water and Space Heating	0.46	5.95
Landscape Maintenance	2.36	0.08
Consumer Products	25.98	-
Motor Vehicles	34.60	35.50
Total Emissions	63.4	41.53
Total Emissions (with SMAQMD reductions)	58.96	38.62
Thresholds (tons/year)	65	65
Significant Impact	No	No

Notes:
URBEMIS output sheet can be found in Appendix C.
Source: EIP Associates, 2005.

The above recommended measures, already included in the project design, would reduce the proposed project's emissions by 7 percent, which would bring the proposed project's operational emissions of ROG and NO_x further below the SMAQMD thresholds of significance. Consequently, the project's impact would be ***less than significant*** with design features already incorporated into the proposed project.

Mitigation Measure

None required.

5.1-4 The proposed project would increase traffic that would contribute to CO concentrations at local intersections. This is a *less-than-significant impact.*

While passenger vehicles emit ozone precursors such as ROG and NO_x, these precursors do not have localized impacts. However, motor vehicles also generate CO, which is a directly emitted pollutant. CO levels are highest at intersections where there is congestion and traffic is slow. The proposed project would add traffic to existing roadways. To the extent that increases in traffic volumes lower existing levels of service rates, busy intersections could experience higher concentrations of CO. Normally, CO concentrations would only be an issue if intersections operate at LOS "D" or worse. LOS "D" or below is usually considered to be "unacceptable" for traffic circulation. Eleven intersections were studied in the traffic analysis for the proposed project. These 11 intersections represent the intersections that would be most affected by the proposed project. Each of these intersections was modeled to determine whether a CO impact would occur. The results of this modeling can be found in Table 5.1-7. As shown, the highest predicted CO concentrations for the eight-hour CO standard would be 5.2 ppm at 25 feet from the edge of the road

at the intersection of Truxel Road and the I-80 west-bound ramps, which is below the standard for CO.

TABLE 5.1-7

LOCALIZED CARBON MONOXIDE CONCENTRATIONS (EXISTING PLUS PROJECT)

Intersection	CO Concentrations in Parts per Million[1]		
	25 Feet	50 Feet	100 Feet
	8-Hour	8-Hour	8-Hour
Truxel/I-80 WB Ramps	5.2	4.9	4.5
Truxel/I-80 EB Ramps	4.7	4.5	4.2
San Juan/Truxel	4.8	4.6	4.3
El Camino/Truxel	4.4	4.2	4.1
San Juan/Fong Ranch	4.4	4.2	4.0
San Juan/Pony Express	4.3	4.1	3.9
San Juan/Bridgeford	4.2	4.0	3.9
San Juan/Northgate	4.5	4.3	4.1
Rosin/Northgate	4.3	4.1	4.0
Northgate/I-80 EB Ramps	4.7	4.5	4.2
Northgate/I-80 WB Ramps	5.0	4.6	4.3

Notes:
1. National 8-hour standard is 9.5 parts per million. State 8-hour standard is 9.1 parts per million.
Source: EIP Associates, 2005. CALINE4 calculation sheets are provided in Appendix C.

Since the modeling showed that peak eight-hour CO concentrations would not exceed the California Ambient Air Quality Standards (CAAQS) standard of 9 ppm, this would be considered a ***less-than-significant impact***.

Mitigation Measure

None required.

5.1-5 The proposed project could result in an increased health risk due to exposure to TACs. This is a *less-than-significant impact.*

TACs can be generated in two ways – by stationary sources, or by mobile sources such as diesel trucks. TACs can produce both acute (short-term) non-cancer impacts and chronic (long-term) impacts. Usually, chronic TAC impacts are measured over a lifetime of 70 years.

Construction

Construction of the proposed project could generate toxic impacts through the burning of diesel fuel. Diesel particulate has recently been identified as a TAC by the CARB. TAC's can have two health impacts: acute and chronic. Acute health impacts are non-cancerous and can occur when being subjected to high amounts of certain TACs for even a short period of time. Chronic impacts are mostly cancerous, and can occur when an individual is exposed to TACs over a long period of time. There can be chronic impacts even when the long-term concentration exposure is relatively low. The CARB determined that the chronic impact of diesel particulate was of more concern than the acute impact in its *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* (CARB, 2000). In this document, the CARB noted that its research had shown that the nature of diesel TAC was such that the potential cancer risk was much greater than the potential non-cancer risk. Consequently, any analysis of diesel TAC should focus on the long-term, chronic cancer risk posed by the diesel. As mentioned above, chronic cancer risk is normally measured by

assessing what the risk to an exposed individual from a source of TACs would be if the exposure occurred over 70 years. While much of the construction equipment that would operate during the construction phase of the proposed project would be diesel fueled, these diesel TAC emissions would be temporary. Construction activities are only expected to last for a period of three years, much shorter than the 70 year exposure that is normally used to examine TAC health impacts.

Operational

Because the proposed project consists of residential uses, it is highly unlikely that it would create either stationary or mobile TAC sources once the proposed project is operational. Significant stationary TAC sources usually take the form of factories, research and development facilities, or possibly hospitals with specialized equipment. Mobile TAC is generated by heavy-duty on-road vehicles that run on diesel fuel, such as heavy duty trucks or diesel buses. Due to the zoning of the proposed project for residential and park use, no stationary sources that might contribute TAC would be allowed to develop. Also, because no commercial or industrial uses would be part of the proposed project, no diesel trucks would be attracted, and mobile TAC sources generated by the proposed project would consequently be minimal. Even though the proposed project itself would not generate stationary or mobile TAC, it would place sensitive receptors in proximity to existing mobile TAC by building homes adjacent to I-80. I-80 experiences consistent diesel truck traffic.

Traffic on freeways can contribute to an increased cancer risk in individuals living near freeways, due to the toxic air contaminants that are produced by vehicle traffic. Passenger vehicles can produce benzene and 1,3-butadiene, both of which are toxic. Diesel particulate matter, which has been identified by the CARB as a TAC, is produced mostly by heavy-duty diesel trucks and accounts for the majority of the TAC risk from freeway traffic.

When conducting an air quality analysis, thresholds of significance approved by the local air quality management district or air pollution control district are normally relied upon to determine significance. While the SMAQMD does set a threshold of significance of ten excess cancer cases per one million for TAC from stationary sources, it does not set a threshold of significance for mobile source TAC.

The CARB has recently published a document entitled *Air Quality and Land Use Handbook: A Community Health Perspective*, which provides information to local jurisdictions on the potential health effects of locating sensitive uses adjacent to certain sources of air pollution, including freeways. According to the CARB document, numerous studies have indicated that there is a correlation between proximity to a freeway and an increase in health impacts, such as reduced lung function, asthma, and bronchitis.

The CARB document references several studies that concluded that particulate pollution levels show about a 70 percent dropoff at 500 feet from a freeway. While CARB recommends that local agencies avoid approving new sensitive uses within 500 feet of a freeway in order to reduce potential health impacts, CARB did not establish a standard of significance for mobile TAC against which a development project could be evaluated.

While the draft handbook provides guidance to local agencies and the public on planning issues, neither the CARB nor the SMAQMD have developed a threshold of significance for TAC from mobile sources. The Air Quality and Land Use Handbook identifies various steps in the land use approval process in which such concerns can be addressed. These include General Plan policies, zoning standards, as well as the environmental review process. The issue of siting residential uses in the proximity of a freeway is recognized by the ARB as being a planning policy issue as well as an issue that may be evaluated in the CEQA process.

The proposed project would not exceed the established air quality thresholds of the ARB and SMAQMD, and concerns regarding the proximity of residential uses to the freeway can be addressed during the land use planning process as policy issues. Consequently, this would be considered a ***less-than-significant impact***.

Mitigation Measure

None required.

Cumulative Impacts and Mitigation Measures

The cumulative context depends on the pollutant being analyzed. For localized pollutants, such as CO and PM_{10}, the cumulative context would include existing and proposed future development in the immediate vicinity of the proposed project. The cumulative analysis of CO is based on traffic levels in 2025, as estimated in the Dowling Associates transportation study (see Section 5.6). PM_{10} is primarily generated during construction, so it would be of temporary duration. For ozone, which is a regional pollutant, the cumulative context would be the existing and future development over the entire Sacramento Ozone Nonattainment Area.

5.1-6 The proposed project, in combination with other cumulative development in the region, would contribute to cumulative CO levels. This would be a *less-than-significant impact.*

As discussed in Impact 5.1-4, the proposed project would create CO emissions from associated vehicle traffic. These emissions would combine with other CO emissions from existing and future development. These additional emissions would be mostly vehicle-related as well. Concentrations of CO that could violate the CAAQS would most likely occur at the busiest intersections in the vicinity of the proposed project. Table 5.1-8 shows cumulative CO levels in 2025 with the proposed project, including the Fong Ranch Road extension. Table 5.1-9 shows cumulative CO levels in 2025 with the proposed project, but without the Fong Ranch Road extension. The 2025 CO levels shown in Tables 5.1-8 and 5.1-9 are generally lower than those shown for the existing plus project scenario (Table 5.1-7). Although traffic will increase over the next 20 years, technological improvements will reduce the amount of CO emitted from each car, resulting in an overall decrease in CO emissions. As shown, cumulative CO levels at the most congested intersections, under either scenario, would not exceed the CO CAAQS, even under worst-case conditions. This would be a ***less-than-significant cumulative impact***.

Mitigation Measure

None required.

TABLE 5.1-8

LOCALIZED CARBON MONOXIDE CONCENTRATIONS (2025 PLUS PROJECT WITH FONG RANCH EXTENSION)

Intersection	CO Concentrations in Parts per Million[1]		
	25 Feet 8-Hour	50 Feet 8-Hour	100 Feet 8-Hour
Truxel/I-80 WB Ramps	4.2	4.1	3.9
Truxel/I-80 EB Ramps	4.0	3.9	3.8
San Juan/Truxel	3.9	3.8	3.8
El Camino/Truxel	3.8	3.8	3.7
San Juan/Fong Ranch	3.8	3.7	3.7
San Juan/Pony Express	3.8	3.7	3.6
San Juan/Bridgeford	3.7	3.7	3.6
San Juan/Northgate	3.8	3.8	3.7
Rosin/Northgate	3.8	3.8	3.7
Northgate/I-80 EB Ramps	3.8	3.8	3.7
Northgate/I-80 WB Ramps	3.9	3.8	3.7

Notes:
1. National 8-hour standard is 9.5 parts per million. State 8-hour standard is 9.1 parts per million.
Source: EIP Associates, 2005. CALINE4 calculation sheets are provided in Appendix C.

TABLE 5.1-9

LOCALIZED CARBON MONOXIDE CONCENTRATIONS (2025 PLUS PROJECT WITHOUT FONG RANCH EXTENSION)

Intersection	CO Concentrations in Parts per Million[1]		
	25 Feet 8-Hour	50 Feet 8-Hour	100 Feet 8-Hour
Truxel/I-80 WB Ramps	3.9	3.8	3.7
Truxel/I-80 EB Ramps	4.0	3.9	3.8
San Juan/Truxel	3.9	3.8	3.8
El Camino/Truxel	3.8	3.8	3.7
San Juan/Fong Ranch	3.8	3.7	3.7
San Juan/Pony Express	3.8	3.7	3.7
San Juan/Bridgeford	3.8	3.7	3.7
San Juan/Northgate	3.8	3.8	3.7
Rosin/Northgate	3.8	3.8	3.7
Northgate/I-80 EB Ramps	3.8	3.8	3.7
Northgate/I-80 WB Ramps	3.9	3.8	3.7

Notes:
1. National 8-hour standard is 9.5 parts per million. State 8-hour standard is 9.1 parts per million.
Source: EIP Associates, 2005. CALINE4 calculation sheets are provided in Appendix C.

5.1-7 The proposed project, in combination with other cumulative development in the region, would contribute to cumulative levels of ozone precursors. This would be a *less-than-significant impact.*

As discussed in Impact 5.1-3, operation of the proposed project would create emissions of ozone precursors over its life. These emissions could, when combined with precursor emissions from other sources, contribute to cumulative ozone levels in the Sacramento Area. The SMAQMD Guide identifies a methodology for estimating cumulative impacts.

Sacramento County does not currently attain the federal ozone standard. The air districts of the Sacramento Region have developed the Sacramento Regional SIP to bring the region into compliance with the standard. The SMAQMD Guide states "the SIP assumes annual increases in

air pollutant emissions resulting from regional growth assumed in local land use plans. However, the SIP also assumes the incremental increase in emissions will be partially offset through the implementation of stationary, area, and indirect source control measures contained within the SIP."[1]

The SMAQMD Guide states that a project that has a "project-only" impact does not necessarily have a cumulative impact.[2] The SMAQMD guide does consider a project to have a cumulative impact if the project would require a rezone of the General Plan that would result in a more intense use of the property.

The property is currently zoned with residential, park, and office uses. The rezoning for the proposed project would reduce the amount of park space by approximately four acres. These four acres would be dedicated to residential uses that are more intense than park uses. However, the proposed project would also rezone a large portion of land from office uses to residential uses. This rezoning would result in a less intensive land use (residential uses generate less vehicle trips than commercial uses) than what currently exists in the General Plan. In total, the proposed project would include land uses that are less intense than those that would be allowed under the current zoning. Consequently, according to the SMAQMD guide, the proposed project would have an impact that would be ***less than significant.***

Mitigation Measure

None required.

5.1-8 The proposed project, in combination with other cumulative development in the region, could result in an increased health risk due to exposure to TACs. This would be a *less-than-significant impact.*

Many existing TAC sources combine statewide to create high background cancer risks. According to the CARB, the background cancer risk in the vicinity of the project in 2001 was between 250 and 500 excess cancer cases per million people. The largest contributor to this background cancer risk is diesel particulate matter produced by diesel engines. The CARB has developed the "Diesel Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles" which is a strategy for reducing diesel TAC emissions over the next 15 years. This strategy contains the following:

- New regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce diesel PM emissions by about 90 percent overall from current levels;
- New retrofit requirements for existing on-road, off-road, and stationary diesel-fueled engines and vehicles where determined to be technically feasible and cost-effective; and
- New diesel fuel regulations to reduce the sulfur content levels of diesel fuel to no more than 15 ppm to provide the quality of diesel fuel needed by the advanced diesel PM emission controls.

The projected emission benefits associated with the full implementation of the plan, including proposed federal measures, are reductions in diesel emissions and associated cancer risks of 75 percent by 2010 and 85 percent by 2020. According to the CARB, overall cancer risk will be lowered

1 SMAQMD, *Guide to Air Quality Assessment*, 2004, page 6-15.

[2] SMAQMD, *Guide to Air Quality Assessment*, 2004, page 7-1.

in 2010 to between 100 and 250 excess cancer cases per million people with implementation of the CARB's Risk Reduction Plan. This would be less than background concentrations are currently in the vicinity of the proposed project. Cancer inhalation risk will continue to decrease up through the year 2020. Consequently, background cancer risk under cumulative buildout conditions, including the proposed project, will decrease over time. Because the background risk will be lower in the future, the cumulative impact will be ***less than significant***.

Mitigation Measure

None required.

5.2 Biological Resources

5.2 BIOLOGICAL RESOURCES

INTRODUCTION

The following discussion examines potential impacts of the proposed project on biological resources in the project site, based upon a series of field surveys of the site and queries of the California Department of Fish and Game's (CDFG) Natural Diversity Database (CNDDB),[1] California Native Plant Society (CNPS) Inventory,[2] and U.S. Fish and Wildlife Service (USFWS) listed species database.[3] Resource issues addressed in this section involve project effects on wetlands and "other waters of the U.S.", special-status species and their habitat, and consistency with the Natomas Basin Habitat Conservation Plan (NBHCP). Comments on the Notice of Preparation (see Appendix B) raised concerns about impacts to habitats on the project site. This issue is addressed in this section.

ENVIRONMENTAL SETTING

The proposed project would involve development of approximately 86.7 acres of undeveloped agricultural land immediately southeast of the intersection of I-80 and Truxel Road in Sacramento, California. Although the proposed project would develop 86.7 acres, the entire 113-acre site described in Chapter 2, Project Description, as part of the land exchange with the City, was surveyed for biological resources. The project site is highly disturbed, having been under cultivation for many years. Approximately 88.6 acres of the survey area are bordered by an irrigation canal along the south (B-drain), by I-80 along the north, another unnamed irrigation canal on the east, and an unnamed dirt road on the west.

Habitat Types

The following describes the habitat type that occurs on the project site.

Annual Grassland / Agricultural Fields

The project site is highly disturbed, having been under cultivation for many years. The project site is generally flat and has been regularly tilled and mowed for hay production for many years. At present, the dominant plant species in the project site is wild oats (*Avena fatua*), though other common, introduced grasses such as ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild rye (*Lolium multiflorum*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*) and Johnson grass (*Sorghum halapense*) are also present. Other grassland plants observed during field surveys included cutleaf geranium (*Geranium dissectum*), field bindweed (*Convolvulus arvensis*), wild mustard (*Brassica* spp.), yellow star thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), vetch (*Vicia* sp.), prickly lettuce (*Lactuca serriola*), prickly ox tongue (*Picris echioides*), and curly dock (*Rumex crispus*).

Wildlife observed included western fence lizards (*Sceloporus occidentalis*), mourning doves (*Zenaida macroura*), meadowlarks (*Sturnella neglecta*), scrub jays (*Aphelocoma coerulescens*), barn swallows (*Hirundo rustica*), house finches (*Carpodacus mexicanus*), black phoebes (*Sayornis*

1 Rarefind 3, CDFG Natural Diversity Database, Version 3.0.5.

2 CNPS Electronic Inventory, Version 1.5.3, May 2003.

3 http://sacramento.fws.gov/es/spp_lists/auto_list_form.cfm.

nigricans), western kingbirds (*Tyrannus verticalis*), California quails (*Callipepla californica*), ring-necked pheasants (*Phasianus colchicus*), California ground squirrels (*Spermophilus beecheyi*), black-tailed hares (*Lepus californicus*), and coyotes (*Canis latrans*). There is an active coyote den in roughly the center of the project site.

Wetlands/Riparian Scrub

Wetlands within the project site are limited to a 0.7-acre area of riparian scrub along the south end of an agricultural irrigation ditch that roughly bisects the project site in a north-south direction. This 350-foot long, 130-foot wide (at its widest point) area of riparian scrub is artificially maintained by leakage from a broken flap-gate from the canal, joining this irrigation ditch to the larger B-drain. This riparian scrub habitat consists of a stand of approximately 10-foot tall willows (*Salix* sp.) with a dense understory of Himalayan blackberries (*Rubus discolor*). The proposed project has been designed to avoid impacts to this riparian feature (see discussion on under Project-Specific Impacts and Mitigation Measures on page 5.2-12). Another 0.21-acre area (100-foot long by 40-foot wide) of riparian scrub occupies a second irrigation ditch adjacent to (but outside) the eastern property boundary, and consists of a stand of willows with an understory of emergent wetland vegetation, including Baltic rush (*Juncus balticus*) and pepper weed (*Polygonum hydropiper*). These ditches are hydrologically connected to the B-drain through gated culverts/pipes that pass through the levee wall. However, the canal was not considered jurisdictional waters by the U.S. Army Corps of Engineers (Corps) during construction of drainage improvements when District canals and berms were worked on extensively,[4] and consequently, should not be considered so today. Only those portions of the ditches containing riparian scrub would be considered wetland habitat, as the remainder of the lengths of these ditches consist of a mixture of weedy annual grasses and forbs from the adjacent uplands. No vernal pools or other seasonal wetlands are present within, or adjacent to the project site boundaries.

Special Status Species

This section provides a discussion of special-status species that have potential habitat within the project boundaries, and are known to occur in the region surrounding the project site. Due to the history of agricultural use and the resulting level of disturbance on the project site, special-status plant habitat is not present.

Swainson's Hawk

The Swainson's hawk *(Buteo swainsoni*) is listed as threatened under the California Endangered Species Act (CESA). It generally occurs in open country, foraging in grasslands and agricultural fields, especially after disking or harvest. They use tall riparian trees (typically oaks or cottonwoods) for nesting, but will occasionally nest in large eucalyptus or other large ornamental trees if there is suitable foraging habitat nearby. This species has lost much of its former nesting habitat through the sharp reduction in riparian woodlands and forests experienced over the State in the last 100 years and is increasingly losing foraging habitat to urban development. Swainson's hawks can forage as much as 20 miles from the nest, but nests are generally more successful if sufficient foraging habitat is present within an approximately 10-mile radius. When forced to travel greater distances from the nest, the adults must expend much more time and energy gathering food, leaving the eggs and young in the nests much more vulnerable to predation and the elements.

The project site contains no potential nest trees for the Swainson's hawk, and no known active nest trees are known to occur within one mile of the project site. However, the CDFG's CNDDB contains

4 Clifton, Jim, District Engineer, RD 1000, written communication, June 1, 2005.

29 records of nest sites (occupied within the last five years) within five miles of the project site. The entire project site (excluding the riparian scrub) therefore represents suitable foraging habitat for this species.

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) is a "fully protected" raptor in the State of California that feeds on rodents, small reptiles, and large insects in freshwater emergent wetlands, annual grasslands, pastures, and other disturbed (i.e. ruderal) vegetation. It breeds between February and October. Unlike other raptors, kites often roost, and occasionally nest, communally; therefore, disturbance of a relatively small roost or nesting area could affect a large number of birds. Although there are no nesting records in the CNDDB for white-tailed kite within five miles of the project site, the species can commonly be observed foraging in grasslands and fallow fields in the region. The entire project site (excluding the riparian scrub) therefore represents suitable foraging habitat for this species.

Burrowing Owl

The burrowing owl (*Athene cunicularia*), a federal and State species of concern, is a year-long resident of generally flat, open dry grasslands, pastures, deserts, and shrub lands. It uses communal ground squirrel and other small mammal burrows for nesting and cover, as well as artificial structures, such as dry culverts in roadside embankments, levees, and berms. Nest burrows are typically adjacent to open, dry, nearly level grassland or prairie habitat for foraging. This species can exhibit high site fidelity, often reusing the same burrows year after year. The project site provides suitable foraging habitat for this species and two breeding pairs were observed during the May and June 2004 field surveys. One of these breeding pairs occupies a ground squirrel burrow on the north slope of the canal levee near the southeast corner of the project site – within, or immediately adjacent to the footprint of a proposed bridge across the B-drain that would extend Fong Ranch Road through the residential development. A second breeding pair of owls occupies a ground squirrel burrow on the property to the south of the project site, adjacent to Natomas High School. Although numerous additional ground squirrel burrows are present along the B-drain levee, no other burrowing owls were observed during surveys of the project site and no evidence of burrowing owl use of these other ground squirrel burrows was found.

Giant Garter Snake

The giant garter snake (*Thamnophis gigas*) is listed as threatened under both State and federal Endangered Species Acts. It is a highly-aquatic species that historically ranged from Butte County, south through the central valley to Buena Vista and Tulare Lake in Tulare and Kern counties. Having disappeared from much of its former range, it is, at present, largely restricted to the American River Basin of Sacramento and Sutter counties which provides some of the most important remaining habitat for the species.[5,6] Giant garter snakes once occurred in freshwater marshes and open riparian woodlands throughout the valley floor,[7,8] but much of their historic habitat has been lost by channelization of waterways, flood control projects, and the conversion of marshlands to agriculture and other forms of development.[9,10] The species has adapted to certain man-made

5 USFWS, 2002, URL; http://sacramento.fws.gov/es/animal_spp_acct/giant_garter_snake.htm

6 CDFG, 2002, URL; http://www.dfg.ca.gov/hcpb/species/jsp/ssc_result.jsp?specy=reptiles&query=Thamnophis%20gigas.

7 USFWS, 2002, URL; http://sacramento.fws.gov/es/animal_spp_acct/giant_garter_snake.htm.

8 CDFG, 2002, URL; http://www.dfg.ca.gov/hcpb/species/jsp/ssc_result.jsp?specy=reptiles&query=Thamnophis%20gigas.

9 USFWS, 2002, URL; http://sacramento.fws.gov/es/animal_spp_acct/giant_garter_snake.htm.

waterways, including irrigation systems associated with rice farming in Sacramento, Yolo, Sutter and Colusa counties. Giant garter snakes do not usually occur in riparian habitat and their potential habitat typically includes the following features:

1. Relatively deep, perennial water (or at least adequate water during the snake's active season [early-spring through mid-fall]) that supports appropriate fish and amphibian prey species;
2. Abundant emergent vegetation such as cattails and bulrushes for escape cover and foraging habitat during the active season;
3. Grassy banks and openings in waterside vegetation for basking; and
4. Higher-elevation uplands adjacent to their aquatic habitat for cover and refuge from flood waters during the snake's dormant season in the winter.[11,12]

While the B-drain, adjacent to the project site, provides only marginal habitat for giant garter snake, due to the lack of well developed emergent vegetation, the numerous ground squirrel burrows in the levees could provide shelter and aestivation (i.e., hibernation) sites for this species. The project site is, however, within the known range of this species and there are a number of recorded observations within one mile of the project boundaries. Though the USFWS typically designates any uplands within 200 feet of suitable aquatic habitat as potential upland habitat for giant garter snake, the disturbed and managed nature of the fields north of the canal would make these areas less desirable to the species.

Regulatory Context

Federal

Endangered Species Act

Projects that would result in adverse effects on federally listed threatened or endangered species are required to obtain take permission from the USFWS prior to project implementation. If a federal agency is involved (e.g., if a wetlands permit is required, project has federal funding), take permission can be obtained through Federal Endangered Species Act (FESA) Section 7 consultation with the USFWS. The objective of consultation is to determine whether the project would impact a protected species or designated critical habitat, and to identify mitigation measures that would be required to avoid or reduce impacts on those species or habitats. The result of the consultation would be the issuance of a Biological Opinion (BO) which dictates the conditions of "take" (see definition below) that are allowed for the project. If no federal agency is involved, project applicants are required to obtain an Incidental Take Permit through Section 10 of the FESA. Section 10 of the FESA requires the preparation of a Habitat Conservation Plan (HCP) as a part of the application process, and includes the issuance of an Incidental Take Permit (ITP).

The FESA of 1973 provides legal protection for plant and animal species in danger of extinction and requires definitions of critical habitat and development of recovery plans for specific species. Section 7 of the FESA requires federal agencies to make a finding on the potential to jeopardize the continued existence of any listed species potentially impacted by all federal actions, including the

10 CDFG, 2002, URL; http://www.dfg.ca.gov/hcpb/species/jsp/ssc_result.jsp?specy=reptiles&query=Thamnophis%20gigas.

11 USFWS, 2002, URL; http://sacramento.fws.gov/es/animal_spp_acct/giant_garter_snake.htm.

12 CDFG, 2002, URL; http://www.dfg.ca.gov/hcpb/species/jsp/ssc_result.jsp?specy=reptiles&query=Thamnophis%20gigas.

approval of a public or private action, such as the issuance of a permit pursuant to Section 10 of the Rivers and harbors Act and Section 404 of the Clean Water Act (CWA). Section 9 of the FESA prohibits the take of any member of an endangered species.

"Take" is defined by the FESA as

> "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has further defined the terms harass and harm. Harass is defined as follows:
>
> "...an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering."

Harm is defined to include the following:

> "...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering."

Section 10(a) of the FESA permits the incidental take of listed species if the take is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Section 3 of the FESA defines an endangered species as

> "...any species, including subspecies, in danger of extinction throughout all or a significant portion of its range."

This section defines threatened species as any species "likely to become endangered within the foreseeable future throughout all or a significant portion of its range." Federally listed or "listed" indicates that a species has been designated as endangered or threatened through publication of a final rule in the *Federal Register*. Designated endangered and threatened species, listed under Section 4 of the FESA, receive the full protection of the FESA. Proposed endangered and threatened species are those for which a proposed regulation, but not a final rule, has been published in the *Federal Register*. Proposed species are granted limited protection, while candidate species and species of special concern are afforded no protection under the FESA.

Migratory Bird Treaty Act - 1936

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 Code of Federal Regulations (CFR) Section 10.13. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country, and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors). Six families of raptors occurring in North America were included in the amendment:

- Accipitridae (kites, hawks, and eagles);
- Cathartidae (New World vultures);
- Falconidae (falcons and caracaras);
- Pandionidae (ospreys);
- Strigidae (typical owls); and
- Tytonidae (barn owls).

All species and subspecies of the families listed above are protected under the amendment.

State

California Endangered Species Act

The CDFG administers a number of laws and programs designed to protect fish and wildlife resources. Principal among these is the California Endangered Species Act (CESA) of 1984 (CESA - Fish and Game Code, Section 2050), which regulates the listing and take of state-endangered and state-threatened species. The CESA declares that deserving species will be given protection by the state because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. The CESA established that it is state policy to conserve, protect, restore, and enhance endangered species and their habitats.

Species listed under the CESA cannot be "taken" without adequate mitigation and compensation. The definition of take under CESA is the same as described above for the FESA. However, based on findings of the California Attorney General's Office, take under CESA does not prohibit indirect harm by way of habitat modification. Typically, the CDFG implements endangered species protection and take determinations by entering into management agreements (California Fish and Game Code, Section 2081 Management Agreements) with project applicants.

CDFG Streambed Alteration Agreements

If the canal crossings for the proposed project would be unable to entirely span the canals, a Streambed Alteration Agreement could be required. Under Sections 1600-1607 of the California Fish and Game Code, the CDFG regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFG's jurisdiction are defined in the code as the . . . "bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit..." (Section 1601).

This broad definition gives the CDFG great flexibility in deciding what constitutes a river, stream, or lake. The CDFG defines streams under the jurisdictions of Sections 1600-1607 as follows:

1. The term "stream" can include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (United States Geological Survey [USGS] maps), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.
2. Biological components of any stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species that derive benefits from the stream system.
3. As a physical system, a stream not only includes water (at least on an intermittent or ephemeral basis), but also a bed or channel, a bank and/or levee, in-stream features such as logs or snags, and various floodplains depending on the return frequency of the flood event being considered.
4. The lateral extent of a stream can be measured in several ways depending on a particular situation and the type of fish or wildlife resource at risk. The following criteria are present in order from the most inclusive to the least inclusive:
   A. The floodplain of a stream can be the broadcast measurement of a stream's lateral extent depending on the return frequency of the flood event used. For most flood control purposes, the 100-year flood event is the standard measurement. However, because it may include significant amounts of upland or urban habitat, in many cases the 100-year floodplain may not be appropriate.
   B. The outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats and is therefore a reasonable and identifiable boundary for the lateral extent of a stream. In most cases, the use of this criterion should result in protecting the fish and wildlife resources at risk.

C. Most streams have a natural bank which confines flows to the bed or channel except during flooding. In some instances, particularly on smaller streams or dry washes with little or no riparian habitat, the bank should be used to mark the lateral extent of a stream.
D. A levee or other artificial stream bank could also be used to mark the lateral extent of a stream. However, in many instances, there can be extensive areas of valuable riparian habitat located behind a levee.

In practice, the CDFG usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

Fish and Game Code - Sections 3503, 3503.5, 3513

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act. These regulations could require that elements of a project (particularly vegetation removal or construction near nest trees) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFG and/or USFWS.

Fish and Game Code B Sections 3511, 4700, 5050, and 5515

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time, and no provision of the California Fish and Game Code or any other law may be construed to authorize the issuance of permits of licenses to take any fully protected species. No such permits or licenses heretofore issued may have any force or effect for any such purpose, except that the California Fish and Game Commission may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof may be possessed under a permit issued by CDFG.

California Environmental Quality Act (CEQA)

Although threatened and endangered species are protected by specific federal and State statutes, Section 15380(b) of the CEQA Guidelines provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after definitions in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. Section 15380(b) requires public agencies to undertake reviews to determine if projects would result in significant effects on species that are not listed by either the USFWS or CDFG (i.e., candidate species). Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Local

City of Sacramento General Plan

The City of Sacramento General Plan's conservation strategy focuses on habitat conservation, minimization of impacts on sensitive biological resources, and the preservation of plant and animal diversity as the most effective way to protect individual special status species.

The following City of Sacramento General Plan[13] policies will guide the conservation and protection of biological resources in regards to the proposed project:

Preservation of Natural Resources

Goal A

Policy 2 Continue to implement the Heritage Tree Program.

Goal B

Policy 1 Protect the wooded areas along the waterways and drainage canals insofar as possible.

Goal C

Policy 1 Retain the habitat areas where known endangered wildlife exists to the extent feasible.

Goal E

Policy 1 Explore ways to reverse degradation and pollution and enhance the natural beauty and wildlife habitats of creeks and drainage canals.

Conservation of, and Open Space Used For, the Managed Production of Resources

Goal A

Policy 1 Phase the conversion of agricultural lands to urban uses while implementing the policies of the North Natomas Community Plan.

Policy 2 Work with Sacramento County to explore the feasibility of an agricultural preservation plan.

South Natomas Community Plan

The South Natomas Community Plan does not include policies related to biological resources.

Natomas Basin Habitat Conservation Plan

The proposed project is located within the Natomas Basin, a low-lying region in the Sacramento Valley, located east of the Sacramento River and north of the American River. The Natomas Basin contains incorporated and unincorporated areas within the jurisdictions of the City of Sacramento, Sacramento County, and Sutter County. Historically, the basin was primarily in agricultural production. The existing water conveyance systems within the Natomas Basin were created for water conveyance and drainage. They provide nesting, feeding, and migration corridor habitat for a variety of species in the basin.

The Natomas Basin contains a variety of habitat types, open water aquatic habitat (including ditches and drains), emergent marsh, riparian forest, riparian scrub-shrub, grassland, vernal pools, and agriculture. A number of special-status species (wildlife and plant), as determined by the CDFG or the USFWS, inhabit or forage within the Natomas Basin.

The Natomas Basin habitat Conservation Plan (NBHCP) is a conservation plan, administered by The Natomas Basin Conservancy (TNBC), supporting application for ITPs under Section 10(a)(1)(B) of the Endangered Species Act and under Section 2081 of the California Fish and Game Code. The purpose of the NBHCP is to promote biological conservation in conjunction with economic and urban development within the Permit Areas of the Natomas Basin. The NBHCP establishes a multi-species conservation program to minimize and mitigate the expected loss of habitat values and incidental take of Covered Species that would result from urban development, operation of irrigation and drainage systems, and certain activities associated with The Natomas Basin Conservancy

13 City of Sacramento, *General Plan*, January 1988. Sections 6-12 through 6-16.

(TNBC) management of its system of reserves established under the NBHCP. The goal of the NBHCP is to minimize incidental take of the Covered Species in the Permit Areas and to provide mitigation for the impacts of Covered Activities on the Covered Species and their habitat. The NBHCP applies to the 53,537-acre area interior to the toe of the levees surrounding the Natomas Basin.

In 1997, the NBHCP was approved by the City of Sacramento and ITPs were issued to the City by USFWS and CDFG. Subsequently, the 1997 NBHCP was challenged and on August 15, 2000, the U.S. District Court, Eastern District, ruled that the USFWS ITP was invalid and an EIS was required. On May 15, 2001, in a federal court ruling, a Settlement Agreement was attained which granted a motion modifying the Order to allow incidental take protection for limited development within the City of Sacramento with the provision of mitigation land in specific areas of the Natomas Basin. Development of 1,068 acres of land in both North and South Natomas would be allowed to proceed if it is in compliance with mitigation requirements of the Settlement Agreement.

The City of Sacramento, Sutter County, and the USFWS prepared a revised NBHCP and an EIR/EIS that were approved on May 13, 2003 by the City of Sacramento City Council. On June 27, 2003, the USFWS issued ITPs to the City of Sacramento, Sutter County, and The Natomas Basin Conservancy. CDFG issued an amended ITP on July 10, 2003.

The NBHCP mitigation requirements include:

- Payment of HCP fees or dedication of land at a ratio of 0.5 to 1 for projects of 50 acres or less in size.
- Payment of HCP fees AND dedication of land at a ratio of 0.5 to 1 for projects greater than 50 acres in size.
- Reconnaissance-level surveys to determine what habitats are present on a proposed development site. (Reconnaissance surveys are submitted with the developer's application.)
- Pre-construction surveys for potential special status species not less than 30 days or more than 6 months prior to construction activities.
- Species-specific mitigation, as required, per USFWS and CDFG protocol.

Payment of HCP fees allows a project applicant to be included on the City's ITPs. Currently (effective April 5, 2005) HCP fees are $24,897 per acre. Developments of greater than 50 acres are required to pay a Habitat Conservation Fee of $12,397 per gross acre AND are required to purchase and dedicate land to The TNBC at a ratio of 0.5:1 for each gross acre developed (prior to the issuance of a grading permit). The mitigation land purchased, however, must be considered suitable by the Conservancy and have typically been defined as lands adjacent to or contiguous with identified Conservancy preserves.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

The project setting was developed by reviewing available information on wetlands and "other waters of the U.S." and special-status species or their habitat known to occur in the project vicinity and then determining by field surveys (on May 26, 28, and June 3 of 2004) which of these species actually occurs or whether potential habitat for these species is present in the project site. The information review included:

- A query of the CNDDB, CNPS, and USFWS species list databases for the Taylor Monument, Rio Linda, Citrus Heights, Sacramento West, Sacramento East, Carmichael, Roseville, Pleasant Grove and Verona 7.5 minute USGS quadrangle maps; and

- A review of the habitat requirements of the special-status species listed in the Natomas Basin HCP.

Biological surveys of the project site on May 26, 28, and June 3 of 2004, consisted of walking 100-foot transects across the entire site to identify potential wetlands and special-status species habitat. The location of any special-status species or their sign, and boundaries of "wetlands and other waters of the U.S." were recorded using a Trimble ProXR GPS receiver. All plant species observed at the site were identified and recorded.

Results of the CNDDB and USFWS queries are provided in Appendix D. Table 5.2-1 is a list of species likely to occur in and/or be affected by the proposed project, which was derived from the CNDDB, CNPS, and USFWS database queries, and review of the Natomas Basin HCP. This list represents those species identified in the review as having the highest likelihood to occur in the project site (i.e., within the known range, or with potential habitat present).

TABLE 5.2-1

SPECIAL STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PARKEBRIDGE PROJECT SITE

Common Name	Scientific Name	Status Fed/CA/other	Habitat	Likelihood of Occurrence Within the Project Site
Plants				
Alkali milk-vetch	*Astragalus tener* var. *tener*	none/none/1B	Alkali playas, vernal pools and adjacent grasslands.	**None.** No suitable habitat exists on the project site.
Heartscale	*Atriplex cordulata*	none/none/1B	Shadscale scrub and Valley grasslands, usually on wet alkali soils.	**None.** No suitable habitat exists on the project site.
Brittlescale	*Atriplex depressa*	none/none/1B	Shadscale scrub, alkali sinks and Valley grasslands on alkali soils.	**None.** No suitable habitat exists on the project site.
San Joaquin saltbush	*Atriplex joaquiniana*	none/none/1B	Shadscale scrub and Valley grasslands on alkali soils.	**None.** No suitable habitat exists on the project site.
Palmate-bracted bird's-beak	*Cordylanthus palmatus*	none/none/1B	Alkali or saline wetlands. Requires presence of salt grass (*Distichlis spicata*) as a host plant.	**None.** No suitable habitat exists on the project site.
Rose-mallow	*Hibiscus lasiocarpus*	none/none/2	Margins of ponds and marshes and riparian areas.	**None.** No suitable habitat exists on the project site.
Heckard's peppergrass	*Lepidium latipes* var. *heckardi*	none/none/1B	Wet grasslands on alkali soils.	**None.** No suitable habitat exists on the project site.
Invertebrates				
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT/none/none	Vernal pools and other seasonal wetlands in open grassland habitat.	**None.** No vernal pools or other seasonal wetlands exist on the project site.
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE/none/none	Vernal pools and other seasonal wetlands in open grassland habitat.	**None.** No vernal pools or other seasonal wetlands exist on the project site.
California linderiella	*Linderiella occidentalis*	SC/none/none	Vernal pools and other seasonal wetlands in open grassland habitat.	**None.** No vernal pools or other seasonal wetlands exist on the project site.

TABLE 5.2-1

SPECIAL STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PARKEBRIDGE PROJECT SITE

Common Name	Scientific Name	Status Fed/CA/other	Habitat	Likelihood of Occurrence Within the Project Site
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T/none/none	Associated only with elderberry shrubs (*Sambucus* sp.), usually in or near riparian areas.	**None.** No elderberry shrubs are present in the project site.
Reptiles				
Western pond turtle	*Actinemys marmorata*	SC/CSC/none	Streams, rivers, ponds, marshes and other aquatic habitats. Requires secure basking area where they can easily escape to water. Upland nesting sites can be as much as 300 feet from aquatic habitat, but are usually closer.	**None.** No suitable habitat for this species exists at the site.
Giant garter snake	*Thamnophis gigas*	T/CSC/none	Historically occurred in tule and cattail marshes on the Valley floor and Sacramento-San Joaquin Delta. Now uses well vegetated marshes, streams and agricultural ditches in low elevation areas.	**Low.** Though no suitable habitat exists within the project boundaries, the adjacent B-drain may provide marginal habitat for this species.
Birds				
Burrowing owl	*Athene cunicularia*	FSC/CSC/CDFG fully protected	Grasslands, open areas near human habitation; nests in old burrows of ground squirrels or other small mammals.	**Present.** Fallow fields at the site provide potential foraging habitat for this species, and ground squirrel burrows along the levee of the B-drain provide suitable nesting habitat. Burrowing owl have been observed at the site.
Swainson's hawk	*Buteo swainsoni*	none/ST/none	Grasslands and cultivated lands with scattered trees; nests in large trees or open riparian forest.	**Moderate.** Fallow fields on the site could provide suitable foraging habitat for this species. No suitable nest trees are present on or adjacent to the site.
White-tailed kite	*Elanus leucurus*	None/None/CDFG fully protected	Forages in grasslands and croplands. Nests in large trees adjacent to foraging habitat.	**Moderate.** Fallow fields on the site could provide suitable foraging habitat for this species. No suitable nest trees are present at the site.

Notes:
Status:
Federal
FE Federally listed as Endangered
FT Federally listed as Threatened
FSC Federally listed as Species of Concern
State
ST State-listed as Threatened
CSC California Department of Fish and Game designated "Species of Special Concern"
CNPS
1B Rare or Endangered in California and elsewhere
2 Rare or Endangered in California, more common elsewhere
Source: CDFG Natural Diversity Database (CNDDB, 2005), USFWS Online Species List Database (http://sacramento.fws.gov/es/spp_lists/auto_list_form.cfm), and the CNPS Electronic Inventory 2003.

Potential impacts of the proposed project on these resources were identified by first comparing the habitat requirements of those species identified during the above review to the habitat available on

and adjacent to the project site. A determination was then made as to what effect the loss of that potential habitat would have on those species.

Standards of Significance

For this EIR, impacts to biological resources are considered significant if the proposed project would:

- Have a substantial adverse effect, either directly or through habitat modifications on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; or

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

Project-Specific Impacts and Mitigation Measures

The project has been designed to avoid any impact to wetlands and "other waters of the U.S." The entire ditch adjacent to the eastern boundary of the project site lies outside the project site boundary and would, therefore, not be affected by project activities. The riparian scrub (i.e., wetland portion) in the ditch within the project site boundaries would be fenced and development within the wetland would be restricted while the wetland feature exists. The project proposes four crossings of the B-drain. Two of these crossings would be for motor vehicle access (one at the proposed extension of Fong Ranch Road and one at the proposed extension of Bridgeford Drive), and foot/bicycle bridges at Rio Rosa Way and at the eastern portion of the project site.

5.2-1 Development of the proposed project would result in the loss of potential foraging habitat for Swainson's hawk, white-tailed kite, burrowing owl and other raptors. This is a *less-than-significant impact.*

The project site consists of agricultural land that occurs within 10 miles of more than 30 known active Swainson's hawk nest sites (29 of which are within five miles of the project site). Based upon the CDFG's *Draft Non-regulatory Guidelines for Determining Appropriate Mitigation for Impacts to Swainson's Hawks (Buteo Swainsoni),* the entire project site would be considered potential foraging habitat for that species. In addition to Swainson's hawk, burrowing owls are known to occur within the project boundaries, and white-tailed kite are also likely to use the project site for foraging. Implementation of the proposed project would result in the conversion of potential Swainson's hawk, white-tailed kite, burrowing owl, and other raptor foraging habitat to development. The resulting loss of this habitat could force nesting Swainson's hawks and other raptors to travel farther and expend more energy gathering prey to feed their offspring. As a result, nest mortality for any such pairs of Swainson's hawk or other raptors would be likely to increase.

As a condition of project approval, the project applicant will be required to comply with the provisions of the NBHCP to reduce project-related impacts on Swainson's hawk (and concurrently white-tailed kite and burrowing owl) foraging habitat to a less-than-significant level. Compliance would be accomplished through:

- Payment of the required mitigation fee, which has been deemed by the Natomas Basin Conservancy to be sufficient to cover the costs of restoring and managing one-half acre of habitat for every acre of land developed; and

- Acquisition and dedication of mitigation land to the Natomas Basin Conservancy at a rate of one-half acre of habitat for every acre of land developed.

Mitigation fees shall be paid to the Natomas Basin Conservancy and replacement habitat acquired prior to project development. Compliance with the NBHCP would reduce the above impact to a less-than-significant level through the preservation and management in perpetuity of suitable foraging habitat, contiguous with other areas of suitable foraging habitat, for Swainson's hawk, white-tailed kite, burrowing owl and other raptors. No further mitigation would be required once mitigation fees are paid and replacement land is acquired. Therefore, the loss of potential foraging habitat for Swainson's hawk, white-tailed kite, burrowing owl, and other raptors would be considered a ***less-than-significant impact.***

Mitigation Measure

None required.

5.2-2 Development of the proposed project could result in the loss of one active burrowing owl nest burrow. This is a *significant impact.*

A pair of burrowing owls was observed during the May and June 2004 surveys, occupying a single nest burrow that would be removed by the extension of Fong Ranch Road across the B-drain into the project site. As burrowing owls and their nests are a State and federal species of concern and, therefore, protected under Section 3503 of the CDFG Code and the Migratory Bird Treaty Act, the loss of one active burrowing owl nest or its occupants would be considered a *significant impact.*

Once implemented, the mitigation measure below would reduce the above impact to a ***less-than-significant level*** through the avoidance of any active burrowing owl nests and the safe exclusion of burrowing owls from any burrows to be destroyed prior to construction of the proposed project.

Mitigation Measure

5.2-2 The project proponent shall hire a qualified biologist to conduct a pre-construction burrowing owl survey. If nesting owls are found, no disturbance shall be allowed within 160-feet of the active nest burrow between February 1 and August 31. Outside the nesting season, and/or upon confirmation by the qualified biologist that all young have fledged and left an active nest, burrowing owls present in the burrow shall be excluded from the burrow(s) by a qualified biologist through a passive relocation as outlined in the California Burrowing Owl Consortium's April 1993 Burrowing Owl Survey Protocol and Mitigation Guidelines. Once the burrows have been cleared, they must be hand-excavated and collapsed prior to project construction.

5.2-3 Development of the proposed project could result in the loss of individual giant garter snakes and their upland habitat. This is a *significant impact.*

No aquatic habitat for the giant garter snake occurs within the project boundaries. However, the B-drain, which lies just outside the project boundaries, represents marginal aquatic habitat for this species. The USFWS considers any upland habitat within 200 feet of suitable aquatic habitat to be potential giant garter snake habitat.[14] Construction of the proposed project would therefore result in the loss of approximately 13 acres of potential upland habitat for giant garter snake. The giant garter

14 USFWS, Appendix C, *Standard Avoidance and Mitigation Measures During Construction Activities in Giant Garter Snake Habitat.*

snake is listed as threatened under the federal Endangered Species Act, and the loss of individuals or their habitat is prohibited.

As a condition of project approval, the project applicant would be required comply with the provisions of the Natomas Basin Multi-species HCP. Compliance would be accomplished through:

- Payment of the required mitigation fee, which has been deemed by the Natomas Basin Conservancy to be sufficient to cover the costs of restoring and managing one-half acre of habitat for every acre of land developed; and

- Acquisition and dedication (by the project applicant) of mitigation land by the project applicant to the Natomas Basin Conservancy at a rate of one-half acre of habitat for every acre of land developed.

Mitigation fees shall be paid to the Natomas Basin Conservancy and replacement habitat acquired prior to project development. These mitigation fees cover impacts to all species covered under the HCP, such that mitigation fees described under Impact 5.2-1 cover Swainson's hawk, burrowing owl and giant garter snake (i.e., mitigation fees are paid only once, not for each species). Mitigation fees cover the loss of giant garter snake habitat, but not the loss of individual giant garter snakes that could be lost during project construction.

Therefore, the loss of individual giant garter snakes would be considered a *significant impact.*

Implementation of the following mitigation measure would reduce project related impacts on giant garter snake to a ***less-than-significant level*** through protection of individual giant garter snakes, and the preservation and management in perpetuity of suitable giant garter snake upland habitat, contiguous with other areas of suitable habitat for giant garter snake.

Mitigation Measure

5.2-3 *The project applicant shall hire a qualified (i.e., permitted) biologist to monitor the project site within 200 feet of the B-drain to prevent the accidental loss of any giant garter snakes during construction. If any giant garter snakes are found, construction shall be halted until the biologist moves the snake to a safe location outside the construction area.*

5.2-4 Implementation of the proposed project could conflict with the Natomas Basin Habitat Conservation Plan. This is a *less-than-significant impact.*

One of the goals of the HCP is to preserve and manage large contiguous tracts of habitat for special-status plant and wildlife species in the region, while concurrently protecting other native plant and wildlife species not specifically covered by the HCP through preservation of that habitat. Protection of contiguous tracts of natural habitat is important in maintaining biological diversity in the region as the larger contiguous tracts are capable of supporting both greater numbers and a greater diversity of plant and wildlife species. Additionally, it allows for the natural movement of wildlife through the area for migration and dispersal to other areas of suitable habitat, and provides a buffering effect to those species that live there as they are less vulnerable to disturbances related to adjacent urban areas. Non-contiguous parcels are considered less valuable as they do not allow movement of wildlife through the area, and do not support either the numbers or diversity of plant or wildlife species of which large interconnected habitat areas are capable. Species that occur in small, isolated areas are also highly vulnerable to urban-related disturbances, such as vehicle casualties, pollution, ambient light and noise, and harassment from local residents or their pets. The project site is isolated from other areas of natural habitat by urban development. The habitat present in the

project site is highly disturbed and is not capable of supporting the diversity of species that are present in less-disturbed habitats in the region. The project site is zoned for development, and therefore the loss of habitat at this location has been assumed in the HCP.

As described in Impacts 5.2-1 and 5.2-3 above, the project applicant would be required to mitigate the loss of special-status species and their habitat the project site through the payment of an HCP development fee and acquisition of compensation habitat at a ratio of 0.5:1 to replace the loss of a low quality, isolated habitat parcel with much higher quality habitat at another location contiguous with other natural areas. Therefore, the proposed project would not conflict with goals of the HCP and would result in a ***less-than-significant impact.***

Mitigation Measure

None required.

Cumulative Impacts and Mitigation Measures

Cumulative impacts on biological resources are analyzed on both a County-wide and City-wide level. For this analysis, buildout of the City's General Plan is assumed and the SACOG regional buildout is anticipated.

5.2-5 Development of the proposed project, in combination with other cumulative development in the City and County of Sacramento, could contribute to the loss of habitat for plant and wildlife species in the region. This is a *less-than-significant cumulative impact.*

As development in the City of Sacramento and in Sacramento County continues, habitat for plant and wildlife species native to the region will be lost through conversion to urban development. Although more mobile species may be able to survive these changes in their environment by moving to new areas, less mobile species would simply be extirpated. With continued conversion of natural habitat to human use, the availability and accessibility of remaining foraging and natural habitats in this ecosystem would dwindle and those remaining natural areas would not be able to support additional plant or animal populations above their current carrying capacities through increased competition for resources, displacement and development-induced introduction of non-native species. The conversion of plant and wildlife habitat on a regional level as a result of cumulative development would therefore result in a *significant cumulative impact* on biological resources.

Construction of the proposed project could contribute to a fragmentation and loss of regional biodiversity through the incremental conversion of habitat for special-status species to human use, and thus limit the availability and accessibility of remaining natural habitats to regional wildlife. However, plant and wildlife habitat in the project site is highly disturbed and of generally low quality. In addition, the habitat available in the project site is small from a regional perspective and is isolated from other areas of similar habitat by urban development. Although the habitat value in the project site is low, the project would be required to participate in the mitigation plan as prescribed in the HCP, which would preserve contiguous areas of habitat. Therefore, because the project site is small, represents relatively low-value habitat, and occurs within an otherwise urban area, the proposed project's contribution to the loss of plant and wildlife habitat in the region would be less than considerable, resulting in a ***less-than-significant impact.***

Mitigation Measure

None required.

5.3 Hydrology and Water Quality

5.3 HYDROLOGY AND WATER QUALITY

INTRODUCTION

This section of the EIR evaluates the impacts of the proposed project on local and regional drainage, water quality, and flooding conditions. This section is based on information from the *Drainage Master Plan ParkeBridge* (Drainage Master Plan; Wood Rodgers, January 18, 2005), the City of Sacramento General Plan, and City of Sacramento staff.

As discussed in the Initial Study (Appendix A), the proposed project would result in a less-than-significant impacts to groundwater supplies, would not substantially alter the existing drainage pattern of the site, would not alter a stream or river, would not construct residences within a 100-year flood hazard area, would not result in high risk of inundation by seiche, tsunami, or mudflow; therefore, these issues are not discussed further in this section. Issues pertaining to water supply are addressed in Section 5.7, Water Supply.

ENVIRONMENTAL SETTING

Regional Hydrology

Surface Water

The project site is in the City of Sacramento, immediately south of Interstate 80 (I-80), bounded generally by Northgate Boulevard to the east and Truxel Road to the west. The City is situated in the Central Valley of California, at the confluence of the Sacramento River and the American River, one of the Sacramento River's principle tributaries. The Sacramento River originates in the Cascade and Trinity mountains in northern California and southern Oregon and drains the northern half of California's Central Valley. The American River originates in the Sierra Nevada west and south of Lake Tahoe and flows west to Sacramento. Six small tributaries of the Sacramento River pass through and provide drainage for the Sacramento area, including Dry, Magpie, and Arcade Creeks in the northern portion of the City, and Morrison, Elder, and Laguna Creeks in the southern portion of the City.[1] The tributaries in the southern portion of the City join to form a single Sacramento River tributary. The Sacramento River, beginning at the I Street Bridge and including all portions downstream, is considered part of the Sacramento-San Joaquin Delta (Delta).[2] Once the Sacramento River joins the San Joaquin River, these Delta rivers flow into San Francisco Bay, and ultimately into the Pacific Ocean.[3]

Groundwater

The entire Central Valley is underlain by a deep layer of alluvium, derived from the surficial erosion of the surrounding mountains, transported by streams and rivers, and deposited in shallow seas or river floodplains. This alluvium is now saturated at a relatively shallow depth; thus, the sedimentary layers underlying the Sacramento area are part of a major aquifer system that extends throughout the Central Valley from Red Bluff in the north to Bakersfield in the south.[4]

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1 City of Sacramento, General Plan Update, page W-1.

2 California Water Code Section 1220.

3 City of Sacramento, *General Plan Update EIR*, 1987, page W-1.

4 City of Sacramento General Plan Update EIR, 1987, page W-1.

The geologic formations that constitute the water-bearing deposits underlying the Sacramento area consist of an upper aquifer that is hydraulically isolated from a lower aquifer consisting principally of the Mehrten Formation, which is a major source of groundwater. The Mehrten Formation consists of 200 to 1,200 feet of volcanic sands, interbedded clay, and hard, dense layers of volcanic rock containing numerous buried channels of coarse-grained river sands and gravels.[5]

Project Site Characteristics and Hydrology

Drainage and Stormwater Runoff

The project site is approximately 86.7 acres of agricultural land. The topography of the project site is generally flat, with elevations of approximately 10 feet above mean sea level (msl). The local land surface slopes gently towards the south and southeast. The project site is generally underlain by poorly drained soils listed in the City of Sacramento Drainage Manual and defined by the U.S. Department of Agriculture, Natural Resource Conservation Service as soil Types C and D. Type C and D soils have slow to very slow infiltration rates that promote high runoff rates. This behavior of the soils, coupled with the site's flat topography, causes rainwater to pond on-site when the underlying soils become saturated, producing a high groundwater table.

The Reclamation District 1000 (RD 1000) operates series of canals and pump stations that provide drainage for northwestern Sacramento County and southern Sutter County. Irrigation return flows and stormwater drainage flows are eventually discharged to the Sacramento River through the Natomas East Main Drainage Canal or by pumping from the Natomas Main Drainage Canal. One of the flood control canals operated and maintained by RD 1000 is the B-drain canal, an approximately three to four foot deep canal along the southern portion of the area proposed for development under the proposed project (see Figure 5.3-1). Although the canal is adjacent to the project site, the proposed project would not contribute flows to that canal or any RD 1000 facilities.

The City operates and maintains a municipal storm drainage system that consists of 112 pump stations (sumps), hundreds of miles of pipe, and several detention basins.[6] The portion of the project site north of B-drain is included in a 381-acre drainage basin known as the Northwest Sub-Basin of Sump 141, while the 17.9-acre section south of the B-drain drains to Sump 129. Sumps 141 and 129 collect and control stormwater runoff from these two sub-basins to the Sacramento River. Each sump is outfitted with a number of pumps that convey stormwater to any of the local canals and finally to one of the river systems. The Drainage Master Plan prepared for the proposed project explains that, "Collectively, runoff from these lands (north of B-drain) flows to the City's Sump 141, which is located immediately adjacent to the project boundary. Runoff for the lands situated south of the B-drain flows to Sump 129, and has not been evaluated as part of this study."[7] The proposed project would have no impact on Sump 129 because it would not develop the area south of the B-drain.

5 City of Sacramento General Plan Update EIR, 1987, page W-9.

6 City of Sacramento, *Stormwater Quality Improvement Plan*, City of Sacramento, Utilities Department, Engineering Division, July 2003.

7 Wood Rodgers, *Drainage Master Plan Parkebridge*, January 18, 2005, page 1.

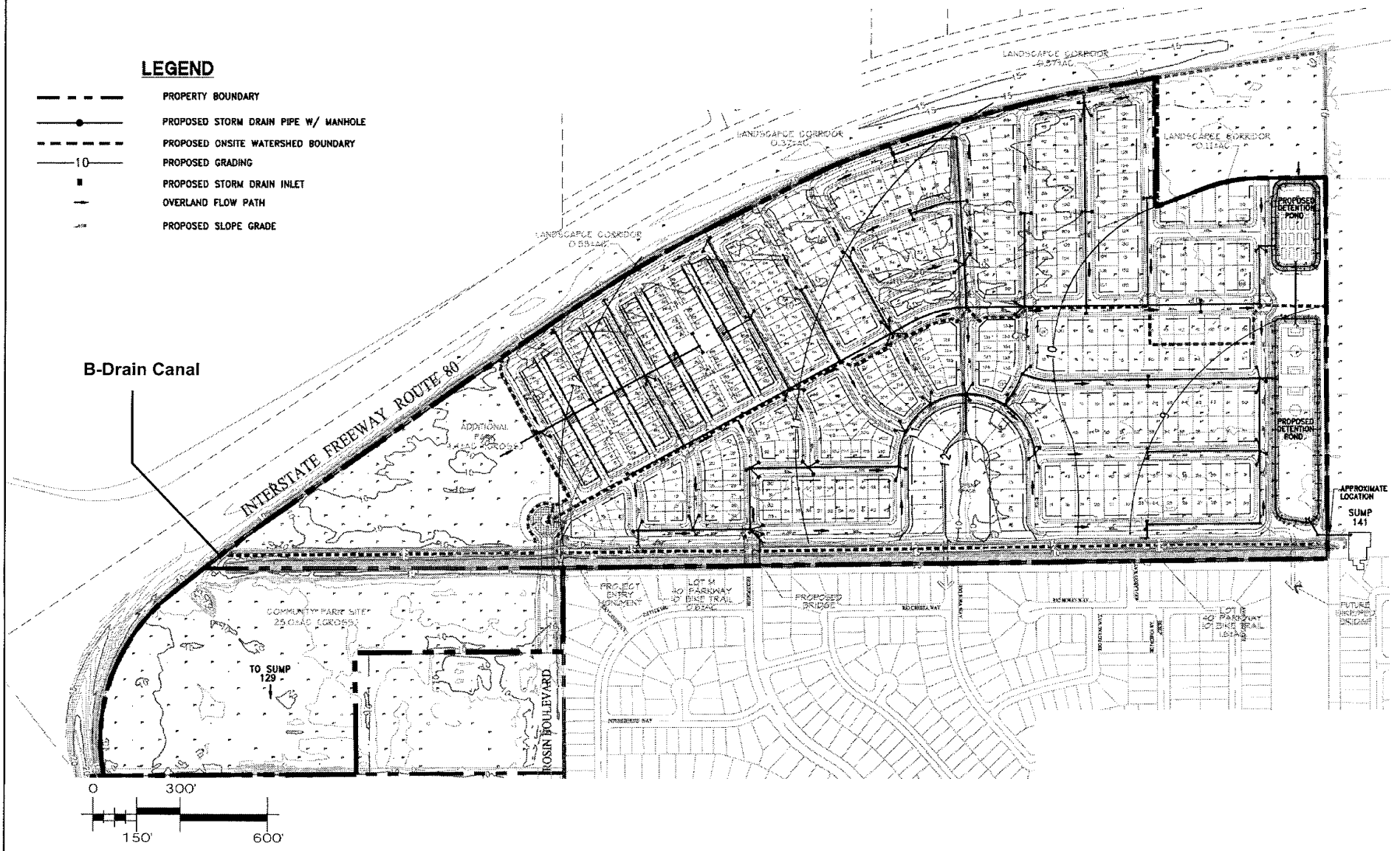

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FIGURE **5.3-1**

Proposed On-Site Drainage

Source: Wood Rodgers, 2005

ParkeBridge

EIP ASSOCIATES

Water Quality

The B-drain canal collects surface water runoff from urban and agricultural properties in the watershed that drains to Sump 141. The water in the B-drain canal is expected to contain some amounts of urban and agricultural pollutants, such as oil and grease, coliform bacteria, petroleum hydrocarbons (gasoline and diesel fuel), heavy metals such as lead, copper and zinc, suspended solids, nitrates, and pesticides and herbicides.

Water quality in the Sacramento River generally meets most criteria for the beneficial uses designated by the Central Valley Regional Water Quality Control Board (discussed further in the Regulatory Context section). Currently the Sacramento River is listed as impaired for aquatic uses as a result of past high levels of the pesticide diazinon, historic mining discharges of mercury, and unknown toxicity.

Proposed Project Drainage Master Plan

The Drainage Master Plan prepared for the proposed project (available for review at the City's Planning Department, Environmental Services Division, North Permit Center, 2101 Arena Boulevard, 2nd Floor, Sacramento, CA 95834) presents an analysis of pre- and post-development stormwater runoff from the project site. The drainage analysis divided the proposed site into three small drainage basins that would be equipped with stormwater collectors (e.g., gutters, pipelines, or swales). The stormwater collection system would convey stormwater to detention ponds for attenuation of flows and for water quality treatment prior to discharging to Sump 141. The Drainage Master Plan used the Sacramento Hydrologic Calculator (SacCalc) to create runoff hydrographs for three types of storm events: (1) the 10-year, 12-hour storm; (2) the 100-year, 12-hour storm; and (3) the 100-year, 10-day storm. Data from the hydrographs were then used as input to the HEC-RAS model to calculate flood storage quantities in the local detention basins. The HEC-RAS model is a hydraulic modeling software package designed by the U.S. Army Corps of Engineers. Numerical data is entered into HEC-RAS and a visual model and/or a quantitative report of the water flow is generated.

In addition, the Drainage Master Plan analyzed water quality treatment for the runoff from the project site. Detention basins are one of the most common best management practices (BMPs) recommended for water quality enhancement. Detention ponds (i.e., dry ponds, extended detention basins, detention ponds, extended wet ponds) are basins whose outlets have been designed to detain the stormwater runoff from a design storm for some minimum time (e.g., 48 hours) to allow particles and associated pollutants to settle out. The dry extended detention basins do not have a large permanent pool as compared to the permanently wet detention basins. Both ponds can also be used to provide flood control by including an additional flood detention storage area. Extended detention wet ponds are highly successful at removing sediment, trash, metals, bacteria, oil and grease, and organics, and moderately successful in controlling nutrient loads. Nutrient uptake is dependent upon vegetation in and around the pond. Dry extended detention basins provide moderate pollutant removal of sediment, metals, bacteria, oil, grease, and organics.

The Sato Method was used to calculate "attenuation and treatment of stormwater run off."[8] J.F. Sato and Associates developed the Sato Method to determine the optimum volume of storage for water quality detention given the impervious percentage of a drainage area. A design chart, specific to the requirements of the City and County of Sacramento, was developed using the Sato Method. The

8 Wood Rodgers, *Drainage Master Plan Parkebridge*, January 18, 2005, page 1.

Sato Method design chart is to be used for sizing water quality detention basins which have less than 640 acres (260 hectares) of contributing drainage,[9] like that of the proposed project.

The Drainage Master Plan determined that two detention basins would be required to provide storage and attenuation of stormwater runoff from the project site. Figure 5.3-1 shows the approximate location of the proposed detention basins, as well as the proposed configuration of the stormwater drainage system connections to Sump 141. The northern pond would be a dry detention basin in the northeast portion of the project site, and southern pond would be a linear wet detention/dry detention pond located along the eastern boundary of the project site directly north of Sump 141.

Detention volume was calculated by modeling the stormwater runoff from various storm events through a pond regulated by a drainage flow mechanism. Table 5.3-1, below, shows that a total storage capacity of approximately 15 acre-feet is required to control on- and off-site flooding, as well as to provide residence times necessary to obtain 75 and 100 percent preferential water quality prior to discharge into Sump 141. Collected runoff from the project site would flow into Sump 141. Sump 141 consists of four pumps, three of which pump a maximum of 27,330 gallons per minute (gpm), and one of which pumps 6,000 gpm. The Drainage Master Plan, in compliance with the City of Sacramento, evaluated the firm pumping capacity at peak discharge[10] by eliminating one of the 27,330 gpm pumps, resulting in a firm pumping capacity of 135 cfs. The reduced firm pumping capacity provides a better estimate of pumping capacity in the event of a breakdown of one of the major pumps. This is the City of Sacramento's policy when evaluating a drainage plan that uses the sump systems. After this evaluation, the proposed project's outflow through the storm drain and detention basin system would be approximately 36 cfs. The drainage plan would be modified if any changes are made to project design (either by the applicant or required by the City). The City would review the drainage plan to ensure that the plan substantially complies with the design and results of the current plan.

TABLE 5.3-1

POND DATA SUMMARY

Approximate Design Parameters	10-Year, 12-Hour Storm Event	100-Year, 12-Hour Storm Event	100-Year, 10-Day Storm Event
Approximate Peak Event Storage (acre-feet)	10.6	15.1	14.6
Total Design Storage Volume (acre-feet)	15.1 acre-feet		
Approximate Water Quality Volume	3.8 acre-feet		
75% Water Quality Holding Time	29 hours		
100% Water Quality Discharged	50 hours		

Source: Adapted from Wood Rodgers, *Master Drainage Plan Parkebridge*, January 18, 2005, page 5.

The detention ponds would be limited by the following specific constraints:

- The ponds would be constructed within a power line easement administered by SMUD and Western Area Power Authority. These agencies have requested that water depth within the easement does not exceed five feet, and the pond construction (including access roads) does not encroach within 40 feet of the transmission line towers;

9 Sacramento City/County, Drainage Manual, Volume 2, 1996. page 1-3.

10 Wood Rodgers, *Drainage Master Plan Parkebridge*, January 18, 2005, page 3.

- The pond bottom elevation must be adequately low to permit storm drains at the far edges of the development to drain into the pond, in contrast, the pond bottom must be graded to allow flows from the pond through the control structure and into Sump 141 without creating backflow effects;

- The pond would be excavated below the existing grade to allow for only one foot of freeboard above the 100-year peak water surface elevation; and

- Construction of the pond must not compromise the integrity of the existing B-drain levee.[11]

Regulatory Context

The following is a summary of the regulatory context under which issues associated with water quality, drainage, and on- and off-site flooding are managed at the federal, State, and local level.

Federal

Clean Water Act

The National Pollution Discharge Elimination System (NPDES) was established in the Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the U.S. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in discharges. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that Environmental Protection Agency (EPA) must consider in setting effluent limits for priority pollutants.

Nonpoint sources diffuse and originate over a wide area rather than from a definable point. Two types of nonpoint source discharges are controlled by the NPDES program - nonpoint source discharges caused by certain industrial activities (including construction activities) and the general quality of stormwater in municipal stormwater systems (either as part of a combined system or as a separate system in which runoff is carried through a developed conveyance system to specific discharge locations). The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters through the use of structural and non-structural BMPs. BMPs can include the development and implementation of various practices including educational measures (workshops informing the public of what impacts result when household chemicals are dumped into storm drains), regulatory measures (local authority of drainage facility design), public policy measures (label storm drain inlets with the impacts of dumping on receiving waters), and structural measures (filter strips, grass swales, and detention ponds).

Flood Disaster Protection

Congress acted to reduce the costs of disaster relief by passing the *National Flood Insurance Act of 1968* and the *Flood Disaster Protection Act of 1973*. The intent of these acts was to reduce the need for large, publicly funded flood control structures and disaster relief efforts by restricting development in 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 a floodplain. FEMA issues Federal Insurance Rate Maps (FIRMs) of communities participating in the NFIP. These maps delineate flood hazard zones in the community.

11 Wood Rodgers *Drainage Master Plan Parkebridge*, January 18, 2005, page 4.

State

Porter-Cologne Water Quality Control Act

The *Porter-Cologne Water Quality Control Act* authorizes the State Water Resources Control Board (SWRCB) to adopt, review, and revise policies for all waters of the State (surface and groundwater) and directs the Regional Water Quality Control Boards (RWQCB) to develop regional Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative.

The *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (Basin Plan) specifically designates (1) beneficial uses for surface and ground waters, (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy, and (3) describe implementation programs to protect all waters in the region. In cases where a Basin Plan does not contain a standard for a particular pollutant, other criteria are used to establish a standard. Other criteria may be applied from SWRCB documents (e.g., the Inland Surface Waters Plan and the Pollutant Policy Document) or from water quality criteria developed under Section 304(a) of the CWA.

NPDES Permitting

Municipal

The 1987 amendments to the CWA directed the federal EPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II addresses all other discharges defined by EPA that are not included in Phase I, and construction activities that affect one acre or more.

The SWRCB and the nine RWQCBs are responsible for the protection of water quality in California. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and State water quality statutes and regulations. The RWQCBs develop and implement Basin Plans that consider regional beneficial uses, water quality characteristics, and water quality problems.

Construction

In accordance with NPDES regulations, to minimize the potential effects of construction runoff on receiving water quality, the State requires that any construction activity affecting one acre or more or that is part of a larger common plan affecting one acre or more must obtain a General Construction Activity Stormwater Permit (General Permit). The first General Permit was issued in 1992 and the SWRCB adopted a revised General Permit in August 1999. Performance standards for obtaining and complying with the General Permit are described in NPDES General Permit No. CAS000002, and Waste Discharge Requirements, Order No. 99-08-DWQ. The General Permit was modified in April 2001 (SWRCB Resolution No. 2001-046) to require permittees to implement specific sampling and analytical procedures to determine whether the BMPs used at the construction site are effective. Because construction of the proposed project would disturb more than one acre, the project would be subject to the General Permit requirements.

General Permit applicants are required to submit a Notice of Intent (NOI), develop and implement a Stormwater Pollution Prevention Plan (SWPPP), eliminate or reduce non-stormwater discharges, and perform inspections of all BMPs. Examples of typical construction BMPs include, but are not

limited to, erosion control BMPs such as mulch, hydroseeding, geotextiles, and matts, and soil binders; sediment control BMPs such as silt fences, fiber rolls, gravel bags, and storm drain inlet protection; and housekeeping practices such as stabilized construction entrances, vehicle fueling, spill prevention and control, and management of solid waste, concrete, and paint.

Local

City of Sacramento

Sacramento Stormwater Management Program

The proposed project would be required to comply with the Sacramento Municipal NPDES Stormwater Permit No. CAS082597 (MS4 Permit). The City of Sacramento as well as Sacramento County and the Cities of Folsom, Galt, Citrus Heights, Elk Grove, and Rancho Cordova are permittees of the MS4 Permit. Jointly, these agencies work to develop, administer, implement, and enforce stormwater management programs within their own jurisdiction. The permit is intended to implement the Basin Plan by protecting beneficial uses with the reduction of pollutants in stormwater discharges to waters of the United States to the "maximum extent practicable" (MEP).

To comply with the MS4 Permit, the City has developed a comprehensive stormwater quality management program, which would apply to the proposed project.

The City Stormwater Management Program includes programs for construction, new development, industrial, illegal discharges, illicit connections, public education and outreach, municipal operations, watershed stewardship, target pollutant reduction strategies, monitoring of stormwater impacts, and program effectiveness. The proposed project would comply with the requirements developed for the City Stormwater Management Program's construction and new development elements.

The Stormwater Management Program publishes various stormwater manuals that should be used in the preparation and implementation of Erosion and Sediment Control Plans (ESC Plan) and design of post construction BMPs. The manuals published by the Stormwater Management Program include the following:

- The *City of Sacramento Stormwater Quality Improvement Plan* (July 2003) outlines the priorities and activities of the City's Stormwater Management Program for 2003-2008.
- The *Guidance Manual for On-Site Stormwater Quality Control Measures* provides design criteria for permanent, long-term control measures to reduce stormwater pollution from development projects.
- The *Administrative and Technical Procedures Manual for Grading and Erosion and Sediment Control* provides guidance for obtaining grading approval and for designing and preparing erosion, sediment and pollutant control plans.
- The *Department of Utilities Procedures Manual* (Section 11.6, Regional Water Quality Control) contains the criteria to be used when designing regional water quality facilities such as water quality basins to reduce stormwater pollution from development projects.
- The *Investigation of Structural Control Measures for New Development* (November 1999) report contains information on the performance of selected structural controls for the treatment of stormwater runoff.[12]

12 City of Sacramento, Stormwater Management Program, http://www.sacstormwater.org/const/manuals/index.html, accessed March 5, 2002.

Grading Ordinance

The City of Sacramento has adopted a Grading Ordinance (Chapter 15.88 of the City Code) that regulates grading on property within the City limits. The ordinance identifies procedures for controlling land disturbance, soil storage, pollution, and erosion and sedimentation during construction. Measures implemented through the Grading Ordinance are intended to avoid pollution of waterways with nutrients, sediments, or other materials carried in construction site runoff, and comply with the City's MS4 Permit. The City's grading ordinance requires a grading permit to be obtained and an ESC Plan to be prepared in accordance with the *Administrative and Technical Procedures Manual for Grading and Erosion and Sediment Control*. The ESC Plan should include erosion control BMPs, sediment control BMPs and housekeeping practices to be implemented during construction. City inspection staff regularly inspects construction sites to ensure that sites adequately address erosion, sediment and pollution control, and comply with local ordinances. Inspection staff ensures that control measures and pollution prevention practices are implemented, properly installed and maintained throughout the project.

Stormwater Ordinance

The City of Sacramento has adopted the Stormwater Management and Discharge Control Ordinance (Chapter 13.16 of the Sacramento City Code; Stormwater Ordinance), to control non-stormwater discharges to the stormwater conveyance system from spills, dumping, or disposal of materials other than stormwater, and by reducing pollutants in urban stormwater discharges to the maximum extent practicable. Chapter 13.16 is intended to assist in the protection and enhancement of the water quality of watercourses, water bodies, and wetlands in a manner pursuant to the Federal Water Pollution Control Act (Clean Water Act, 33 USC Section 1251 et seq.), Porter-Cologne Water Quality Control Act, and NPDES Permit No. CAS082597, as amended and/or renewed. The Stormwater Ordinance requires new development projects to incorporate controls, as appropriate, to minimize the long-term, post-construction discharge of stormwater pollutants. Controls may include source control measures to prevent pollution of stormwater and/or treatment controls designed to remove pollutants from stormwater as outlined in the City's *Guidance Manual for On-Site Stormwater Quality Control Measures*.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

The qualitative analysis of the potential hydrology and water quality impacts is based on review of the project design and intended uses and information developed by the applicant's engineer to establish existing conditions and to identify potential environmental effects, based on the standards of significance presented in this section.

In determining the level of significance, the analysis assumes that the project would comply with applicable ordinances and regulations.

Standards of Significance

For purposes of the EIR, a significant impact is identified if the proposed project would:

- Substantially increase the rate or amount of runoff in a manner that would result in on- or off-site flooding, or subsequently contribute runoff that would exceed the capacity of existing or planned drainage systems; or
- Cause increases in sediment and other contaminants generated during construction or operation of the proposed project that result in degraded surface water quality in violation of existing ambient water quality standards of the *Sacramento-San Joaquin River Basin Plan* adopted by the Regional Water Quality Control Board.

Project-Specific Impacts and Mitigation Measures

5.3-1 The proposed project would result in an increase in the rate and amount of stormwater runoff, which could cause or exacerbate on- or off-site flooding. This is a *less-than-significant impact.*

The project site consists of agricultural land with flat topography underlain with poorly drained clay-based soils that maintain a relatively high groundwater table. During certain storm events these conditions produce on-site ponding of stormwater that eventually evaporates or infiltrates into the soil. Once developed, the project site would be covered with an impervious layer of surfaces, such as asphalt, concrete, and residences. This increase of impervious surfaces would increase the rate and/or volume of stormwater runoff.

The Drainage Master Plan designed a drainage system to adequately convey, briefly store, and regulate discharges of stormwater runoff to Sump 141 consistent with discharge guidelines, criteria, and requirements of the City of Sacramento Department of Utilities. Specifically, the detention basins would provide both stormwater run-off attenuation and water quality treatment, in a dry-pond arrangement prior to discharging to Sump 141.[13]

The proposed project would include detention ponds, appropriate outflow control mechanisms, and would use the Sump 141 drainage system in conjunction with the established regional flood control systems. This would ensure the developed project site would not increase the potential for on- or off-site flooding above existing conditions. Therefore, this impact is considered ***less-than-significant.***

Mitigation Measure

None required.

5.3-2 The proposed project would cause an increase or accumulation of urban contaminants in stormwater runoff that could be discharged to the Sacramento River; this could adversely affect surface water quality. This is a *less than significant impact.*

13 Wood Rodgers, *Drainage Master Plan Parkebridge*, January 18, 2005, page 3.

Construction

Construction of the proposed project would grade land for roadways, building foundations, parking areas, and landscaping and may require import or fill from off-site sources. In addition, construction activities, such as excavation and trenching for utilities, would disturb the soil. Construction site runoff could contain soil and sediment, which could enter receiving waters and degrade water quality. Spills or leaks from heavy equipment and machinery (petroleum products and/or heavy metal), staging areas, or building sites (paints, solvents, and cleaning agents) could also adversely affect receiving water quality by polluting runoff. These potential impacts would be short-term and limited to the duration of construction.

Prior to the initiation of soil disturbing or construction activities at the project site, the project applicant would be required to obtain a NPDES General Construction Activity Stormwater Permit from the Central Valley RWQCB. Applicants are required to submit a Notice of Intent (NOI), develop and implement a SWPPP, eliminate or reduce non-stormwater discharges, employ construction BMPs and perform inspections of all BMPs in accordance with the permits and SWPPP.

In addition to the NPDES General Construction permit, the project applicant would be required to obtain a grading permit and prepare an ESC Plan in compliance with the City's Grading Ordinance and Stormwater Management and Discharge Ordinance, with guidance from the *Administrative and Technical Procedures Manual for Grading and Erosion and Sediment Control.* The ESC Plan requirements include erosion control BMPs, sediment control BMPs, and good housekeeping practices to be implemented during construction. Prior to issuing a grading permit, the City requires the applicant to submit the project SWPPP and to provide proof that the Notice of Intent (NOI) for coverage under the State General Construction Permit has been submitted. City inspection staff regularly inspects construction sites to ensure that sites adequately address erosion, sediment, and pollution control and comply with local ordinances.

Operation

The proposed project would increase the amount of impervious surfaces with building foundations, parking lots, and roadways that would collect urban pollutants. With development of the project, a drainage system would be installed to collect surface water runoff and discharge it into Sump 141. Pre-development surface water runoff from the project site likely contains low levels of sediment nutrients, naturally occurring metals and minerals, and organic matter. Occupancy of the project site would increase the types and quantities of pollutants in runoff from the project site typically associated with urban uses, which could include oil and grease, coliform bacteria, petroleum hydrocarbons (gasoline and diesel fuel), heavy metals such as lead, copper and zinc, suspended solids, and pesticides and herbicides used for landscaping.

In order to control urban pollutants, the proposed project would be required to comply with the City of Sacramento's MS4 Permit and the Stormwater Ordinance. The Stormwater Ordinance requires installation of structural and non-structural BMPs to control urban pollutants, with specific source-control and treatment-control measures recommended in the City's *Guidance Manual for On-Site Stormwater Quality Control Measures* and *Utilities Procedures Manual.*

The Drainage Master Plan identifies design parameters for two on-site detention ponds to reduce urban pollutants in runoff that discharges to Sump 141, and ultimately into the Sacramento River. The smaller northern pond would function as a dry-extended basin that would be graded to allow gravity-flow to the southern pond (Figure 5.3-1). The larger south pond would be used as a combination wet pond and dry extended basin. Acting in combination, the north and south ponds would provide approximately 15 acre-feet of storage. Seventy-five percent of the water volume

would be released in 29 hours with a total release time of 59 hours. The southern pond would be regulated by a low-level orifice and overflow weir to lengthen the residence time of the runoff. Typical pollutants reduced by dry and wet ponds include sediment, trash, metals, bacteria, oil and grease, organics, and nutrients.

Construction and occupancy of the proposed project would require implementation of federal, State, and City requirements to reduce water quality impacts from urban pollutants. Compliance with these requirements would reduce stormwater pollutant discharges to Sump 141 and ultimately the Sacramento River. Implementation of these requirements (i.e. NPDES permits, City Grading Ordinance, and Stormwater Ordinance) and the design of the ponds in the stormwater drainage system would ensure that impacts from the proposed project would be ***less than significant.***

Mitigation Measure

None required.

Cumulative Impacts and Mitigation Measures

The cumulative setting includes the proposed project in addition to development outlined in the City's General Plan for the Northwest Sub-basin served by Sump 141. Cumulative development would result in large areas of impervious surfaces that would amplify the rate and amount of stormwater runoff and urban pollutants entering local drainage facilities and the Sacramento River.

5.3-3 The proposed project, in combination with other development identified in the City of Sacramento General Plan, could result in or exacerbate on- or off-site flooding. This is a *less-than-significant cumulative impact.*

The proposed project, in addition to buildout of the City's General Plan in areas served by Sump 141, would increase the amount of impervious surfaces throughout the City. This substantial increase in impervious surfaces would increase the rate and volume of stormwater runoff into the City's 381-acre Northwest Sub-basin of Sump 141. The Department of Utilities has developed and adopted drainage standards to control and prevent on- or off-site flooding due to development in the City. The City reviews all development permits and documentation for compliance with this ordinance prior to approval of the building permits. In addition, the RD 1000 maintains a system of canals, ditches, pumps, and levees to ensure that floodwaters do not inundate the Natomas area. Since the proposed project and other future development in the Sump 141 watershed would be designed to reduce flows and volume of stormwater entering Sump 141 to levels acceptable to City standards, and below the capacity of the sump, the cumulative impact would be ***less than significant***.

Mitigation Measure

None required.

5.3-4 The proposed project, in combination with other development identified in the City of Sacramento General Plan, could adversely affect water quality in the Sacramento River. This is a *less-than-significant cumulative impact.*

The proposed project, in combination with buildout of the City's General Plan, would increase urban runoff into the City's drainage system and increase the concentration of urban pollutants in stormwater. As development in the City occurs, there will be an increase in the amount of ground disturbing activities and an increase in impervious surfaces, which could contribute to runoff, potentially affecting water quality. As described above, similar to the proposed project, all projects would be required to implement all applicable federal, State, and City requirements to reduce water quality impacts from urban pollutants during construction and operation. Water quality protection measures would be subject to the requirements of the Basin Plan and enforced through the applicable requirements of the Central Valley RWQCB's NPDES permits and City's MS4 Permit requirements. Compliance with these regulations and the City of Sacramento's water quality protection standards would protect water quality in the Lower Sacramento River watershed from urban runoff generated in the South Natomas Community Plan area. Therefore, cumulative impacts are considered ***less than significant.***

Mitigation Measure

None required.

5.4 Noise

5.4 NOISE

INTRODUCTION

This section describes the existing noise environment in the area of the ParkeBridge project (proposed project), and the potential of the proposed project to significantly increase noise levels due to project construction and operation. Information included in this section came from a field investigation to measure existing noise levels, and references used for this section include the noise standards in the City of Sacramento General Plan, and the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction model. Traffic inputs for the noise prediction model were provided by Dowling Associates.

As discussed in the Initial Study (see Appendix A), the project site is not located within an airport land use plan area or within two miles of an airport or private airstrip. Development of the project site would not expose people within the project site to excessive airport noise levels, and this issue is not discussed in the EIR. Groundborne vibration and associated noise impacts were also focused out in the Initial Study. No comments regarding noise were received during the NOP comment period (see Appendix B).

ENVIRONMENTAL SETTING

Background Information on Noise and Vibration

Fundamentals of Environmental Sound and Noise

Sound can be described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the intensity of the pressure vibrations that make up a sound. The pitch of the sound is correlated to the frequency of the sound's pressure vibration. Because humans are not equally sensitive to a given sound level at all frequencies, a special scale has been devised that specifically relates noise to human sensitivity. The A-weighted decibel scale (dBA) does this by placing more importance on frequencies that are more noticeable to the human ear.

Noise is typically defined as unwanted sound. Typically, noise in any environment consists of a base of steady "background" noise made up of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway. Table 5.4-1 lists representative environmental noise levels.

TABLE 5.4-1

REPRESENTATIVE ENVIRONMENTAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 100 feet		
	--100--	
Gas Lawnmower at 3 feet		
	--90--	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	--80--	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	--70--	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	--60--	
		Large Business Office
Quiet Urban Area during Daytime	--50--	Dishwasher in Next Room
Quiet Urban Area during Nighttime	--40--	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	--30--	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	--20--	
		Broadcast/Recording Studio
	--10--	
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: California Department of Transportation, 1998.

Several rating scales have been developed to analyze the adverse effect of noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the volume of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

- L_{dn}, the Day Night Average Level, is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the nighttime.

- L_{min}, the minimum instantaneous noise level experienced during a given period of time.

- L_{max}, the maximum instantaneous noise level experienced during a given period of time.

Noise caused by natural sources and human activities is usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the L_{eq} is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of settings with low daytime background noise levels are isolated, natural

settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise settings are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most people living or working in urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA) accept the higher noise levels commonly associated with these land uses.

When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source decline as distance to a receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce noise levels at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Existing Conditions

Existing Noise Receptors

Some land uses are more sensitive to noise than others. These sensitive uses are commonly referred to as "sensitive receptors", and normally include single- and multi-family residences, hospitals, churches, libraries, schools, and retirement homes. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

The project site is currently undeveloped and is in the South Natomas area of the City of Sacramento. Interstate 80, (I-80) runs to the west and north of the proposed project, and an existing high school (Natomas High School) is located to the southwest. Residences exist to the south of the proposed project's property line.

Existing Ambient Daytime Noise Levels

The scientific instrument used to measure noise is a sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA.

Existing ambient daytime noise levels were measured at five selected locations in and around the project site on March 31, 2005. These locations are identified in Figure 5.4-1. The noise levels were measured using a Larson-Davis Model 814 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement

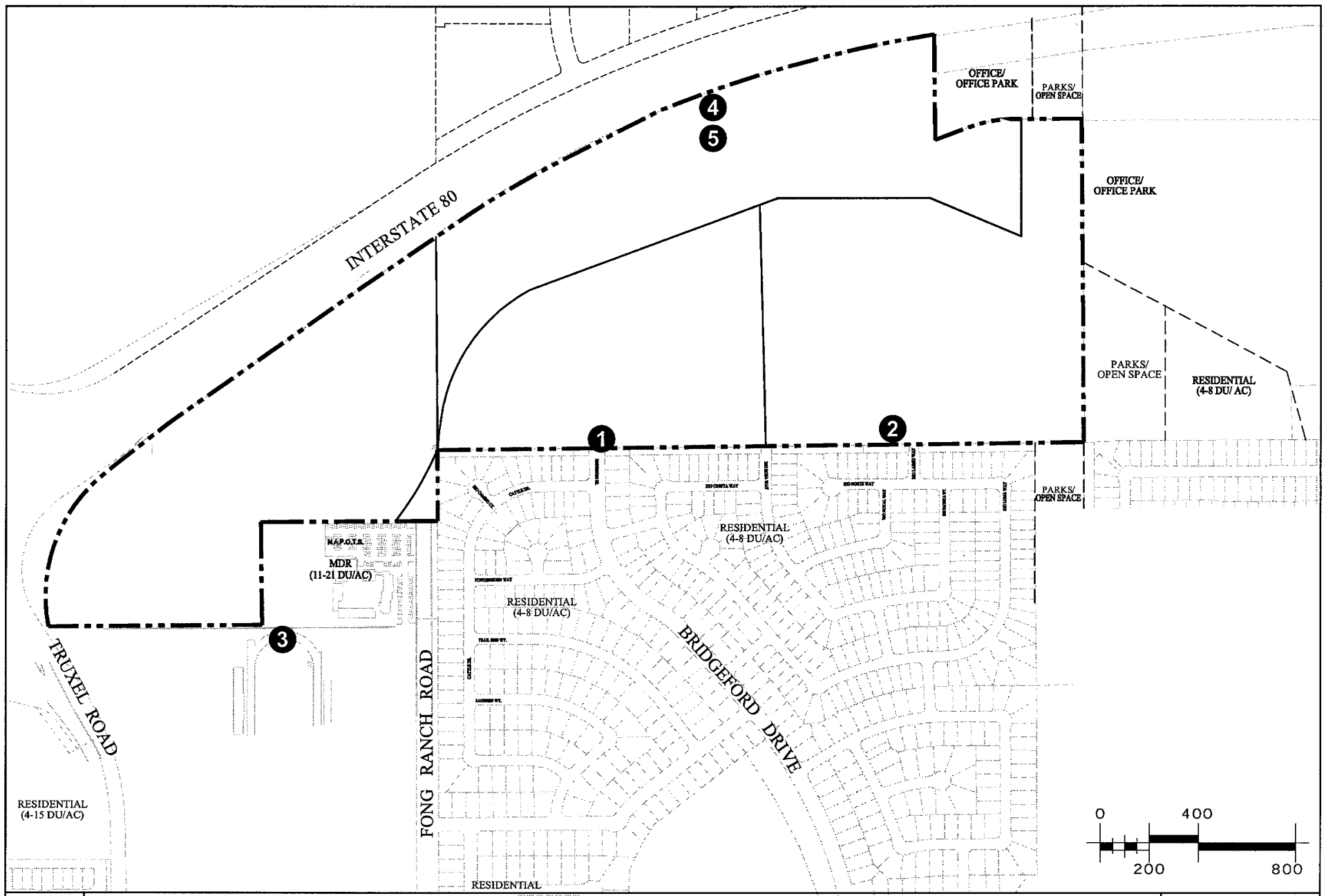


FIGURE **5.4-1**

Noise Monitoring Locations

10916-01

Sources: City of Sacramento General Plan, South Natomas Community Plan, and EIP Associates, 2005

ParkeBridge

EIP ASSOCIATES

instrumentation. The average noise levels and sources of noise measured at each location are identified in Table 5.4-2.

The major non-roadway noise affecting the site is Natomas High School, located to the south of the proposed project site.

TABLE 5.4-2

EXISTING DAYTIME NOISE LEVELS AT SELECTED LOCATIONS

Noise Measurement Location	Primary Noise Sources	Noise Level Statistics		
		L_{eq}	L_{min}	L_{max}
Southern border of project site, approximately 100 yards east of intersection of Rosin Boulevard and project site, adjacent to fence line of existing residences.	Interstate 80	54	48	66
Southern border of project site, approximately 300 yards east of intersection of Rosin Boulevard with project site, adjacent to fence line of existing residences.	Interstate 80	51	45	65
Northeast property line of school to the south.	Activity of students at school	53	46	67
Northern boundary of project site, approximately 25 feet from edge of Interstate 80.	Interstate 80	72	60	83
Approximately 150 feet south of northern boundary of property line.	Interstate 80	61	55	69

Source: EIP Associates, 2005. Levels rounded to the nearest whole number.

Existing Roadway Noise Levels

The main source of transportation noise at the project site is I-80, which runs to the west of the project site, and adjacent to the project site to the north. I-80 experiences more or less constant traffic flows, with congested traffic conditions occurring during the A.M. and P.M. commute times.

Noise levels produced by I-80 at the boundary of the proposed project were modeled using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the project traffic analysis (included as Appendix D). The model calculates the average noise levels at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) used in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels.

Existing Groundborne Vibration

The most likely existing source of groundborne vibration at a project site is usually roadway truck and bus traffic. Trucks and buses typically generate groundborne vibration velocity levels of around 63 vibration decibels (VdB) at 25 feet. These levels could reach 72 VdB where trucks and buses pass over bumps in the road. Loaded trucks can create even higher levels of VdB, approaching 86 VdB at 25 feet. Truck traffic is common on I-80, running adjacent to the proposed project to the north.

Regulatory Context

Federal

There are no federal regulations related to noise that apply to the proposed project.

State

Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA Community Noise Exposure Level (CNEL) (The CNEL and L_{dn} standards are essentially identical) in any habitable room of new dwellings of these types. Dwellings are required to be designed so that interior noise levels will meet this standard for at least 10 years from the time of building permit application. Since the proposed project would consist only of detached single-family residential units, and townhouses, Title 24 would not apply. There are no other State regulations that apply to the proposed project.

Local

City of Sacramento General Plan

The California Government Code requires that a noise element be included in the general plan of each county and city in the state. The purpose of the noise element is to ensure that noise control is incorporated into the planning process. The noise element can help City planners achieve and maintain consistent noise levels for existing and proposed land uses.

The City of Sacramento General Plan does not have a distinct Noise Element. Instead, goals, policies, and information related to noise are included in the Health and Safety element of the General Plan. This element establishes maximum acceptable interior and exterior noise level criteria for new single-family development, multi-family development, schools, and libraries. These are shown as Figures 5.4-2a and 5.4-2b (also referred to as Figure 3 in the Sacramento General Plan). As shown, the General Plan specifies a maximum interior noise level of 45 dB L_{dn}, and a maximum noise level of 60 dB L_{dn} in common outdoor use areas associated with single-family development.

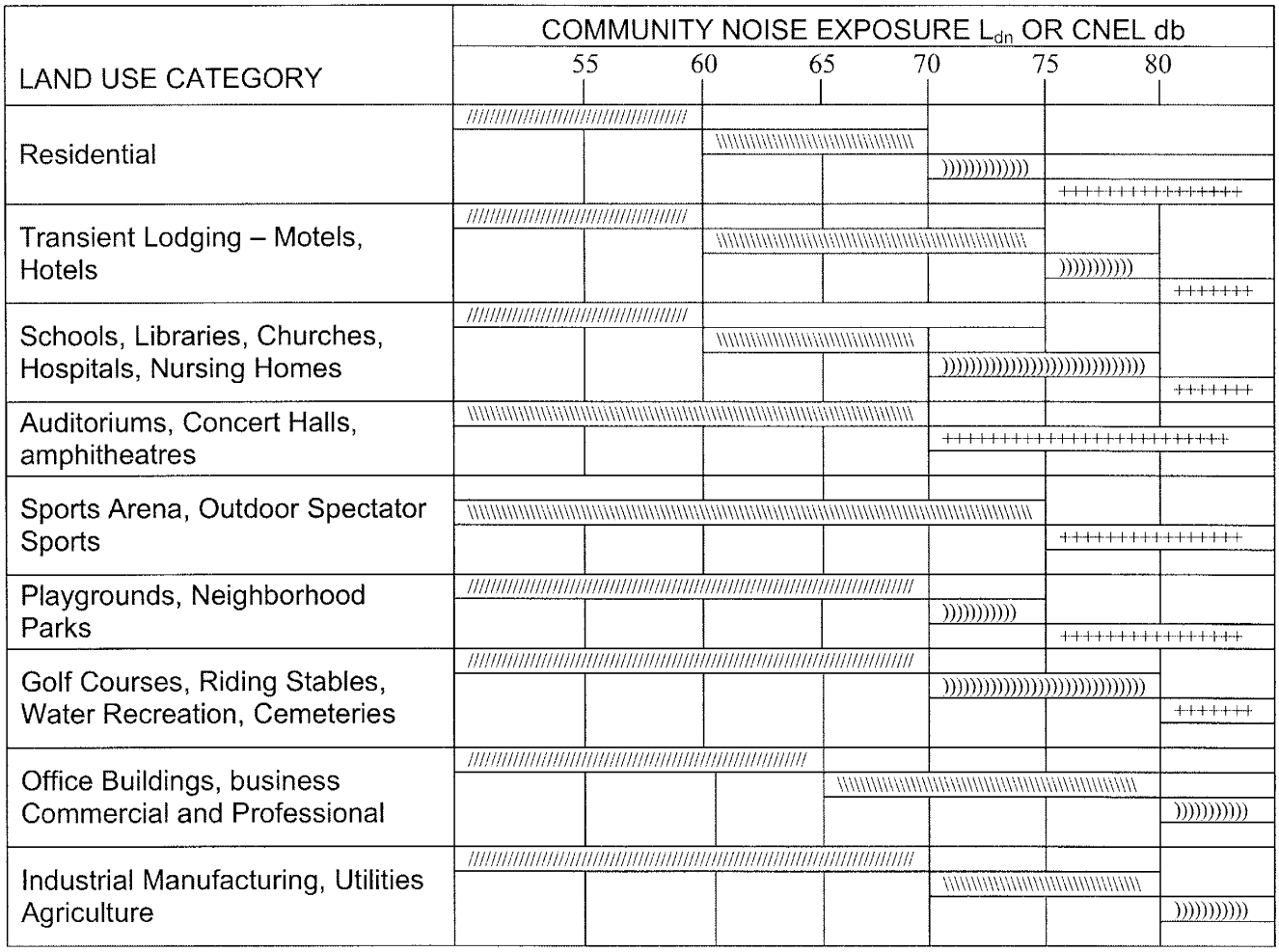
The General Plan identifies five goals concerning noise in its Health and Safety element. Each goal is implemented by a number of corresponding policies:

Goal A
Future development should be compatible with the projected year 2016 noise environment.

Policy 1 Require an acoustical report for any project which would be exposed to noise levels in excess of those shown as normally acceptable in Figure 3. The contents of the acoustical report shall be as described in the Noise Assessment Report Guidelines. No acoustical report shall be required where City staff has an existing acoustical report on file which is applicable.

Policy 2 Require mitigation measures to reduce noise exposure to the "Normally Acceptable Levels" (Figure 3) except where such measures are not feasible.

It is recognized that there are many areas within the City for which it is not feasible to provide further noise mitigation. It is also recognized that some projects, because of their location, design, or size may not be able to incorporate mitigation measures that are feasible for larger projects of for projects in different locations. Specifically, around McClellan Air Force Base, there are areas where the noise contours indicate that it may be clearly infeasible to achieve the "Normally acceptable" noise level. Projects in these areas may be allowed to exceed the maximum acceptable noise level. However, each project shall be subject to mitigation measures to the maximum extent feasible.



INTERPRETATION

////////////////	NORMALLY ACCEPTABLE	))))))))))))	NORMALLY UNACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise requirements		New construction or development shouldbe discouraged. If new construction ordevelopment does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.	
\\\\\\\\\\\\\\\	CONDITIONALLY ACCEPTABLE	++++++++	CLEARLY UNACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.		New construction or development clearly should not be undertaken.	

10916-01

FIGURE **5.4-2a**

Land Use Compatibility for Community Noise Environments

Source: Sacramento General Plan

ParkeBridge

EIP ASSOCIATES

Noise Source	Land Use	Applicable Area: Interior	Applicable Area: Exterior	Statement Requirements	Noise Element Requirmenets
Traffic or fixed source (Industrial, plants, etc.)	Single Family	X	X	None	L_{dn} < 45 db[2]
	Single Family		X	None	$L_{dn} \leq 60_{dB}$ in backyards
	Multi-Family[1]	X		L_{dn} < 45 dB	L_{dn} < 45 dB
	Multi-Family		X	None	$L_{dn} \leq$ 60 db in common outdoor use areas
	Schools	X		None	Noisiest hourly $L_{eq} \leq$ 40 dB during school day
	Schools		X	None	$L_{dn} \leq$ 60 dB
	Libraries	X		None	Noisiest hour $L_{eq} \leq$ 45 dB
	Libraries		X	None	None
Aircraft	Single-Family	X		None	$L_{dn} \leq$ 45 dB and maximum instantaneous levels of $\leq$ 50 dBA in bedrooms and $\leq$ 55 dBA in other habitable rooms[2]
	Single-Family		X	CNEL $\leq$ 65 dB (State Aeronautics Noise Standards) requirement does not apply to Mather and McClellan's AFB's	CNEL $\leq$ 60 dB for Metro Airport CNEL $\leq$ 65 dB for all others
	Multi-Family	X		$L_{dn} \leq$ 45 dB	$L_{dn} \leq$ 45 dB and maximum instantaneous levels of $\leq$ 50 dBA in bedrooms and $\leq$ 55 dBA in other habitable rooms[2]
	Multi-Family		X	CNEL $\leq$ 65 dB (State Aeronautics Noise Standards) requirement does not apply to Mather and McClellan's AFB's	CNEL $\leq$ 60 dB for Metro Airport CNEL $\leq$ 65 dB for all others
	Schools	X		None	Noisiest hourly $L_{eq} \leq$ 40 dB during school day
	Schools		X	CNEL $\leq$ 65 dB (State Aeronautics Noise Standards) requirement does not apply to Mather and McClellan's AFB's	CNEL $\leq$ 60 dB for Metro Airport CNEL $\leq$ 65 dB for all others
	Libraries	X		None	Noisiest hour $L_{eq} \leq$ 45 dB
	Libraries		X	None	None
Rail Traffic	Single-Family	X		None	$L_{dn} \leq$ 45 dB and maximum instantaneous levels of $\leq$ 50 dBA in bedrooms and $\leq$ 55 dBA in other habitable rooms[2]
	Single-Family		X	None	$L_{dn} \leq$ 60 dB
	Multi-Family	X		$L_{dn} \leq$ 45 dB unless there are less than 4 trains per day between 7:00 a.m. and 10:00 p.m. and there are no trains between 10:00 p.m. and 7:00 a.m.	$L_{dn} \leq$ 45 dB and maximum instantaneous levels of $\leq$ 50 dBA in bedrooms and $\leq$ 55 dBA in other habitable rooms[2]
	Multi-Family		X	None	$L_{dn} \leq$ 60 dB
	Schools	X		None	Noisiest hourly $L_{eq} \leq$ 40 dB during school day
	Schools		X	None	Maximum instantaneous levels $\leq$ 85 dBA
	Libraries	X		None	Noisiest hour $L_{eq} \leq$ 45 dB
	Libraries		X	None	None

1 Multi-family includes hotel, motel, apartment houses, and dwellings other than detached single-family dwellings as defined by title 24, Part 2, California Administrative Code.
2 The requirement for interior noise exposure is triggered when the exterior L_{dn} exceeds 60 dB.
3 Projects for which U.S. Department of HUD financing is requested are subject to HUD noise requirements. The noise element requirements listed in this table are at least as stringent as the HUD requirements.

10916-01

FIGURE **5.4-2b**

Maximum Acceptance Interior and Exterior Noise Levels for New Development without Mitigation

Source: Sacramento General Plan

ParkeBridge

EIP ASSOCIATES

Policy 3 Land uses proposed where the exterior noise level would be below the "normally acceptable" limit may be approved without any requirement for interior or exterior mitigation measures.

Where the exterior noise is below the "normally acceptable" limit, it is assumed that any buildings involved are of normal conventional construction without any special interior noise provisions. This will, under normal circumstances, provide an acceptable interior noise level.

"Maximum acceptable" interior noise levels have not been established for land use categories in Figure 3. The types of interior use in these categories vary substantially. As a general rule, acceptable noise mitigation will be that which provides for interior noise levels comparable to the noise levels that would exist in buildings where the exterior noise is below the "normally acceptable" standard.

Goal C
Eliminate or minimize the noise impacts of future development on existing land uses in Sacramento.

Policy 1 Review projects that may have noise generation potential to determine what impact they may have on existing uses. Additional acoustical analysis may be necessary to mitigate identified impacts.

There are areas of the City which are considered relatively quiet (ambient levels below "normally acceptable" noise levels). While new development in these areas might not cause the "normally acceptable" noise level for existing development to be exceeded, it is recognized that such new development might cause an increase in ambient noise considered significant in terms of impacts on existing uses.

Policy 2 Enforce the Sacramento Noise Ordinance as the method to control noise from sources other than transportation sources.

Goal D
Reduce noise levels in areas where noise exposure presently exceeds the standards established in Figure 3.

Policy 1 Continue to enforce the provisions of sections 27-150 and 27-151 of the State Motor Vehicle Code. These sections require that all vehicles be equipped with a properly maintained muffler and that exhaust systems not be modified.

Policy 2 Encourage the incorporation of the latest noise control technologies in all projects.

Sacramento Municipal Code

The Sacramento Municipal Code also contains regulations concerning noise. These noise regulations are found in Title 8 – Health and Safety, Chapter 8.68 – Noise Control. Of the regulations in Chapter 8.68, not all are applicable to the proposed project. Of the applicable regulations, section 8.68.060 sets standards for cumulative exterior noise levels at residential and agricultural properties. Section 8.68.060 exempts certain activities from Chapter 8.68, including "noise sources due to the erection (including excavation), demolition, alteration or repair of any building or structure" as long as these activities are limited to certain daytime hours. Section 8.68.060 also requires the use of exhaust and intake silencers for internal combustion engines, and provides for construction work to occur outside of the designated daytime hours if the work is of urgent necessity and in the interest of public health and welfare for a period not to exceed three days. Section 8.68.190 generally prohibits any person from making "any loud, unnecessary or unusual noise which disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area."

South Natomas Community Plan

The South Natomas Community Plan contains the following policies related to noise within the community plan area.

Guiding Policies

Policy A Development in South Natomas shall be consistent with the Noise Element of the General Plan and the Metropolitan Comprehensive Land Use Plan (CLUP).

Policy B Ensure that development of South Natomas is compatible with long-range development operations.

Policy C Avoid the placement of incompatible land uses where/if noise contours exceed the adopted acceptable levels as defined in the Noise Element of the General Plan.

Implementing Policies

Policy F Require noise mitigation measures as conditions of approval for specific projects where a noise assessment has determined that noise levels for the project area would exceed normally acceptable levels as defined in the General Plan Noise Element. Such mitigations may include but are not limited to the following: recording noise easements on property deeds, soundproofing insulation, and other noise reduction techniques.

Policy H Encourage the use of alternative measures of freeway and roadway noise attenuation to avoid soundwalls along the freeways and to achieve more aesthetic landscaped corridors.

Policy I Continuous undulating masonry walls will be required to achieve noise attenuation for adjacent residential development. It is necessary for the wall to be at least eight feet in height where it is farthest from the freeway and 10 feet in height where it is closest to the freeway. A combination vertical wall and earthen berm is considered the most desirable construction design for barriers in excess of eight feet in height.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

Traffic Noise Impact Assessment Methodology

The analysis of the existing and future noise environments presented in this analysis is based on noise level monitoring, noise prediction modeling, and empirical observations. Existing noise levels were monitored by EIP Associates at selected locations within the project vicinity using a Larson-Davis Model 814 precision sound level meter, which satisfies the ANSI for general environmental noise measurement instrumentation. Noise modeling procedures involved the calculation of existing and future vehicular noise levels along individual roadway segments in the project vicinity. This task was accomplished using the FHWA-RD-77-108 Model, described previously in the Environmental Setting section. Traffic volumes used as data inputs in the noise prediction model were provided by the project traffic engineer.

Construction Noise and Vibration Impact Methodology

Construction noise was analyzed using data compiled by the U.S. Environmental Protection Agency (U.S. EPA) that lists typical noise levels at 50 feet for construction equipment and various construction activities. Vibration from construction was evaluated using data from the Federal Railroad Administration that lists typical vibration decibels at various distances for common construction equipment.

Standards of Significance

For the purposes of this EIR, noise and vibration impacts are considered significant if the proposed project would:

- Permanently expose nearby sensitive uses to excessive groundborne vibration levels. While CEQA states that the potential for any excessive groundborne vibration levels must be analyzed, it does not define "excessive", and there are no federal, State or local standards for groundborne vibration. Consequently, this analysis uses the Federal Railway Administration's vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 80 VdB at residences and buildings where people normally sleep (e.g., nearby residences and day care facility) and 83 VdB at institutional buildings;

- Create vibration that would cause structural damage to existing buildings;

- Cause non-transportation maximum noise levels at any surrounding residential uses to exceed the noise performance standards specified in Section 8.68.060 of the City of Sacramento Municipal Code; or

- Cause transportation noise levels at surrounding uses to exceed the Community Noise Exposure Levels found in Figure 3 of the City of Sacramento General Plan on page 8-27. Where ambient noise levels already exceed the City's standards, significance will be determined by whether the proposed project would increase the ambient level by three dBA L_{dn} or more.

Project-Specific Impacts and Mitigation Measures

5.4-1 Construction activity would produce temporary noise. This is considered a *less-than-significant impact.*

During construction of the proposed project, noise levels would be produced by the operation of heavy-duty equipment and various other construction activities. This construction noise could affect surrounding uses, but would be temporary, lasting only until the proposed project completes construction. As discussed in the environmental setting, there are sensitive uses surrounding the proposed project site. The closest receptors are Natomas High School, to the southwest, and existing residences to the south of the proposed project site. Since the proposed project would be developed in phases, it is also possible that new residences could be occupied while construction of additional units is ongoing.

Table 5.4-3 shows typical noise levels for various kinds of construction equipment. Of the equipment that would likely be used for construction of the proposed project, the greatest noise levels would be generated by tractors, which can produce up to 98 dBA L_{eq} at 50 feet. Noise from sources such as construction equipment, which usually operate in one area for most of a typical construction day, normally attenuates at approximately 7.5 dBA per doubling of distance at acoustically soft terrain such as the project site. As discussed above, Natomas High School and the residences bordering the proposed project site to the south and southwest are the nearest sensitive receptors. The nearest buildings associated with the high school are approximately 600 feet away from the southwestern property line of the proposed project. If tractors operate at this portion of the site, noise levels at these buildings could periodically reach peak levels of about 73 dBA L_{eq} for short periods of time. Also, if residences in one phase are occupied while an adjacent phase is being

developed, new residents could temporarily be subjected to noise at the upper end of the noise range for the various pieces of equipment.

TABLE 5.4-3

NOISE RANGES OF TYPICAL CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Levels in dBA L_{eq} at 50 feet[1]
Front Loader	73-86
Trucks	82-95
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Pile Driving (peaks)	95-107
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

Notes:
1. Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.

Source: U.S. EPA, 1971.

Newer development, such as Natomas High School, would have been constructed using methods and materials that achieve an exterior to interior noise reduction of about 30 dBA. If exterior noise levels at the nearest buildings do reach up to 73 dBA as a result of construction activity, peak interior noise levels would be expected to be about 43 dBA. Because tractors would not operate continuously during construction, the hourly average dBA would be much less than this. Consequently, interior noise levels as a result of construction associated with the proposed project would be expected to be less than the hourly L_{eq} of 40 dB specified by the City of Sacramento for school interiors.

Natomas High School also has several outdoor use areas, the closest being approximately 700 feet from the southwestern property line of the proposed project. At this distance, maximum noise levels from construction equipment like tractors could reach up to 71 dBA for short periods of time. The high school's closest outdoor use area is also surrounded by buildings associated with the high school. These buildings would create a buffer between the outdoor use and the construction noise source. A single row of buildings such as this can effectively reduce noise levels by 5 dB, bringing potential maximum noise levels from construction to approximately 66 dBA at the closest outdoor use area. The City of Sacramento specifies a noise standard for outdoor use areas associated with schools of 60 dB L_{dn} in the General Plan. Setting the standard as L_{dn} means that noise levels at outdoor use areas cannot exceed 60 dB when averaged over a 24 hour period. Since construction noise would only occur for approximately eight hours during the day, it is likely that levels would be less than 60 dB L_{dn} because maximum noise levels from construction equipment would only occur for short periods, and construction overall would only occur for a portion of the day. Even though noise levels from construction could reach 71 dBA at outdoor areas, this would not necessarily adversely impact students. Because classes occur indoors, the compatibility of the proposed project with interior noise level standards is the more important issue. Activities occurring outdoors at the school such as athletic events or physical education classes would not require quiet conditions.

The residences to the south of the proposed project site could also be affected by noise from construction activities. Because land on the southern boundary of the project site would include open space and the existing canal, grading and other construction activity would not occur at distances of less than 100 feet from the nearest property line (the actual residences would be farther). This would result in maximum noise levels of approximately 91 dBA at times when construction equipment is operating close to the southern border of the project site. This would also be true for units that are occupied while additional units are being constructed. During these periods, noise exposure could potentially be above the 60 dBA L_{dn} standard for exterior residential areas, as specified in the City General Plan. Exterior to interior noise reduction would be approximately 30 dBA, potentially resulting in noise levels of 61 dBA during construction. If construction occurred over an eight hour period, this could potentially cause 24-hour noise levels to exceed the 45 L_{dn} interior noise standard for residential uses found in the General Plan. Interior noise levels at the high school, assuming maximum exterior noise levels of 71 dBA, would be below the 45 dBA L_{dn} interior standard for schools.

In addition to the noise limits specified in the General Plan, Chapter 8.68 of the City of Sacramento Municipal Code also deals with noise control. As opposed to the General Plan standards, which are mostly 24-hour standards, the Municipal Code sets "not to be exceeded" limits for residential uses. The Code does not have any standards applicable to school uses. This section also lists exemptions to the noise standards of Chapter 8.68. Construction noise is listed as one of these exemptions. The exemption for noise from construction activity applies as long as internal combustion engines are equipped with exhaust and intake silencers and as long as the activity occurs only within specified daytime hours.

Interior and exterior noise levels for schools, as listed in the Sacramento General Plan, would not be exceeded due to construction activity from the proposed project. Interior and exterior noise standards for residential uses, however, could be exceeded during periods of the proposed project construction. Even though these standards may be exceeded, construction noise is exempted by the provisions of the noise control chapter of the Sacramento Municipal Code. Additionally, any construction noise would only be generated temporarily. Consequently, construction noise would have a ***less-than-significant impact.***

Mitigation Measure

None required.

5.4-2 The proposed project would expose new sensitive receptors to freeway noise levels. This is a *significant impact.*

The major source of noise that new residences built as part of the proposed project would be exposed to is the traffic on I-80. Lots closest to I-80 are approximately 100 feet from the edge of the freeway. Noise from I-80 was monitored at two locations in the northern portion of the project site, one measurement at 25 feet from the edge of the freeway, and one approximately 150 feet from the edge of the freeway. The results of this monitoring are shown in Table 5.4-2. As shown in the table, noise levels from I-80 could reach 72 L_{eq} at the lot line of the residences closest to I-80. This would be in excess of the 60 dB exterior standard for residential uses found in the City of Sacramento General Plan. Moreover, freeway noise from I-80 would not necessarily be less during nighttime hours or weekends. While traffic volumes may be less during these times, this would also result in less congested conditions where traffic would move at greater speeds. As vehicle speeds increase, vehicle roadway noise likewise increases. Consequently, noise from the freeway could potentially reach maximum levels during times when residents would be more likely to be home.

As shown in Table 5.4-2, freeway noise could reach 72 L_{eq} at 25 feet from the edge of the freeway. While freeway noise would fluctuate based on traffic flow conditions, this monitored 72 dBA L_{eq} is a good representation of average freeway noise levels from I-80 throughout the day. Consequently, it can be assumed that 24-hour L_{dn} values would be in the 70 - 73 dBA L_{dn} range at 25 feet as well. Because freeway noise decreases at a rate of about 3 dBA per doubling of distance, freeway noise levels at the nearest proposed residences, approximately 80 feet from the freeway edge, would be in the 65-68 dBA range. This would be above the City of Sacramento noise standard levels for residential development.

A solid wall can attenuate noise up to 40 dBA.[1] Assuming, as a worst-case scenario that the sound wall would only reduce noise from I-80 by 5 dB, the resulting traffic noise levels at the property line of the residences nearest the freeway would be 60 – 63 dBA L_{dn}. This would still be in excess of the City's exterior standards for residential uses. To effectively attenuate freeway noise and ensure that noise levels would not be above the 60 dBA exterior standard at the residences, a sound wall would need to achieve a reduction in sound levels of approximately 10 dBA. Caltrans recommends that a barrier achieve a noise transmission loss of 10 dBA greater than the desired noise reduction. Caltrans also recommends that the barrier be tall enough to remove the "line of sight" between the noise source and the receptor.[2]

Besides sound walls, the only other feasible mitigation measure available to reduce noise would be providing more distance between the noise source and the most affected receptors. Transportation noise attenuates at approximately 3 dBA per doubling of distance. The noise monitoring performed for this project, however, show that noise from I-80 is close to 60 dBA at approximately 150 feet from the freeway. Consequently, in order for freeway noise to be within acceptable standards, the nearest housing would need to be placed about 150-200 feet away from the edge of the freeway. This would substantially reduce the development potential of the site and would not be necessary if an effective sound wall were constructed. However, because the proposed sound wall may not attenuate freeway noise with enough effectiveness to ensure compliance with the General Plan noise standards for residential uses, this would be a *significant impact.*

As discussed above, noise can be effectively attenuated by building a sound wall between the freeway and the nearest residences that would achieve approximately a 10 dBA reduction in noise. Caltrans recommends that a sound barrier achieve a transmission loss 10 dBA greater than the desired noise reduction. Consequently, a sound wall that would reduce noise by 20 dBA would satisfy Caltrans requirements and lower freeway noise to less than significant levels. Typical concrete sound walls four inches thick or more can produce transmission loss of over 30 dBA.

The following mitigation measure would ensure that the 60 dBA L_{dn} exterior standard for residential uses is not exceeded and would reduce the impact to a ***less-than-significant level***.

Mitigation Measure

5.4-2 *The project applicant shall construct a sound wall adjacent to Interstate 80 that would be at least seven feet above the grade of the backyard of the nearest residences, and would achieve a 20 dBA transmission loss.*

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1 Caltrans, Technical Noise Supplement, October 1998, page N-140, Table N-6110.1 – Approximate Transmission Loss Values for Common Materials.

2 Caltrans, Technical Noise Supplement, October 1998, page N-139, Table N-6110.1 – Approximate Transmission Loss Values for Common Materials.

5.4-3 The proposed project could expose existing uses to significant increases in ambient noise. This would be a *less-than-significant impact.*

Since the proposed project is limited to residential and park uses, there would be no major stationary sources of noise associated with the proposed project. The proposed project would add to noise levels, however, by increasing traffic on local roadways. Residential uses border many roadways in the vicinity of the proposed project. For this analysis, the road segments of most concern are those bordered by residential uses and that would be used by residents of the proposed project to access main streets. Fong Ranch Road, Pony Express Drive, and Bridgeford Drive all fit this description. Noise levels associated with increased traffic on these roads were modeled, and the results are presented in Table 5.4-4. As shown in the table, the largest increase in traffic-generated noise levels would be an increase of up to 2 dB along Bridgeford Drive. This would not be in excess of the 3.0 dB that is barely perceptible to the human ear, nor would it raise noise levels above general Plan acceptable standards at any affected roadway. Consequently, this would be a ***less-than-significant impact.***

TABLE 5.4-4

EXISTING TRAFFIC NOISE LEVELS WITH AND WITHOUT PROJECT

Roadway	Segment	Noise Levels (L_{dn}) 50 Feet From Centerline		
		Existing No Project (dBA)	Existing Plus Project (dBA)	Change (dBA)
Fong Ranch Road	North of San Juan	67	68	+1
Pony Express Road (North of San Juan	North of San Juan	60	61	+1
Bridgeford Drive (North of San Juan)	North of San Juan	63	65	+2

Source: EIP Associates, 2005.

Mitigation Measure

None required.

Cumulative Impacts and Mitigation Measures

The cumulative context for noise impacts associated with the proposed project consists of the existing and future noise sources that could affect the project or surrounding uses in the future year 2025. Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context.

Construction of the proposed project would generate only temporary noise. Consequently the cumulative impact of construction noise would not be analyzed because construction would not be occurring in 2025. Also, as discussed in Impact 5.4-3, the residential nature of the proposed project indicates that there will be no major sources of non-transportation noise.

5.4-4 The proposed project would contribute to future noise levels in the area. This would be a *less-than-significant cumulative impact.*

The proposed project would contribute to traffic volumes on local roads in future years, and would therefore contribute to roadway noise as well. Tables 5.4-5 and 5.4-6 show noise increases on local residential roads as a result of the proposed project, both with and without the extension to Fong Ranch Road. Noise increases on I-80 were not analyzed because I-80 already experiences heavy

traffic volumes. Traffic from the proposed project would contribute only a small increase to overall I-80 traffic volumes. As shown in the tables, traffic noise levels in 2025 without the proposed project would exceed acceptable standards for residential uses 50 feet from the roadway centerline, both with and without the Fong Ranch Road extension. Since roadway noise without the project would exceed City standards in 2025, the applicable standard of significance is whether the project would increase 2025 noise levels by 3 dBA or more. 3 dBA is the threshold at which a noise increase becomes acceptable to the human ear. As shown in Tables 5.4-5 and 5.4-6, the proposed project would contribute maximum noise increases of up to 1 dBA along these road segments in 2025 if Fong Ranch Road were or were not extended.

TABLE 5.4-5

2025 TRAFFIC NOISE LEVELS WITH AND WITHOUT PROJECT (NO FONG RANCH ROAD EXTENSION)

Roadway	Segment	Noise Levels (L_{dn}) 50 Feet From Centerline		
		2025 No Project (dBA)	2025 Plus Project (dBA)	Change (dBA)
Fong Ranch Road	North of San Juan	68	68	0
Pony Express Road (North of San Juan)	North of San Juan	60	61	+1
Bridgeford Drive (North of San Juan)	North of San Juan	65	66	+1

Source: EIP Associates, 2005.

TABLE 5.4-6

2025 TRAFFIC NOISE LEVELS WITH AND WITHOUT PROJECT (WITH FONG RANCH ROAD EXTENSION)

Roadway	Segment	Noise Levels (L_{dn}) 50 Feet From Centerline		
		2025 No Project (dBA)	2025 Plus Project (dBA)	Change (dBA)
Fong Ranch Road	North of San Juan	68	68	0
Pony Express Road (North of San Juan)	North of San Juan	60	61	+1
Bridgeford Drive (North of San Juan)	North of San Juan	65	65	0

Source: EIP Associates, 2005.

The proposed project would contribute non-mobile noise as well. Introducing new residential uses into the area would result in new non-transportation noise sources associated with residential heating and air conditioning units. Noise would also be produced by the typical daily outdoor activity of the residents of the proposed project. None of these noise sources would be considered atypical for residential development. Also, there are no existing stationary noise sources that exist in the project vicinity that could impact new receptors.

Because the proposed project would not increase traffic noise more than 3 dBA L_{dn} in 2025, this would be a ***less-than-significant impact.***

Mitigation Measures

None required.

5.5 Solid Waste

5.5 SOLID WASTE

INTRODUCTION

The solid waste section discusses the existing conditions of the solid waste facilities that would serve the project, estimates the solid waste generated by the proposed project and compares projected solid waste generated to landfill capacity. Information for this analysis was obtained from the Sacramento General Plan, the California Integrated Waste Management Board (CIWMB), and City staff.

The Initial Study (Appendix A) determined the proposed project would have a less-than-significant impact to other services and utilities, including wastewater, law enforcement, fire protection, schools, libraries, and parks. Drainage and water supply are addressed in Sections 5.3 and 5.7, respectively.

There were no comments related to solid waste received in response to the Notice of Preparation (see Appendix B).

ENVIRONMENTAL SETTING

The City of Sacramento's Solid Waste division collects all residential solid waste and would serve the proposed project. Residential and commercial solid waste collected by the City is transported to the Sacramento Recycling and Transfer Station (8491 Fruitridge Road) and is then transported to Lockwood Landfill, near Sparks, Nevada. Commercial waste, which would include construction and demolition waste, collected by private companies is disposed at a variety of facilities including the Sacramento County Keifer Landfill, the Yolo County Landfill, Forward Landfill, L and D Landfill, Florin Perkins Landfill, and several privately run transfer stations.[1] Private haulers can deliver waste to the landfill of their choice; they typically select the most cost-efficient option.

The Sacramento Recycling and Transfer Station accepts approximately 2,000 tons of mixed municipal waste per day and is permitted for a maximum daily disposal of 3,000 tons.[2]

The Lockwood Regional Landfill, located in Sparks, Nevada, is a Class I landfill that currently accepts an average of 7,700 tons/day, 800 tons of which come from the City of Sacramento. Lockwood Landfill does not have maximum daily disposal limits, and it has a remaining capacity of 32.5 million tons. The landfill currently operates on a 550-acre site; however, to accommodate planned future growth, the process for expansion to 1,100 acres is underway.[3]

Construction waste from the proposed project could be sent to a variety of landfills. Kiefer Solid Waste Landfill, operated by the County Department of Public Works, is the primary municipal solid waste disposal facility in Sacramento County. Kiefer Landfill, categorized as a Class III facility, accepts waste from the general public, businesses, and private waste haulers. More specifically, wastes accepted include: construction/demolition, mixed municipal, and sludge (biosolids). The facility is on a 1,084-acre site near the intersection of Kiefer Boulevard and Grantline Road. The permitted capacity for the landfill is 117,400,000 cubic yards (10,815 tons/day) and, as of 2000, the

1 City of Sacramento, *General Plan*, 1988, page 7-10.

2 City of Sacramento, *Crocker Art Museum Expansion EIR,* August 23, 2004, page 232.

3 Mark Frankey, Nevada Bureau of Waste Management, personal communication, January 18, 2005.

landfill had a remaining capacity of 86,163,462 cubic yards (73 percent).[4] The landfill has an estimated closure date of 2064.[5]

The City of Sacramento provides weekly curbside pickup of trash and bi-weekly curbside pickup of recyclable materials at residences within City limits. Recyclable materials accepted by the City's curbside recycling program include glass, paper products, plastics, and cans. The City also offers weekly collection of yard waste.

In 2000, the City of Sacramento disposed of 500,291 total tons (34 percent household waste and 66 percent business waste). Of this total, the City exported 210,862 tons (42 percent) out of state for disposal. The City of Sacramento achieved a diversion rate of 45 percent in 2000.[6]

Regulatory Context

Federal

Resource Conservation and Recovery Act

Volume 40 of the Code of Federal Regulations, Part 258 (Resource Conservation and Recovery Act (RCRA, Subtitle D)) contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design, groundwater monitoring, and closure of landfills.

State

Assembly Bill 939

In 1989, the California Legislature passed AB 939 requiring California cities to implement plans designed to reduce waste deposited in landfills by 50 percent per person by December 31, 2000. As part of AB 939, cities and counties were required to develop a Source Reduction and Recycling Element (SRRE).

Local

City of Sacramento General Plan

The following goal is applicable to solid waste and the proposed project:

> Goal
> Provide adequate solid waste disposal facilities and services for collection, storage and reuse of refuse.

South Natomas Community Plan

The SNCP does not contain goals or policies applicable to the provision of solid waste services.

4 CIWMB, *Active Landfills Profile*, www.ciwmb.ca.gov, Accesses January 18, 2005.
5 CIWMB, *Active Landfills Profile*, www.ciwmb.ca.gov, Accessed January 18, 2005.
6 CIWMB, *Jurisdiction Profile*, http://www.ciwmb.ca.gov, Accessed January 18, 2005.

Sacramento Regional County Solid Waste Authority

Ordinance 14

Ordinance 14, effective January 10, 2005, replaces previous Ordinances 8, 11, 12 (Sections 1 and 2), and 13, and was established to regulate the transport, transfer, disposal, and recycling of commercial solid waste kept or accumulated within the Sacramento Regional County Solid Waste Authority (SWA) region. The ordinance was adopted for the purposes of ensuring the orderly operation of solid waste transport and disposal, and also to minimize adverse effects on human health and the local environment.

Sacramento Municipal Code

Chapter 17.72 of the City of Sacramento Municipal Code outlines the recycling and solid waste disposal regulations. These regulations are necessary in order to lengthen the lifespan of landfills, encourage recycling, and meet State mandated goals for waste reduction and recycling, specifically AB 939. Single-family developments comply with this ordinance by participating in the City of Sacramento's solid waste and recycling programs.[7]

Source Reduction Recycling Element

The California Integrated Waste Management Act of 1989 (Assembly Bill 939, noted above) mandates that each city shall prepare, adopt, and submit a SRRE. AB 939 required all cities to achieve a minimum diversion of 25 percent of the City's waste stream from landfilling by the year 1995 and 50 percent diversion by the year 2000. The City of Sacramento's Final Draft SRRE, approved in 1995, pledges to exceed the requirements of AB 939, where feasible, in an effort to achieve a 70 percent landfill avoidance goal adopted by City Council in August 1989. In order to achieve this goal, the City has implemented a number of programs, including curbside recycling, drop-off and buy-back centers, and compost programs.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

This analysis uses a residential solid waste generation rate of seven pounds per person per day, provided by the City of Sacramento Utilities Department. This rate includes recyclables, which can constitute as much as 50 to 80 percent of the waste generated.[8] According to the U.S. Census, Sacramento averaged 2.57 residents per household in 2000.[9] Using this estimate, the proposed project would include 1,365 residents at project buildout. Solid waste generated by the proposed project was based on this population estimate and a solid waste generation rate of seven pounds per person per day.

7 Michael Root, Program Analyst, City of Sacramento, Utilities Department, personal communication, May 5, 2005.

8 Michael Root, Program Analyst, City of Sacramento, Utilities Department, personal communication, May 5, 2005.

9 U.S. Census Bureau, American Fact Finder, *Sacramento City, California,* http://factfinder.census.gov, Accessed January 10, 2005.

Standards of Significance

For the purposes of this EIR, impacts to solid waste are considered significant if the proposed project would:

- Require or result in the construction of new landfills or the expansion of existing facilities to accommodate the project's solid waste disposal needs; or
- Generate more than 500 tons of solid waste per year.

Project-Specific Impacts and Mitigation Measures

5.5-1 The proposed project could require or result in the construction of new landfills or the expansion of existing facilities or generate more than 500 tons of solid waste per year. This is considered a *significant impact.*

The proposed project includes the development of residential and open space uses on a site that is currently undeveloped. Construction of the proposed project would generate solid waste and increase demand on disposal facilities.

Construction activities can, for a short period of time, generate significant amounts of waste. The CIWMB does not have a specific generation rate for construction waste. The construction waste could be disposed of at a variety of landfills including Lockwood Landfill or Keifer Landfill. As discussed in the Environmental Setting, these landfills have adequate capacity and accept construction waste.[10] In addition, the proposed project would be required to submit verification of construction recycling in the form of information about the hauler and facility, diversion percentage, and weigh tickets. Construction materials targeted for diversion include wood waste, scrap metal, cardboard, and sheetrock.[11]

At full buildout, the proposed project would have approximately 1,365 residents. Assuming a waste generation rate of 7 lbs/person/day, the project would produce 9,555 pounds of solid waste per day (4.8 tons per day). As described above, the City of Sacramento provides all residential solid waste services. Trash collected by the City would be sent to Lockwood Landfill, where it would constitute a 0.062 percent increase in the waste received each day (from 7,700 tons/day). The proposed project would result in a 0.6 percent increase in contributions from Sacramento to Lockwood Landfill (from 800 tons/day). The landfill has 32.5 million tons of capacity remaining, is currently working on expansion plans, and has no estimated closure date.

In accordance with Sacramento City Code 17.72, the proposed project would be required to participate in the City's residential curbside recycling program, which would reduce the amount of solid waste generated. Recycling programs can reduce the amount of solid waste by 50 to 80 percent, depending on the aggressiveness of the program.[12]

Assuming no recycling plan is in place, the proposed project would generate approximately 1,752 tons of solid waste per year. This would increase Sacramento's total solid waste disposal by approximately 0.35 percent (from 500,291 total tons). With participation in the required recycling

10 California Integrated Waste Management Board, http://www.ciwmb.ca.gov, Accessed February, 2005.

11 Michael Root, Program Analyst, City of Sacramento, Utilities Department, personal communication, May 5, 2005.

12 Michael Root, Program Analyst, City of Sacramento, Utilities Department, personal communication, May 5, 2005.

programs, the proposed project's solid waste stream would be further reduced (the amount of reduction would depend on the type and effectiveness of the recycling program).

Because the proposed project's waste stream would represent a small portion of the City's overall waste stream, and the City of Sacramento's waste is distributed among a variety of landfills[13] that have substantial capacity remaining, the proposed project would not require the expansion or construction of landfills. However, the proposed project would generate more than 500 tons of solid waste per year. Therefore, this would be a *significant impact.* Implementation of a recycling program would not guarantee a reduction below 500 tons per year. Because there is no mitigation available to reduce project solid waste generation to below 500 tons per year, this impact would be ***significant and unavoidable***.

Mitigation Measure

None available.

Cumulative Impacts and Mitigation Measures

The 500 ton per year standard would not logically apply to cumulative development because a single large project would exceed this standard. The cumulative analysis is based on the project's contribution and potential impact upon landfills. The cumulative context for solid waste services includes all development in the Sacramento Regional County Solid Waste Authority service area. This includes the cities of Sacramento and Citrus Heights and unincorporated areas of the County.

5.5-2 The proposed project, in combination with other development in the County, could require or result in the construction of new landfills or the expansion of existing facilities. This is considered a *less-than-significant impact.*

As addressed in the setting section, a number of landfills operate in the Sacramento region, and landfills outside the region also serve Sacramento's solid waste needs. The Lockwood Landfill, the primary destination for waste collected by the City of Sacramento, has no expected closure date and 32.5 million cubic yards of capacity. Kiefer Landfill is not expected to reach capacity for another 60 years. As growth continues in the region, in accordance with the County General Plan and city general plans, population would increase and the solid waste stream would continue to grow. Implementation of the Solid Waste Authority and Sacramento recycling requirements, however, would continue to reduce potential impacts on landfill capacity. The existence of significant capacity at the City's primary landfills, the exporting of solid waste, and aggressive recycling policy would result in a ***less-than-significant impact*** on cumulative solid waste generation.

Mitigation Measure

None required.

13 Michael Root, Program Analyst, City of Sacramento, Utilities Department, personal communication, January 21, 2005.

5.6 Transportation and Circulation

5.6 TRANSPORTATION AND CIRCULATION

INTRODUCTION

This traffic section analyzes the potential transportation and circulation impacts resulting from implementation of the ParkeBridge project. The analysis of traffic impacts addresses roadway, transit, bicycle and pedestrian systems, and freeway operations under existing, baseline, and cumulative (year 2025) conditions. The transportation and circulation impacts of the proposed project with and without the extension of Fong Ranch Road which is proposed in the South Natomas Community Plan has been analyzed for cumulative conditions.

Comments received in response to the Notice of Preparation (NOP), included in Appendix B, requested an analysis of impacts to San Juan Road, the Rosin Road / Northgate Boulevard intersection, and light rail operations along Truxel Road. These issues are addressed in this section.

ENVIRONMENTAL SETTING

The proposed project is located southeast of the Interstate 80 and Truxel Road Interchange. The proposed project would contain 142 townhomes and 389 single family homes.

The proposed project can be accessed through Bridgeford Drive and Fong Ranch Road formerly known as Rosin Boulevard. We have analyzed the impacts of the proposed project with and without connection of Fong Ranch Road under Cumulative conditions. Under the South Natomas Community Plan the future Fong Ranch Road runs parallel to I-80 and connects Truxel Road and Northgate Boulevard.

Figure 5.6-1 shows the location of the proposed project with respect to the surrounding roadway network.

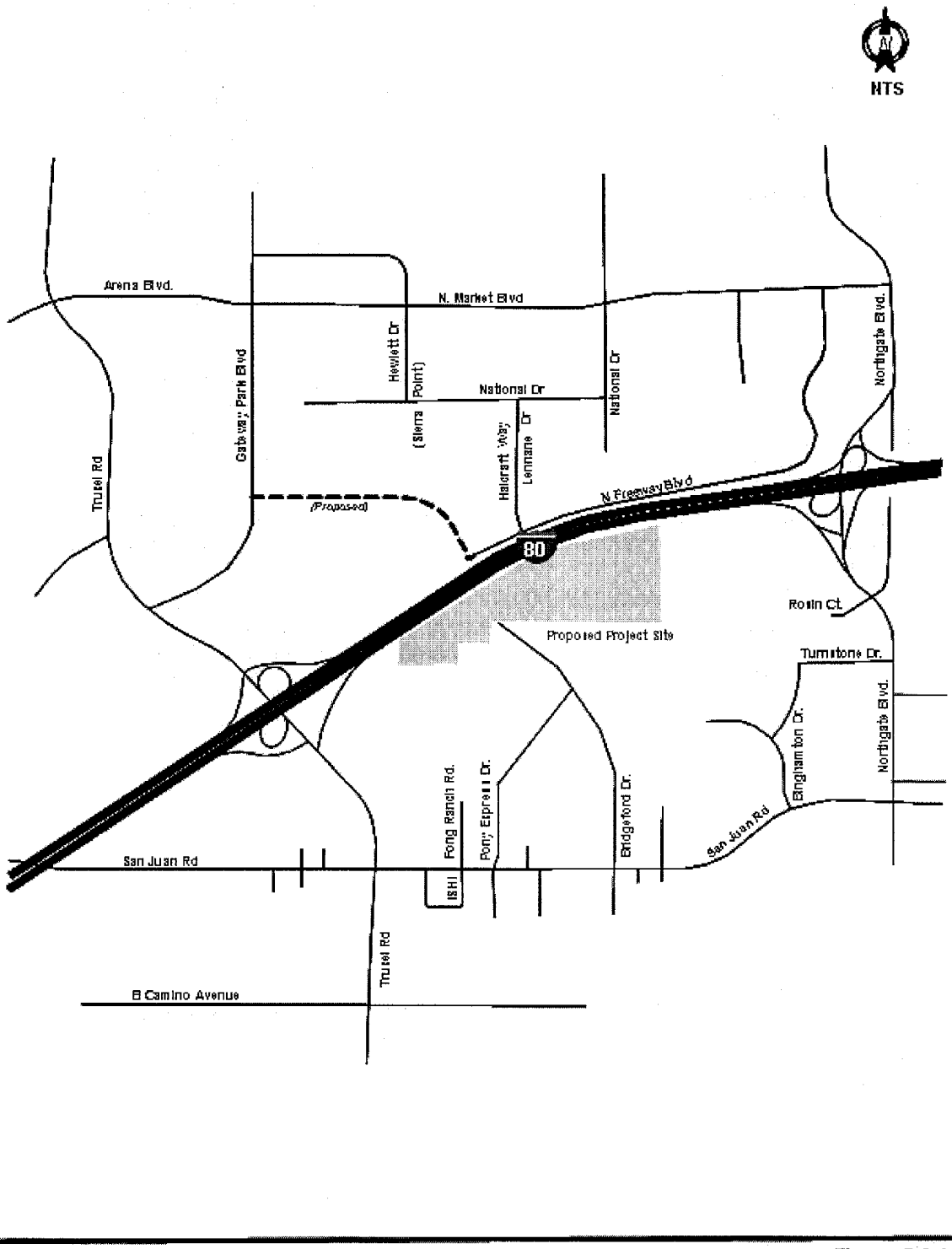
Roadway System

Regional automobile access to the site is provided primarily by the freeway system that serves the northern areas of Sacramento. Interstate 80 (I-80) is an east-west facility that is located adjacent to the project site. Access to and from I-80 is provided at Truxel Road and Northgate Boulevard.

Truxel Road is an eight-lane arterial roadway with a raised median and controlled access north of I-80 that transitions to six lanes south of I-80 and four lanes south of San Juan Road. A partial cloverleaf intersection provides a connection to I-80.

Northgate Boulevard is a four to six lane arterial roadway with turn lanes that provides a connection to I-80 near the project site. The I-80/Northgate interchange is a partial cloverleaf with loop ramps at its northeast and southwest corners. Northgate Boulevard terminates on its north end at Del Paso Road and on its south end at SR 160.

San Juan Road is a two to four lane roadway serving residential and commercial land uses south of I-80 from El Centro Road on the west to its eastern terminus at Norwood Avenue. Dual left turn lanes and separate right turn lanes are provided at the intersections with Truxel Road and Northgate Boulevard.



ParkeBridge Traffic Study

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Figure 5.6-1
Vicinity Map

Fong Ranch Road (formerly known as Rosin Road) is a two-lane roadway which mainly services school traffic which is located on the north side of San Juan Road. Fong Ranch Road is also known as Ishi Road south of San Juan Road and serves residential land uses. On-street Parking is allowed on both sides of Fong Ranch Road.

Pony Express Drive is a two-lane roadway that mainly serves residential traffic. Pony Express Drive terminates at Old West Drive. To control the speed on this residential street, there are several speed humps on each block. On-street parking is allowed on both sides of the street.

Bridgeford Drive is a two-lane roadway that mainly serves residential traffic. Bridgeford Drive starts at Pebblewood Drive and terminates north of San Juan Road. On-street parking is allowed on both sides of street.

Study Area

A set of intersections and street segments were selected for study based upon the anticipated volume and distributional patterns of project traffic and known locations of operational difficulty. This selection was made in collaboration with the City of Sacramento department of Developmental Services staff. The following locations were studied:

Intersections

- Truxel Road / I- 80 Westbound Ramps
- Truxel Road / I-80 Eastbound Ramps
- Truxel Road / San Juan Road
- Truxel Road / W. El Camino Avenue
- San Juan Road/Fong Ranch Road
- San Juan Road/Pony Express Drive
- San Juan Road/Bridgeford Drive
- San Juan Road/Northgate Boulevard
- Northgate Boulevard/Rosin Court
- Northgate Boulevard/I-80 Eastbound Ramps
- Northgate Boulevard/I-80 Westbound Ramps

Street Segments

- Truxel Road North of San Juan Road
- Truxel Road South of San Juan Road
- San Juan Road west of Truxel Road
- San Juan Road between Truxel Road and Fong Ranch Road
- San Juan Road between Fong Ranch Road and Bridgeford Drive

- San Juan Road East of Bridgeford Drive
- Fong Ranch Road north of San Juan Road
- Pony Express Drive north of San Juan Road
- Bridgeford Road north of San Juan Road
- Fong Ranch Road north of the canal
- Fong Ranch Road east of Street I

Freeway Facilities

- I-80 mainline west of Truxel Road
- I-80 mainline east of Northgate Boulevard
- Eastbound I-80 Truxel Road off-ramp
- Eastbound I-80 on-ramp from northbound Truxel Road
- Eastbound I-80 on-ramp from northbound Northgate Boulevard
- Westbound I-80 Northgate Boulevard off-ramp
- Westbound I-80 Truxel Road off-ramp
- Westbound I-80 on-ramp from northbound Truxel Road

Traffic counts were collected at the study intersections and roadway segments in March 2005. The most recent freeway data for I-80 was collected from Caltrans. The existing lane geometry for the study intersections are shown in Figure 5.6-2. The existing weekday AM and PM peak hour turning movement volumes at the study intersections are shown in Figure 5.6-3. The existing average daily traffic (ADT) volumes on study roadways are shown in Table 5.6-1.

Existing Traffic Operating Conditions

Intersection Operations

Signalized intersection analyses were conducted using the operational methodology outlined in the *Highway Capacity Manual* (Transportation Research Board, Washington D.C., 2000, Chapters 10 and 16). This procedure calculates an average stopped delay per vehicle at a signalized intersection, and assigns a level of service designation based upon the delay. The method also provides a calculation of the volume-to-capacity (v/c) ratio of the critical movements at the intersection. Table 5-6.2 shows LOS criteria for signalized intersections.

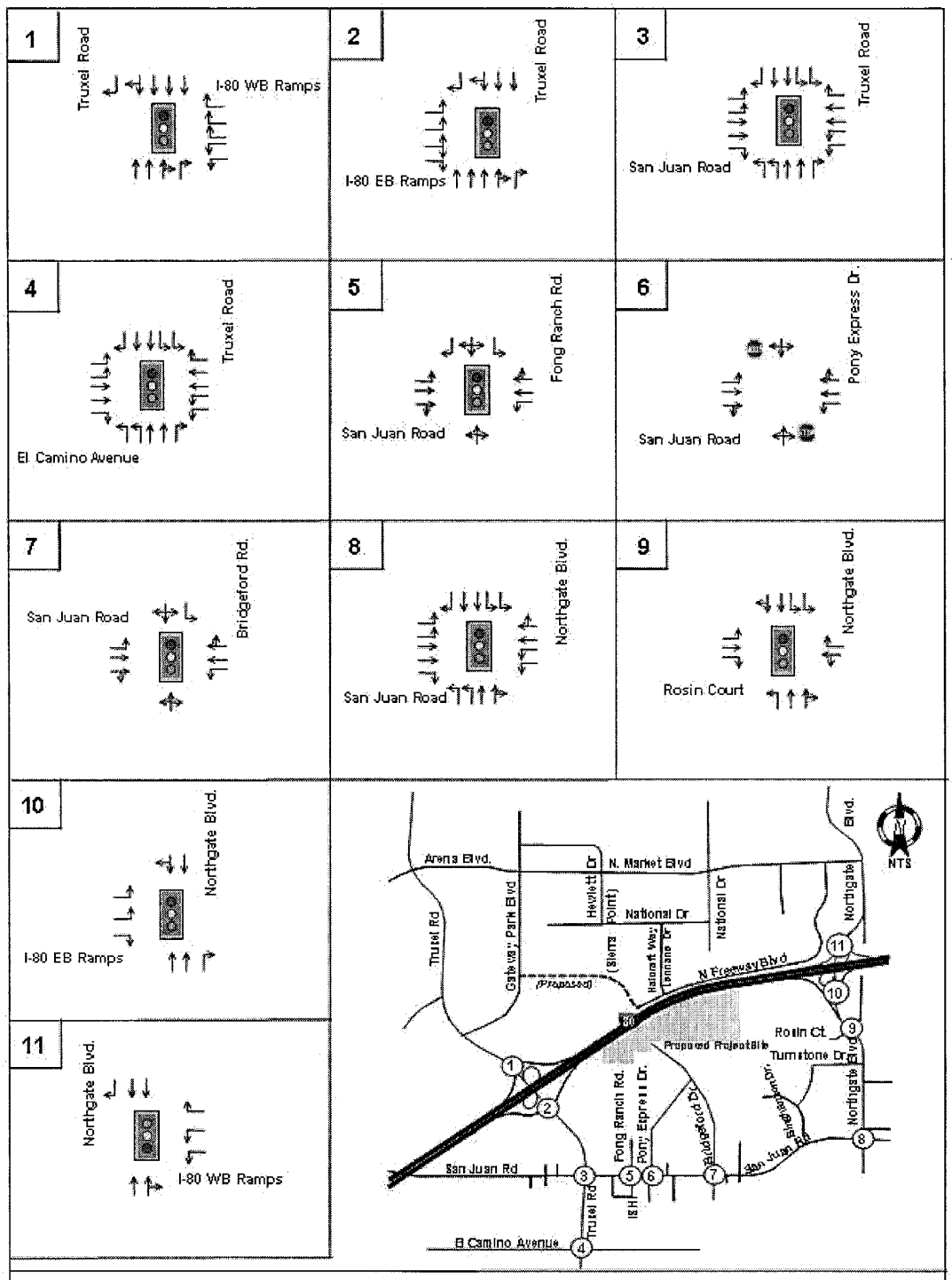

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Figure 5.6-2
EXISTING LANE CONFIGURATIONS AND TRAFFIC CONTROLS

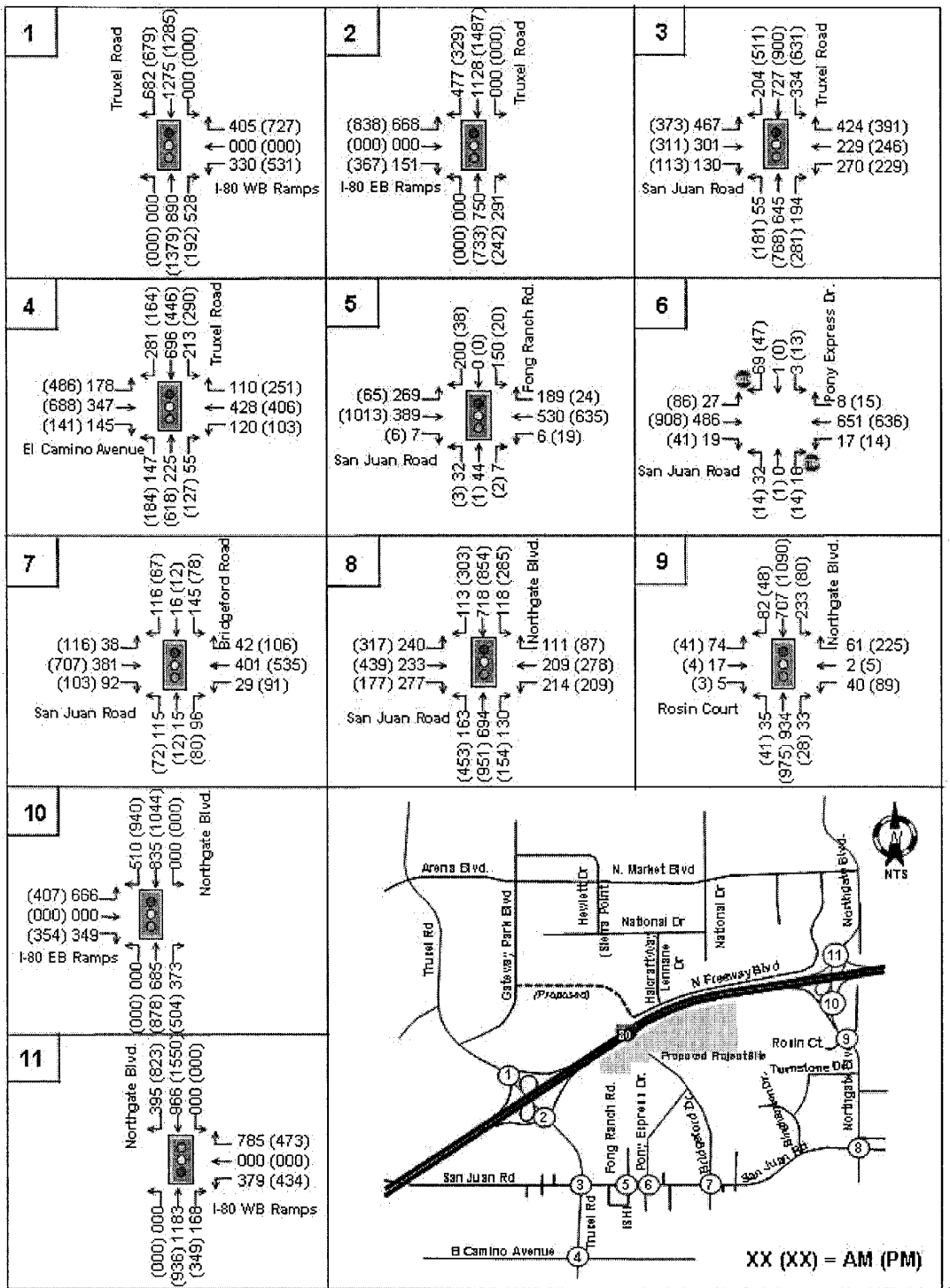

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Figure 5.6-3
EXISTING PEAK HOUR VOLUMES

TABLE 5.6-1

EXISTING ROADWAY SEGMENT AVERAGE DAILY TRAFFIC

Roadway segments	Lanes	Existing conditions Daily traffic
Truxel Road North of San Juan Road	6	40,200
Truxel Road South of San Juan Road	4	25,440
San Juan Road west of Truxel Road	2	17,750
San Juan Road between Truxel Road and Fong Ranch Road	4	19,740
San Juan Road between Fong Ranch Road and Bridgeford Dr.	4	16,980
San Juan Road East of Bridgeford Dr.	4	15,600
Fong Ranch Road north of San Juan Road.	2	1,240
Pony Express Drive north of San Juan Road.	2	2,010
Bridgeford Road north of San Juan Road.	2	4,260

Source: Dowling Associates, Inc.

Stop sign controlled intersections were analyzed utilizing the methodology outlined in the Highway Capacity Manual (Transportation Research Board, Washington D.C., 2000, Chapters 10 and 17). This methodology determines the Level of Service by calculating an average total delay per vehicle for each controlled movement. A LOS designation is assigned based upon the average total delay of all movements. Table 5.6-2 presents the relationship of total delay to level of service for stop sign controlled intersections.

TABLE 5.6-2

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED AND UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	SIGNALIZED	UNSIGNALIZED	DESCRIPTION
	Average Delay (seconds / vehicle)	Average Delay (seconds / vehicle)	
A	≤ 10	≤ 10	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.
B	> 10 and < 20	> 10 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	> 20 and < 35	> 15 and < 25	Acceptable Delay: Delay increases due to only fair progression, longer cycle lengths, or both. Individual cycle failures (to service all waiting vehicles) 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	> 35 and < 55	> 25 and < 35	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	> 55 and < 80	> 35 and < 50	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	> 80	> 50	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 nearly saturated conditions with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

Source: Transportation Research Board, *Highway Capacity Manual,* Washington, D.C., 2000.

Table 5.6-3 summarizes the LOS results for the study intersections under the Existing No Project scenario. The calculations are provided in Appendix E1. The study intersections were found to be operating acceptably, LOS C or better for City of Sacramento intersections or LOS D or better for I-80 freeway ramp intersections, during the weekday AM peak hour and PM peak hours.

TABLE 5.6-3

EXISTING CONDITIONS - INTERSECTION LEVEL OF SERVICE SUMMARY

Intersections	Intersection Control	AM Peak Hour		PM Peak Hour	
		Level of Service	Delay (sec.)	Level of Service	Delay (sec.)
Truxel Road/I-80 WB Ramps	Signal	B	11.1	B	15.2
Truxel Road/I-80 EB Ramps	Signal	B	13.7	B	15.7
Truxel Road/San Juan Road	Signal	C	30.8	C	27.2
Truxel Road/El Camino Avenue	Signal	C	27.6	C	30.1
San Juan Road/Fong Ranch Road	Signal	C	25.2	B	12.6
San Juan Road/Pony Express Drive	NB/SB - Stop	A/C	1.7/21.5	A/E	1.8/38.6
San Juan Road/Bridgeford Drive	Signal	C	23.5	C	20.6
San Juan Road/Northgate Boulevard	Signal	C	28.7	C	33.6
Northgate Boulevard/Rosin Court	Signal	B	19.1	C	21.3
Northgate Boulevard/I-80 EB Ramps	Signal	B	17.0	B	17.5
Northgate Boulevard/I-80 WB Ramps	Signal	C	30.5	C	20.2

Source: Dowling Associations
XX/XX: Avg. Delay/Worst Movement Delay

Roadway Segments

Daily traffic counts were conducted on nine roadway segments. **Table 5.6-1** displays the existing daily traffic volumes at each study area roadway segment. Throughout this report, daily traffic volumes are reported for each analysis scenario as a measure of the magnitude of traffic volume changes. In the study area the basic roadway system has been established and intersection operations are the limiting factor that may result in an impact.

Freeway Facilities

Freeway Mainline

The freeway mainline was analyzed utilizing a methodology outlined in the *Highway Capacity Manual* (Transportation Research Board, Washington, D.C., 2000, Chapters 13 and 23). Maximum service flow rates of 2,200 vehicles per lane per hour for typical freeway lanes and 1,600 vehicles per lane per hour for auxiliary lanes were used, based upon data collected by Caltrans in the Sacramento urban area. **Table 5.6-4** shows the relationship of freeway volume-to-capacity ratios and density to level of service.

TABLE 5.6-4

LEVEL OF SERVICE CRITERIA – FREEWAY MAINLINE

Level of Service	Maximum Volume-to-Capacity Ratio	Maximum Density (passenger vehicles per mile per lane)
A	0.32	11
B	0.53	18
C	0.74	26
D	0.90	35
E	1.00	45
F	Varies	Varies

Source: Transportation Research Board, *Highway Capacity Manual,* Washington, D.C., 2000, pages 23-3 and 23-4.

Table 5.6-5 summarizes the LOS results for the freeway mainline study segments under the Existing No Project scenario. The calculations are provided in Appendix E2. The freeway mainline study segments were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB mainline between Norwood Avenue and Northgate Boulevard is operating at LOS F during the AM peak hour.

TABLE 5.6-5

EXISTING I-80 MAINLINE OPERATIONS

Ramp	AM Peak Hour			PM Peak Hour		
	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume
Eastbound I-80						
I-5 to Truxel	C	0.62	5,057	D	0.78	6,405
Truxel to Northgate	C	0.61	5,006	C	0.70	5,771
Northgate to Norwood	C	0.74	4,874	E	0.98	6,454
Westbound I-80						
Norwood to Northgate	**F**	1.03	6,781	D	0.82	5,423
Northgate to Truxel	D	0.75	6,180	C	0.69	5,688
Truxel to I-5	C	0.68	6,655	C	0.54	5,301

Notes:
LOS=Level of Service.
V/C ratio = volume to capacity ratio.
Bolded values indicate non-compliance with Caltrans standards.
Source: Dowling Associates, Inc.

Freeway Ramp and Merge/Diverge

Freeway ramps and merge / diverge areas were analyzed utilizing a methodology outlined in the *Highway Capacity Manual* (Transportation Research Board, Washington, D.C., 2000, Chapters 13 and 25). Freeway ramp operating conditions are dependent upon traffic volumes and the ramp characteristics. These characteristics include the length and type of acceleration / deceleration lanes; free-flow speed of the ramps; number of lanes; grade; and types of facilities that the ramps interconnect. Table 5.6-6 shows the relationship of level of service to freeway density.

TABLE 5.6-6

LEVEL OF SERVICE CRITERIA – FREEWAY RAMP MERGE / DIVERGE AREAS

Level of Service	Maximum Density (passenger vehicles per mile per lane)
A	10
B	20
C	28
D	35
E	> 35
F	Demand exceeds capacity

Source: Transportation Research Board, *Highway Capacity Manual*, Washington, D.C., 2000, page 25-5.

Table 5.6-7 shows maximum service flow rates for freeway ramps, based upon information presented in the *Highway Capacity Manual* (Transportation Research Board, Washington, D.C., 2000, Chapters 13 and 25; 1985, Chapter 5). This methodology is utilized in cases where the capacity of the ramp is governed by the ramp geometry and not by the ramp-freeway junction (where a single-lane on-ramp results in a lane addition).

TABLE 5.6-7

LEVEL OF SERVICE DEFINITIONS – FREEWAY RAMPS

Level Of Service (LOS)	Service Flow Rates For Single Lane / Two Lane Ramps Ramp Design Speed (Mph)					Definition
	< 20	20-30	31-40	41-50	> 50	
A	(1)	(1)	(1)	(1)	800/ 1,550	Conditions of free flow; speed is controlled by driver's desires, speed limits, or physical conditions.
B	(1)	(1)	(1)	1,150/ 2,250	1,150/ 2,350	Conditions of stable flow; operating speeds beginning to be restricted; little or no restrictions on maneuverability from other vehicles.
C	(1)	(1)	1,400/ 2,600	1,600/ 3,100	1,700/ 3,350	Conditions of stable flow; speeds and maneuverability more closely restricted
D	(1)	1,550/ 2,900	1,700/ 3,200	1,950/ 3,850	2,050/ 4,150	Conditions approach unstable flow; tolerable speeds can be maintained, but temporary restrictions may cause extensive delays; little freedom to maneuver; comfort and convenience low.
E	1,800/ 3,200	1,900/ 3,500	2,000/ 3,800	2,100/ 4,100	2,200/ 4,400	Conditions approach capacity; unstable flow with stoppages of momentary duration; maneuverability severely limited.
F	Widely Variable					Forced flow conditions; stoppages for long periods; low operating speeds.

Notes:
1. Level of service not attainable due to restricted design speed.
Sources: Transportation Research Board, Highway Capacity Manual, Washington, D.C., 2000, pages 25-4 and 25-9.
Transportation Research Board, Highway Capacity Manual, Washington, D.C., 1985, page 5-15.

Table 5.6-8 summarizes the LOS results for the study area freeway interchanges under the Existing No Project scenario. The calculations are provided in Appendix E3. The study freeway ramps were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB off-ramp to Northgate Boulevard which is operating at LOS F during the AM peak hour.

TABLE 5.6-8

EXISTING I-80 INTERCHANGE OPERATIONS

Ramp	AM Peak Hour			PM Peak Hour		
	LOS	Density[1] (Flow)	Volume	LOS	Density[1] (Flow)	Volume
Eastbound I-80						
Truxel Rd. Off-Ramp	B	15.0	819	B	19.0	1,205
Truxel Rd. North On-Ramp	B	19.9	291	C	23.0	242
Northgate Blvd. North On-Ramp	C	25.4	373	D	33.9	504
Westbound I-80						
Northgate Blvd. Off-Ramp	**F**	33.4	1,164	C	27.8	907
Truxel Rd. Off-Ramp	B	18.4	735	B	16.9	1,258
Truxel Rd. North On-Ramp	C	576	528	C	209	192

Notes:
1. Numbers with decimals indicate the density of passenger vehicles per mile per lane in the merge or diverge area. Whole numbers indicate the ramp flow rate in passenger car equivalents where a lane is added to the freeway at an onramp.
LOS = level of service
Bolded values indicate non-compliance with Caltrans standards.
Source: Dowling Associates, Inc.

Freeway Off-Ramps were analyzed to determine whether the available storage lengths are adequate for the anticipated queues. The length of a vehicle is assumed to be 25 feet long. Table 5.6-9 presents the comparison of the queue length and the storage length for the Existing condition. All Off-ramps would have adequate capacity to store the anticipated queue during both the AM and PM peak hours.

TABLE 5.6-9

EXISTING – RAMP QUEUING

Location	AM Peak Hour			PM Peak Hour		
	Storage Capacity (feet)	Queue (feet)	Adequate Capacity	Storage Capacity (feet)	Queue (feet)	Adequate Capacity
I-80 EB Off-ramp to Truxel Road	4040	775	Yes	4040	1100	Yes
I-80 WB off-ramp to Truxel Road	4360	775	Yes	4360	1175	Yes
I-80 WB off-ramp to Northgate Boulevard	2475	825	Yes	2475	850	Yes

Notes:
Bolded values indicate a queue grater than the storage capacity.
Source: Dowling Associates, Inc.

Transit System

Sacramento Regional Transit (RT) provides service to the project area via Route 86 and 11. Route 86 provides service from Marconi/Arcade to Downtown Sacramento. Weekday service is provided on a 30 minutes basis and weekend service is provided on an hourly basis. Route 11 provides service from the Natomas area to Downtown Sacramento. No service is provided on the weekends. **Figure 5.6-4** shows the existing transit service in the vicinity of proposed project site.

Bicycle and Pedestrian Facilities

There are Class II (on-street, signed and striped) bicycle facilities along San Juan Road, Fong Ranch Road and Bridgeford Road in the vicinity of project site. Figure 5.6-5 shows the existing bike facilities near the project area.

In the vicinity of the proposed project, there are existing sidewalks on the both sides of San Juan Road, Fong Ranch Road and Bridgeford Road to accommodate pedestrian activity.

Regulatory Context

Roadway operations are regulated by agencies with jurisdiction of a particular roadway. In the study area, the interstate freeways are under the jurisdiction of the California Department of Transportation (Caltrans). The non-freeway roadways are under the jurisdiction of the City of Sacramento.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

This section analyzes project impacts on the transportation and circulation system under baseline and cumulative (2025) conditions. This section presents the analysis, identifies significant project impacts, and recommends mitigation measures to reduce impacts to less-than-significant levels.

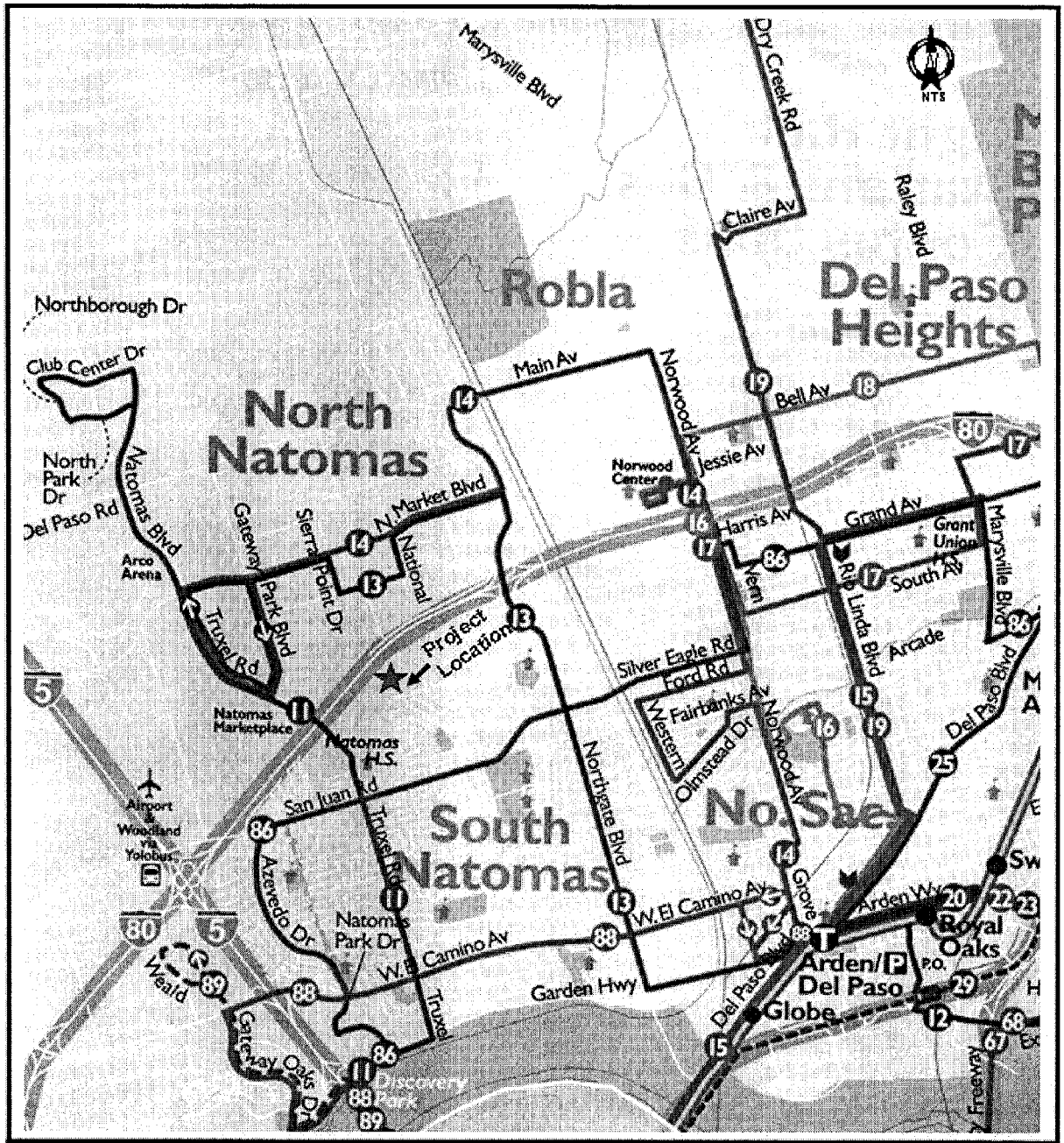
The methodology for determining project impacts was based on the analytical procedures identified in the previous section. The level of service analysis at intersections and on freeways was performed using the 2000 *Highway Capacity Manual* methodologies, as discussed previously in this section.

Standards of Significance

The standards of significance in this analysis are based on the City of Sacramento Traffic Impact Guidelines, 1996 except for freeway facilities. The standards of significance for freeway facilities are selected according to Caltrans' requirements.

Impacts to intersections (except for freeway ramp/arterial intersections) are considered significant if the Proposed Project would:

- Cause the facility to change from LOS C or better to LOS D or worse. For facilities that are, or will be, worse than LOS C without the project, an impact is considered significant if the project increases the average delay by 5 seconds or more at an intersection.

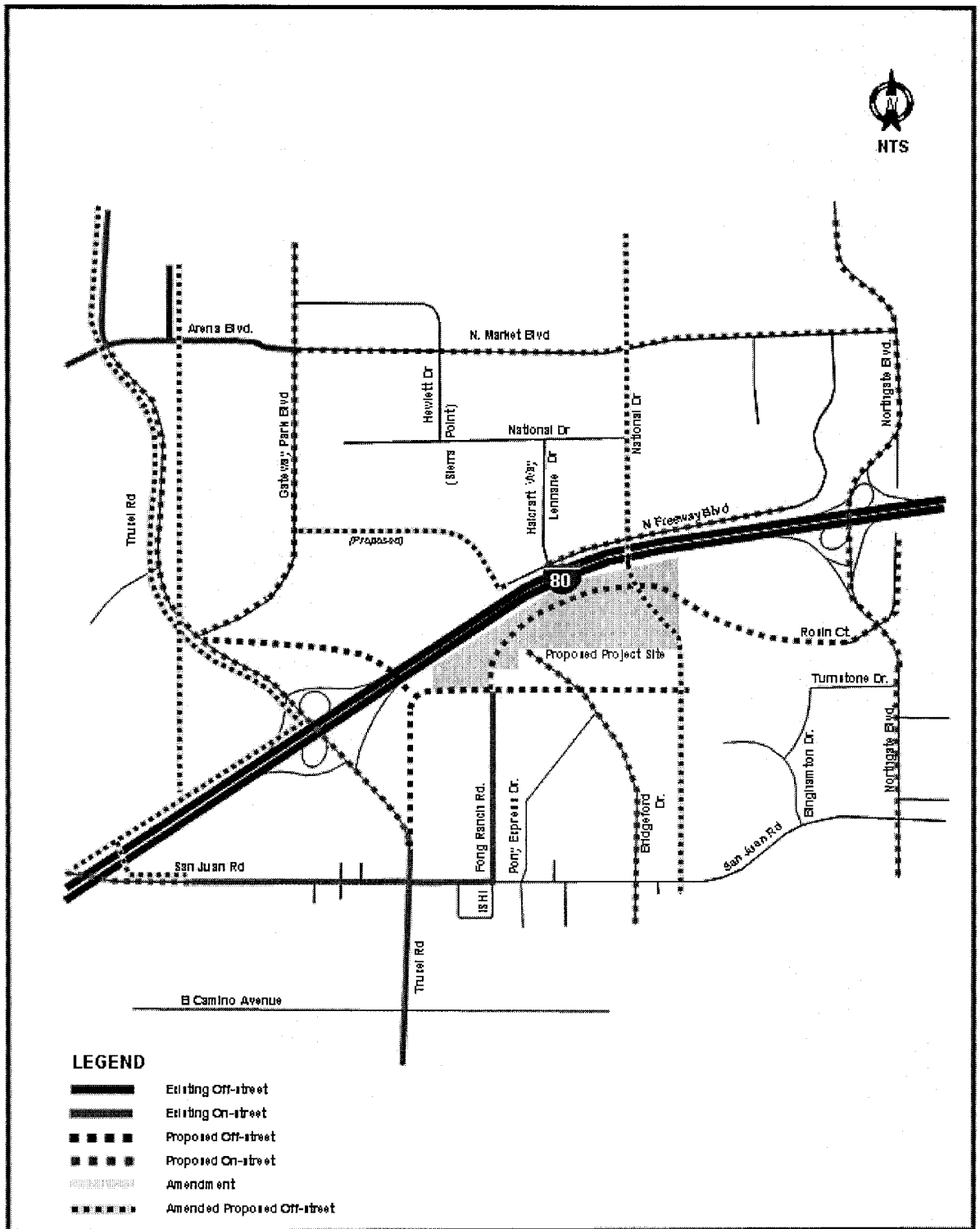


Source: Sacramento Regional Transit District Bus & Light Rail System Map (Sep 04)

ParkeBridge Project
Dowling Associates, Inc.

FIGURE – 5.6-4

TRANSIT MAP



ParkeBridge Traffic Study
Dowling Associates

Figure 5.6-5
Existing and Proposed Bike Lanes in the Vicinity of Project Site

Impacts at intersections with freeway ramps are considered significant if the Proposed Project would:

- Cause the facility to change from LOS D or better to LOS E or worse. For the purpose of this EIR, facilities that are, or will be, worse than LOS E without the project, an impact is considered significant if the project increases the average delay by 5 seconds or more at an intersection.

As per Caltrans' standards of significance, impacts to freeway ramps and mainline facilities are considered significant if the Proposed Project would:

- Cause Off-ramps with vehicle queues to extend into the ramp's deceleration area or onto the freeway.
- Cause any ramp's merge/diverge level of service to be worse than the freeway's level of service.
- Cause the freeway level of service to deteriorate beyond level of service "E."

The impacts to bikeways are considered significant if the Proposed Project would

- Hinder or eliminate an existing designated bikeway or interfere with implementation of a proposed bikeway.

The impacts to a transit system are considered significant where the Proposed Project:

- Generated ridership when added to the existing or future ridership exceeds available or planned system capacity. Capacity is defined as the total number of passengers the system of busses and light rail vehicles can carry during the peak hours of operations.

The impacts to pedestrian circulation are considered significant where the Proposed Project would:

- Result in unsafe conditions or hindrance for pedestrians, including unsafe pedestrian/bicycle or pedestrian/motor vehicle conflicts.

Baseline Conditions

This scenario analyzes transportation conditions with the addition of various development projects currently under construction or developments within the study area identified by the City of Sacramento. The roadway system for the analysis of Baseline conditions is the existing roadway network. The baseline traffic volumes were based on the existing traffic volumes plus traffic expected from the various approved projects. The following approved projects are included under the baseline conditions:

- Sonora Springs – A 192 single-family residential unit development bounded by San Juan to the south, Truxel Road to the east and I-80 to the north.
- Promenade at Natomas – A 663,260 square feet of regional retail development located near the intersection of Truxel Road and Gateway Park Boulevard. Although the Promenade project is proposed to have additional development, the amount of the project included in the baseline conditions is the amount that has been approved currently for development.

Intersection Operations

The AM and PM peak hour turning movement traffic volumes are shown in **Figure 5.6-6**. Table 5.6-10 summarizes the LOS results for the study intersections under the Baseline scenario. The calculations are provided in Appendix E4. The study intersections were found to be operating acceptably, LOS C or better for City of Sacramento intersections or LOS D or better for I-80 freeway ramp intersections, during the weekday AM peak hour and PM peak hours.

TABLE 5.6-10

BASELINE CONDITIONS - INTERSECTION LEVEL OF SERVICE SUMMARY

Intersections	Intersection Control	Baseline Conditions			
		AM Peak Hour		PM Peak Hour	
		Level of Service	Delay (sec.)	Level of Service	Delay (sec.)
Truxel Road/I-80 WB Ramps	Signal	B	11.3	B	15.4
Truxel Road/I-80 EB Ramps	Signal	B	14.5	B	17.8
Truxel Road/San Juan Road	Signal	C	31.5	C	28.3
Truxel Road/El Camino Avenue	Signal	C	27.5	C	30.4
San Juan Road/Fong Ranch Road	Signal	C	25.0	B	12.6
San Juan Road/Pony Express Drive	NB/SB - Stop	A/C	1.7/23.3	A/F	2.0/>50
San Juan Road/Bridgeford Drive	Signal	C	23.4	C	20.2
San Juan Road/Northgate Boulevard	Signal	C	28.8	C	33.9
Northgate Boulevard/Rosin Court	Signal	B	19.1	C	21.3
Northgate Boulevard/I-80 EB Ramps	Signal	B	17.0	B	19.5
Northgate Boulevard/I-80 WB Ramps	Signal	C	33.4	C	27.9

Source: Dowling Associates
XX/XX: Avg. Delay/Worst Movement Delay.

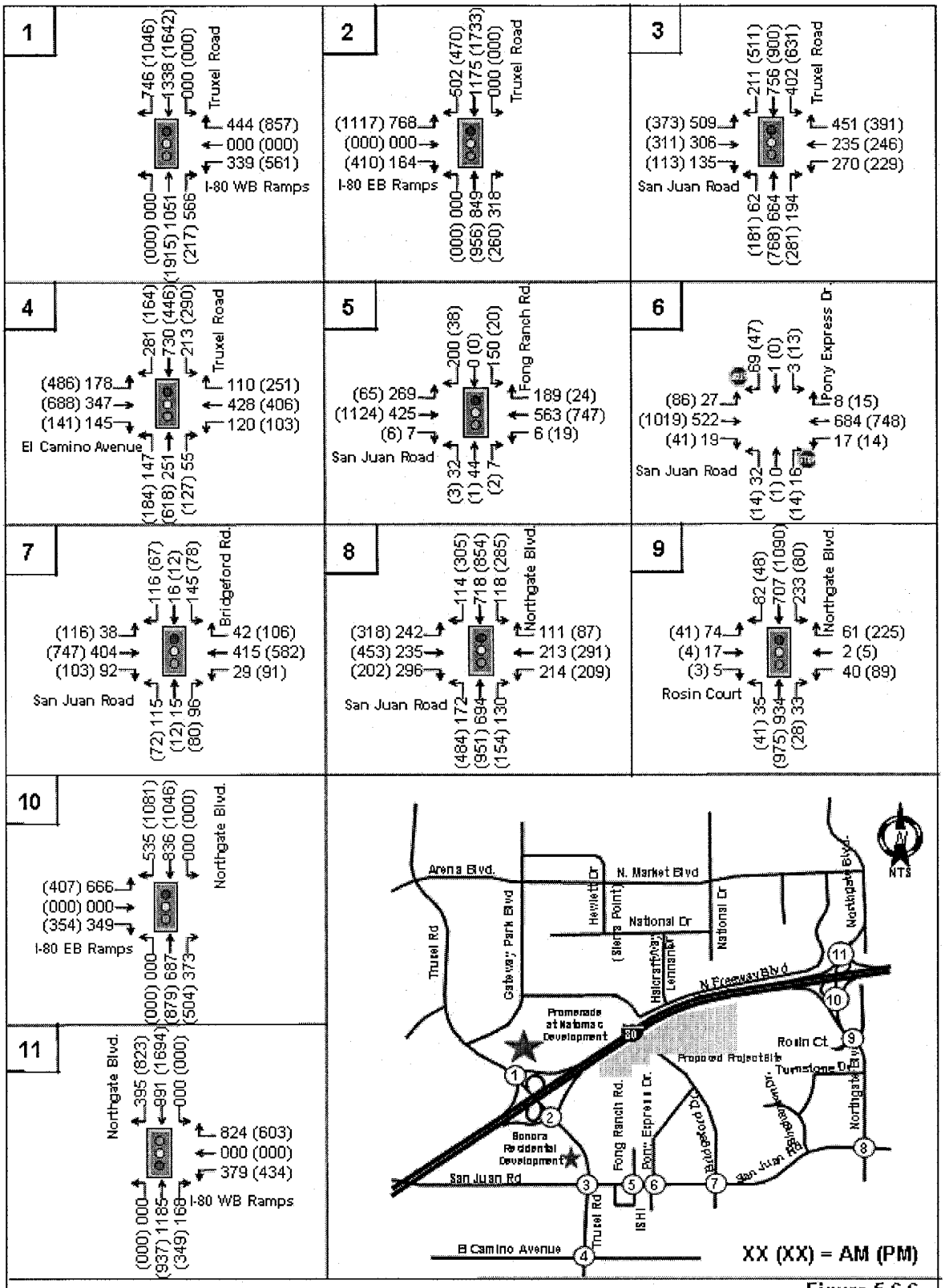


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Figure 5.6-6
BASELINE (NO PROJECT) PEAK HOUR TRAFFIC VOLUMES

Roadway Segments

Table 5.6-11 summarizes the Baseline Condition average daily traffic (ADT) volumes on study street segments.

TABLE 5.6-11

BASELINE ROADWAY SEGMENT AVERAGE DAILY TRAFFIC

ROADWAY SEGMENTS	Lanes	BASELINE NO PROJECT Daily Traffic	BASELINE WITH PROJECT Daily Traffic
Truxel Road North of San Juan Road	6	42,120	43,744
Truxel Road South of San Juan Road	4	27,180	28,496
San Juan Road west of Truxel Road	2	19,290	19,510
San Juan Road between Truxel Road and Fong Ranch Road	4	19,740	22,898
San Juan Road between Fong Ranch Road and Bridgeford Dr.	4	17,850	19,030
San Juan Road East of Bridgeford Dr.	4	16,470	17,650
Fong Ranch Road north of San Juan Road.	2	1,240	3,654
Fong Ranch Road east of Street I	2	1,240	3,160
Fong Ranch Road north of the canal	2	1,240	3,650
Pony Express Drive north of San Juan Road.	2	2,010	2,448
Bridgeford Road north of San Juan Road.	2	4,260	5,792

Source: Dowling Associates, Inc.

Freeway Operations

Freeway Mainline

Table 5.6-12 summarizes the LOS results for the freeway mainline study segments under the Baseline scenario. The freeway mainline study segments were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB mainline between Norwood Avenue and Northgate Boulevard is operating at LOS F during the AM peak hour, and
- I-80 EB mainline between Northgate Boulevard and Norwood Avenue is operating at LOS F during the PM peak hour.

TABLE 5.6-12

BASELINE I-80 MAINLINE OPERATIONS

Ramp	AM Peak Hour LOS	AM Peak Hour V/C ratio	AM Peak Hour Volume	PM Peak Hour LOS	PM Peak Hour V/C ratio	PM Peak Hour Volume
Eastbound I-80						
I-5 to Truxel	C	0.63	5,170	D	0.82	6,727
Truxel to Northgate	C	0.62	5,058	C	0.72	5,930
Northgate to Norwood	D	0.75	4,951	**F**	1.02	6,754
Westbound I-80						
Norwood to Northgate	**F**	1.03	6,830	D	0.86	5,688
Northgate to Truxel	D	0.75	6,190	C	0.71	5,823
Truxel to I-5	C	0.69	6,719	C	0.58	5,668

Notes:
LOS = level of service.
V/C ratio = volume to capacity ratio.
Bolded values indicate non-compliance with Caltrans standards.
Source: Dowling Associates, Inc.

Freeway Ramp and Merge/Diverge

Table 5.6-13 summarizes the LOS results for the study area freeway interchanges under the Baseline scenario. The calculations are provided in Appendix F. The study freeway ramps were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB off-ramp to Northgate Boulevard is operating at LOS F during the AM peak hour, and
- I-80 EB on-ramp from northbound Northgate Boulevard is operating at LOS F during the PM peak hour.

TABLE 5.6-13

BASELINE I-80 INTERCHANGE OPERATIONS

Ramp	AM Peak Hour LOS	AM Peak Hour Density[1] (Flow)	AM Peak Hour Volume	PM Peak Hour LOS	PM Peak Hour Density[1] (Flow)	PM Peak Hour Volume
Eastbound I-80						
Truxel Rd. Off-Ramp	B	15.4	932	B	20.0	1,527
Truxel Rd. North On-Ramp	B	20.0	318	C	23.5	260
Northgate Blvd. North On-Ramp	C	25.8	373	**F[2]**	35.6	504
Westbound I-80						
Northgate Blvd. Off-Ramp	**F[2]**	33.6	1,203	D	29.1	1,037
Truxel Rd. Off-Ramp	B	18.4	783	B	17.3	1,418
Truxel Rd. North On-Ramp	C	617	566	C	237	217

Notes:
Bolded values indicate non-compliance with Caltrans standards
1. Numbers with decimals indicate the density of passenger vehicles per mile per lane in the merge or diverge area. Whole numbers indicate the ramp flow rate in passenger car equivalents where a lane is added to the freeway at an onramp.
2. LOS F designation due to demand exceeding capacity
Source: Dowling Associates, Inc.

Freeway Off-Ramps were analyzed to determine whether the available storage lengths are adequate for the anticipated queues. The length of a vehicle is assumed to be 25 feet long. **TABLE 5.6-14** presents the comparison of the queue length and the storage length for the Baseline condition. All Off-ramps would have adequate capacity to store the anticipated queue during both the AM and PM peak hours.

TABLE 5.6-14

BASELINE – RAMP QUEUING

Location	AM Peak Hour			PM Peak Hour		
	Storage Capacity (feet)	Queue (feet)	Adequate Capacity	Storage Capacity (feet)	Queue (feet)	Adequate Capacity
I-80 EB Off-ramp to Truxel Road	4040	850	Yes	4040	1400	Yes
I-80 WB off-ramp to Truxel Road	4360	800	Yes	4360	1375	Yes
I-80 WB off-ramp to Northgate Boulevard	2475	850	Yes	2475	925	Yes

Notes:
Bolded values indicate a queue greater than the storage capacity.
Source: Dowling Associates, Inc.

Cumulative (2025) No Project Conditions

This scenario analyzes transportation conditions in the study area under cumulative conditions, which is assumed to be the year 2025. The Cumulative condition is used as a future baseline to compare against the Cumulative Plus Project condition. This comparison identifies long-term project-related impacts.

A few roadway improvements are assumed within the immediate vicinity of the project study area for Cumulative (2025) conditions. One roadway improvement as stated in the *Metropolitan Transportation Plan (MTP) for 2025, 2004* is the extension of the I-80 westbound off-ramp onto Northgate Boulevard. Another as stated in the *MTP* is an added auxiliary lane to the I-80 westbound Northgate Boulevard on-ramp. The other roadway improvement would be the extension of Fong Ranch Road to Rosin Court as per the South Natomas Community Plan. It is also assumed under the cumulative condition, that there would be an extension of light rail transit along Truxel Road from downtown Sacramento to the Sacramento International Airport. There are two possible alternatives for the light rail transit design along Truxel Road. The first alternative would be that light rail transit would run along the existing Truxel roadway and light rail transit would share the roadway with vehicles. The second alternative is a separate elevated structure parallel to Truxel Road on the east side of Truxel Road. For purposes of this analysis and based on the most conservative case, it is assumed that light rail transit would run along the traffic lanes along Truxel Road and so light rail transit would share the roadway with vehicles.

Forecasts of future year intersection turning movement traffic volumes were taken from the SACMET 2025 model, developed for the Natomas area. This model reflects the SNCP and approved land use changes in the South Natomas area. The traffic volume forecasts for cumulative conditions assume full build-out of the community, which is likely to be a conservative assumption.

Intersection Operations

The AM and PM peak hour turning movement traffic volumes are shown in Figure 5.6-7. Table 5.6-15 summarizes the LOS results for the study intersections under the Cumulative scenario. The calculations are provided in Appendix E5. In this scenario it is assumed that light rail transit runs along Truxel Road and in order to account for this, the loss time at the signalized intersections along Truxel Road were increased by 6 seconds. This loss time was selected based on the assumptions that there would be 15 minute headways and approximately 20 seconds for light rail transit to cross each intersection. The study intersections were found to be operating acceptably, LOS C or better for City of Sacramento intersections or LOS D or better for I-80 freeway ramp intersections, during the weekday AM peak hour and PM peak hours except for the following:

- San Juan Road and Northgate Boulevard is projected to operate at LOS D during the PM peak hour,
- Truxel Road and San Juan Road is projected to operate at LOS D during both the AM and PM peak hours,
- Truxel Road and El Camino Avenue is projected to operate at LOS D during the PM peak hour,
- Truxel Road and I-80 Westbound Ramps is projected to operate at LOS E during both the AM and PM peak hours, and
- Northgate Boulevard and Rosin Court is projected to operate at LOS F during the PM peak hour.

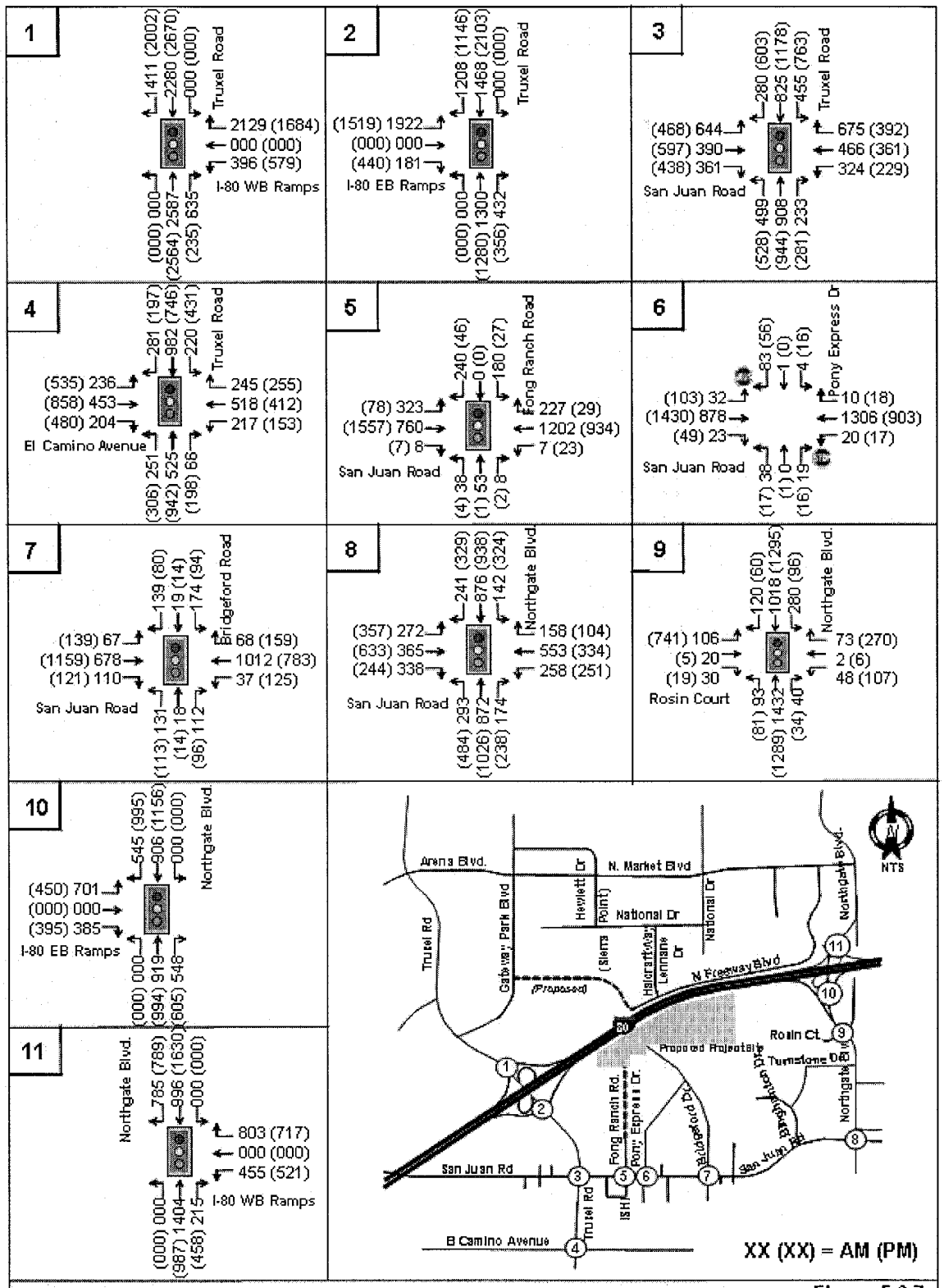

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Figure 5.6-7
CUMULATIVE (NO PROJECT) PEAK HOUR VOLUMES WITH AND WITHOUT FONG RANCH EXTENSION

TABLE 5.6-15

CUMULATIVE (2025) CONDITIONS - INTERSECTION LOS

Intersections	Intersection Control	Cumulative Conditions			
		AM Peak Hour		PM Peak Hour	
		Level of service	Delay (sec.)	Level of service	Delay (sec.)
Truxel Road/I-80 WB Ramps	Signal	**E**	**71.5**	**E**	**59.3**
Truxel Road/I-80 EB Ramps	Signal	C	27.4	C	27.0
Truxel Road/San Juan Road	Signal	**D**	**63.8**	**D**	**41.4**
Truxel Road/El Camino Avenue	Signal	C	31.9	**D**	**36.8**
San Juan Road/Fong Ranch Road	Signal	C	28.7	B	14.1
San Juan Road/Pony Express Drive	NB/SB - Stop	A/F	4.9/>50	B/F	5.6/>50
San Juan Road/Bridgeford Drive	Signal	C	24.1	C	22.3
San Juan Road/Northgate Boulevard	Signal	C	33.0	**D**	**40.3**
Northgate Boulevard/Rosin Court	Signal	C	21.0	**F**	**>80**
Northgate Boulevard/I-80 EB Ramps	Signal	B	17.7	C	22.2
Northgate Boulevard/I-80 WB Ramps	Signal	D	46.1	D	36.2

Notes:
Bolded Values indicate non-compliance with City of Sacramento standards.
Source: Dowling Associates.
XX/XX: Avg. Delay//Worst Movement Delay.

Roadway Segments

Table 5.6-16 summarizes the Cumulative Conditions average daily traffic (ADT) volumes on study street segments.

TABLE 5.6-16

CUMULATIVE (2025) ROADWAY SEGMENT AVERAGE DAILY TRAFFIC

Roadway Segments	Lanes	Cumulative Conditions
		Daily Traffic
Truxel Road North of San Juan Road	6	46,958
Truxel Road South of San Juan Road	4	35,980
San Juan Road west of Truxel Road	2	29,950
San Juan Road between Truxel Road and Fong Ranch Road	4	26,260
San Juan Road between Fong Ranch Road and Bridgeford Dr.	4	23,950
San Juan Road East of Bridgeford Dr.	4	24,160
Fong Ranch Road north of San Juan Road.	2	1,810
Fong Ranch Road east of Street I	2	1,810
Fong Ranch Road north of the canal	2	1,810
Pony Express Drive north of San Juan Road.	2	2,212
Bridgeford Road north of San Juan Road.	2	4,850

Source: Dowling Associates, Inc.

Freeway Operations

Freeway Mainline

Table 5.6-17 summarizes the LOS results for the freeway mainline study segments under the Cumulative scenario. The freeway mainline study segments were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB mainline between Norwood Avenue and Northgate Boulevard is projected to operate at LOS F during both the AM and PM peak hours,
- I-80 EB mainline between Northgate Boulevard and Norwood Avenue is projected to operate at LOS F during both the AM and PM peak hours,
- I-80 EB mainline between I-5 and Truxel Road is projected to operate at F during the PM peak hour, and
- I-80 WB mainline between Northgate Boulevard and Truxel Road is projected to operate at LOS F during the AM peak hour.

TABLE 5.6-17

CUMULATIVE (2025) I-80 MAINLINE OPERATIONS

Ramp	AM Peak Hour			PM Peak Hour		
	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume
Eastbound I-80						
I-5 to Truxel	D	0.88	7,247	**F**	1.01	8,270
Truxel to Northgate	D	0.83	6,784	E	0.95	7,813
Northgate to Norwood	**F**	1.03	6,791	**F**	1.30	8,568
Westbound I-80						
Norwood to Northgate	**F**	1.42	9,397	**F**	1.16	7,628
Northgate to Truxel	**F**	1.11	9,139	E	0.93	7,637
Truxel to I-5	D	0.88	8,660	D	0.78	7,611

Notes:
LOS = level of service.
V/C ratio = volume to capacity ratio.
Bolded values indicate non-compliance with Caltrans standards.
Source: Dowling Associates, Inc.

Freeway Ramp and Merge/Diverge

Table 5.6-18 summarizes the LOS results for the study area freeway interchanges under the Cumulative scenario. The calculations are provided in Appendix E3. The study freeway ramps were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB off-ramp to Northgate Boulevard is projected to operate at LOS F during both the AM and PM peak hours,
- I-80 WB off-ramp to Truxel Road is projected to operate at LOS F during both the AM and PM peak hours, and
- I-80 EB on-ramp from northbound Northgate Boulevard is projected to operate at LOS F during both the AM and PM peak hours.

TABLE 5.6-18

CUMULATIVE (2025) I-80 INTERCHANGE OPERATIONS

Ramp	AM Peak Hour LOS	AM Peak Hour Density[1] (Flow)	AM Peak Hour Volume	PM Peak Hour LOS	PM Peak Hour Density[1] (Flow)	PM Peak Hour Volume
Eastbound I-80						
Truxel Rd. Off-Ramp	C	21.5	2,103	C	24.6	1,959
Truxel Rd. North On-Ramp	C	26.3	432	D	30.5	356
Northgate Blvd. North On-Ramp	**F**	35.8	548	**F**	45.1	605
Westbound I-80						
Northgate Blvd. Off-Ramp	**F**	40.7	1,258	**F**	36.2	1,238
Truxel Rd. Off-Ramp	**F** [2]	27.2	2,525	**F** [2]	22.7	2,263
Truxel Rd. North On-Ramp	C	693	635	C	256	235

Notes:
LOS = level of service
Bolded values indicate non-compliance with Caltrans standards
1. Numbers with decimals indicate the density of passenger vehicles per mile per lane in the merge or diverge area.
Whole numbers indicate the ramp flow rate in passenger car equivalents where a lane is added to the freeway at an onramp.
2. LOS F designation due to demand exceeding capacity
Source: Dowling Associates, Inc.

Freeway Off-Ramps were analyzed to determine whether the available storage lengths are adequate for the anticipated queues. The length of a vehicle is assumed to be 25 feet long. **Table 5.6-19** presents the comparison of the queue length and the storage length for the Cumulative condition. All Off-ramps would have adequate capacity to store the anticipated queue during both the AM and PM peak hours.

TABLE 5.6-19

CUMULATIVE (2025) – RAMP QUEUING

Location	AM Peak Hour Storage Capacity (feet)	AM Peak Hour Queue (feet)	AM Peak Hour Adequate Capacity	PM Peak Hour Storage Capacity (feet)	PM Peak Hour Queue (feet)	PM Peak Hour Adequate Capacity
I-80 EB Off-ramp to Truxel Road	4040	1850	Yes	4040	1900	Yes
I-80 WB off-ramp to Truxel Road	4360	2175	Yes	4360	2225	Yes
I-80 WB off-ramp to Northgate Boulevard	2475	1000	Yes	2475	1025	Yes

Notes:
Bolded values indicate a queue greater than the storage capacity.
Source: Dowling Associates, Inc.

Proposed Project

The proposed project is located southeast of the Interstate 80 and Truxel Road Interchange. The proposed project would contain 142 townhomes and 389 single family homes. The proposed project can be accessed through Bridgeford Drive and Fong Ranch Road formerly known as Rosin Boulevard. A site plan of the proposed project is shown in Figure 5.6-8.

The South Natomas Community Plan requires the extension of Fong Ranch Road (formerly Rosin Boulevard) from its current terminus to Northgate Boulevard by connecting it to the current terminus of Rosin Court. The subject extension of Fong Ranch Road runs parallel to I-80 and connects San Juan Road and Northgate Boulevard. The Proposed Project proposes to construct Fong Ranch

Road between its current terminus and the eastern property boundary of the project site. However, this traffic study has analyzed the proposed project under two different scenarios for Cumulative conditions: with and without the Fong Ranch Road Extension past the eastern property boundary of the proposed project site providing a connection to Northgate Boulevard. This analysis has been prepared only for comparative evaluation of traffic operations under both scenarios; the extension of the Fong Ranch Road past the eastern property boundary of the proposed project site is not a part of the proposed project.

Standard trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation, 7th Edition* were used to estimate trip-making characteristics of the proposed project. In summary, the Project has the potential to generate about 4,493 trips on an average day, with 357 trips during the weekday morning peak hour and 475 trips during the evening peak hour. Table 5.6-20 summarizes the number of trips that would be generated by the Project.

The distribution of trips associated with the project site was derived from the SACMET 2025 Natomas area travel model, observations of travel patterns near the site, and knowledge of the proposed access locations associated with the Project. The model zone within which the project is located was isolated and its peak hour trips were assigned to the network. From this selected zone assignment, the trip distribution was estimated. Figure 5.6-9 through Figure 5.6-11 shows the proposed trip distribution pattern of project trips to and from the proposed project site for the Baseline, Cumulative without the Fong Ranch extension, and Cumulative with the Fong Ranch extension condition, respectively.

Project trips were assigned to the roadway network and study intersections based upon the trip distribution patterns described above. Project trips were assigned to the study intersections and each of the project driveways after considering the origin and destination of vehicles. Project trips at the study intersections during both the weekday AM and PM peak hours are depicted in Figure 5.6-12 through Figure 5.6-14 for the Baseline, Cumulative without the Fong Ranch extension, and Cumulative with the Fong Ranch extension condition.

Baseline Plus Project

Intersection Operations

The project traffic volumes were added to the Baseline No Project volumes to establish the Baseline Plus Project traffic volumes. Figure 5.6-15 presents the Baseline Plus Project traffic volumes for the weekday AM and PM peak hours. These volumes were used to calculate the Baseline Plus Project LOS at the study intersections. Table 5.6-21 summarizes the LOS results for the study intersections under the Baseline Plus Project scenario. The calculations are provided in Appendix E6. The study intersections were found to be operating acceptably, LOS C or better for City of Sacramento intersections or LOS D or better for I-80 freeway ramp intersections, during the weekday AM peak hour and PM peak hours.

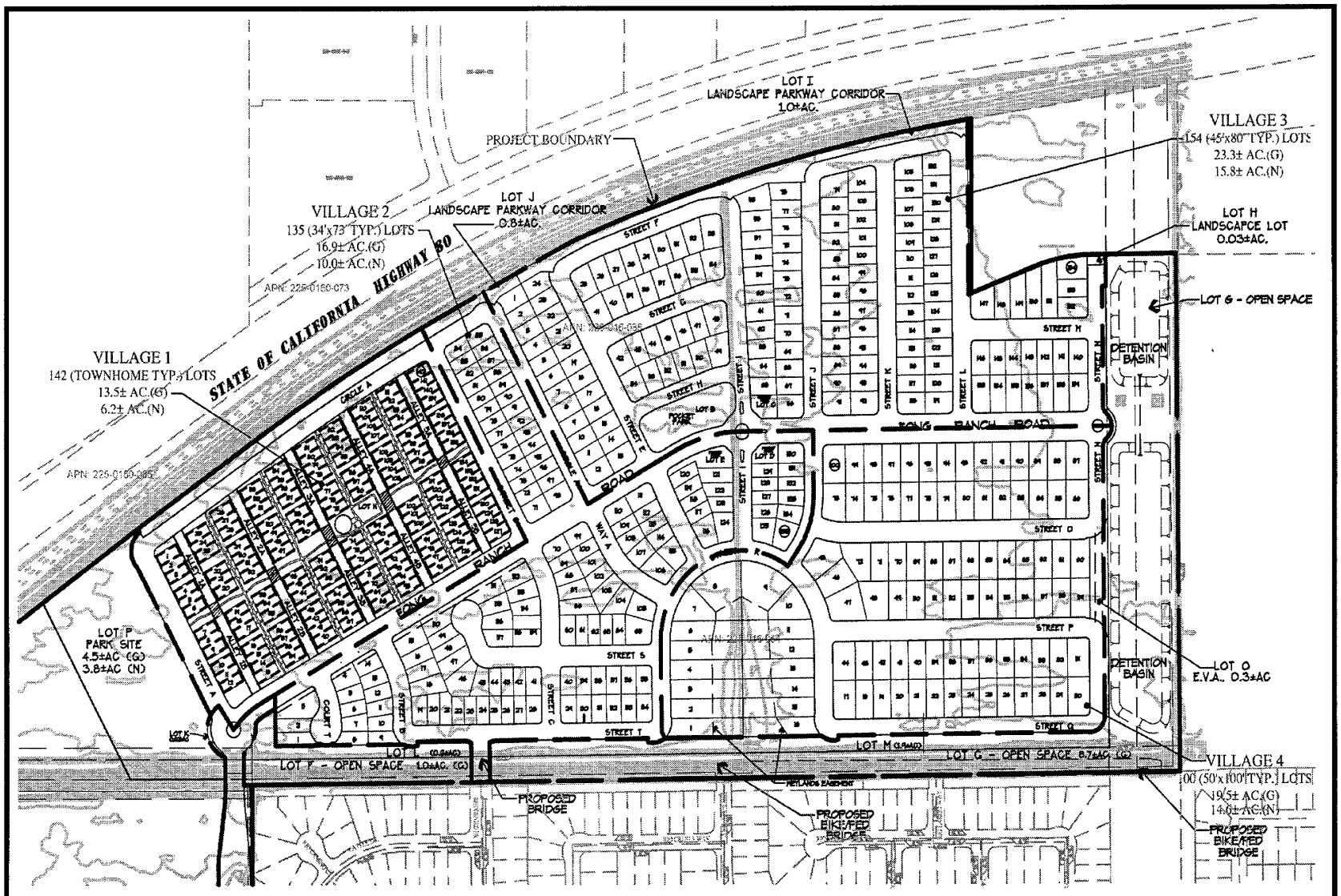

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Figure 5.6-8
Proposed Project Site Plan

TABLE 5.6-20

TRIP GENERATION AND TRANSIT RIDERSHIP

Trip Generation Land Use Category	Source	Amount		Trips Generated Daily	AM Peak Hour			PM Peak Hour			Auto Occupancy	Percent Transit	Transit Riders Peak Hour		Transit Riders Daily
					In	Out	Total	In	Out	Total			AM	PM	
Single-Family Homes	ITE (210)	389	Units	3,628	71	212	282	229	135	364	1.67	3.2%	16	20	200
Low Rise Condominium/ Townhomes[1]	ITE (231)	142	Units	865	19	56	75	64	47	111	1.57	5.6%	7	10	81
Total				**4,493**	**89**	**268**	**357**	**294**	**181**	**475**			**23**	**30**	**281**

Notes:
1. Daily traffic volumes were estimated based on Residential Condominium/Townhouse (ITE 230).
Source: *Trip Generation, 7th Edition,* Institute of Transportation Engineers, 2003.

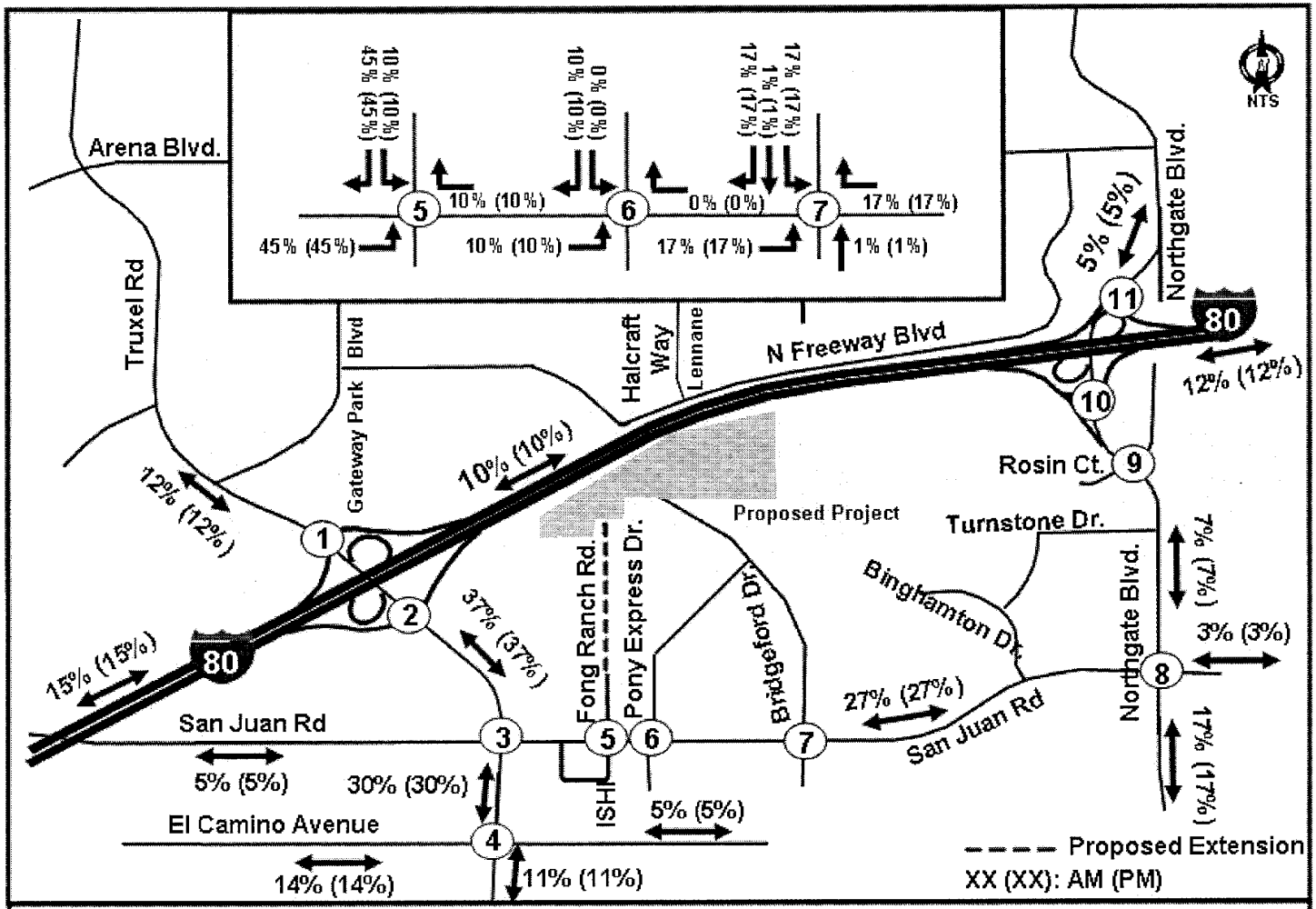

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Figure 5.6-9
Trip Distribution For Proposed Project - Baseline Conditions

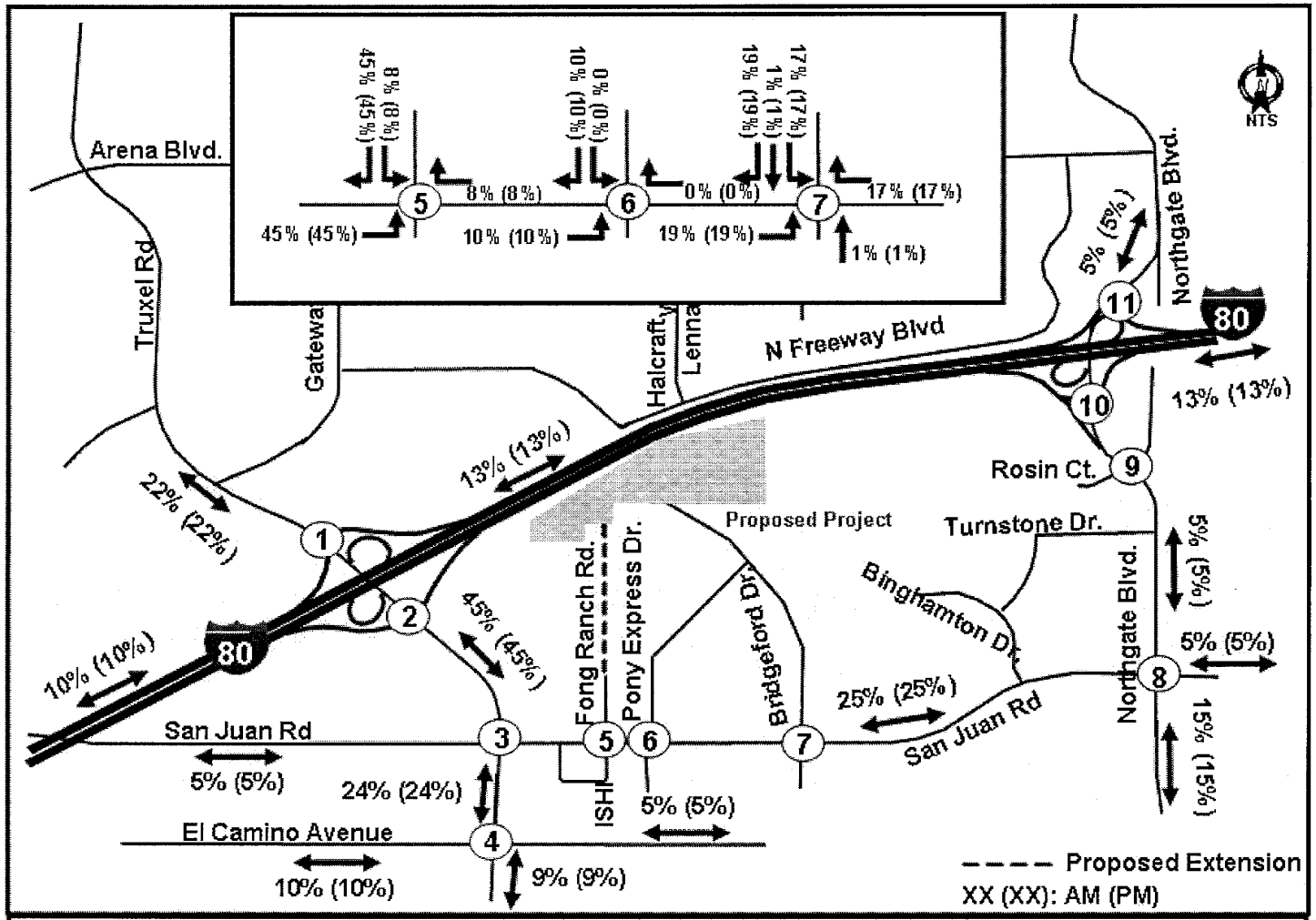

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Figure 5.6-10
Trip Distribution For Proposed Project w/o Fong Ranch Road Extension
- Cumulative Conditions

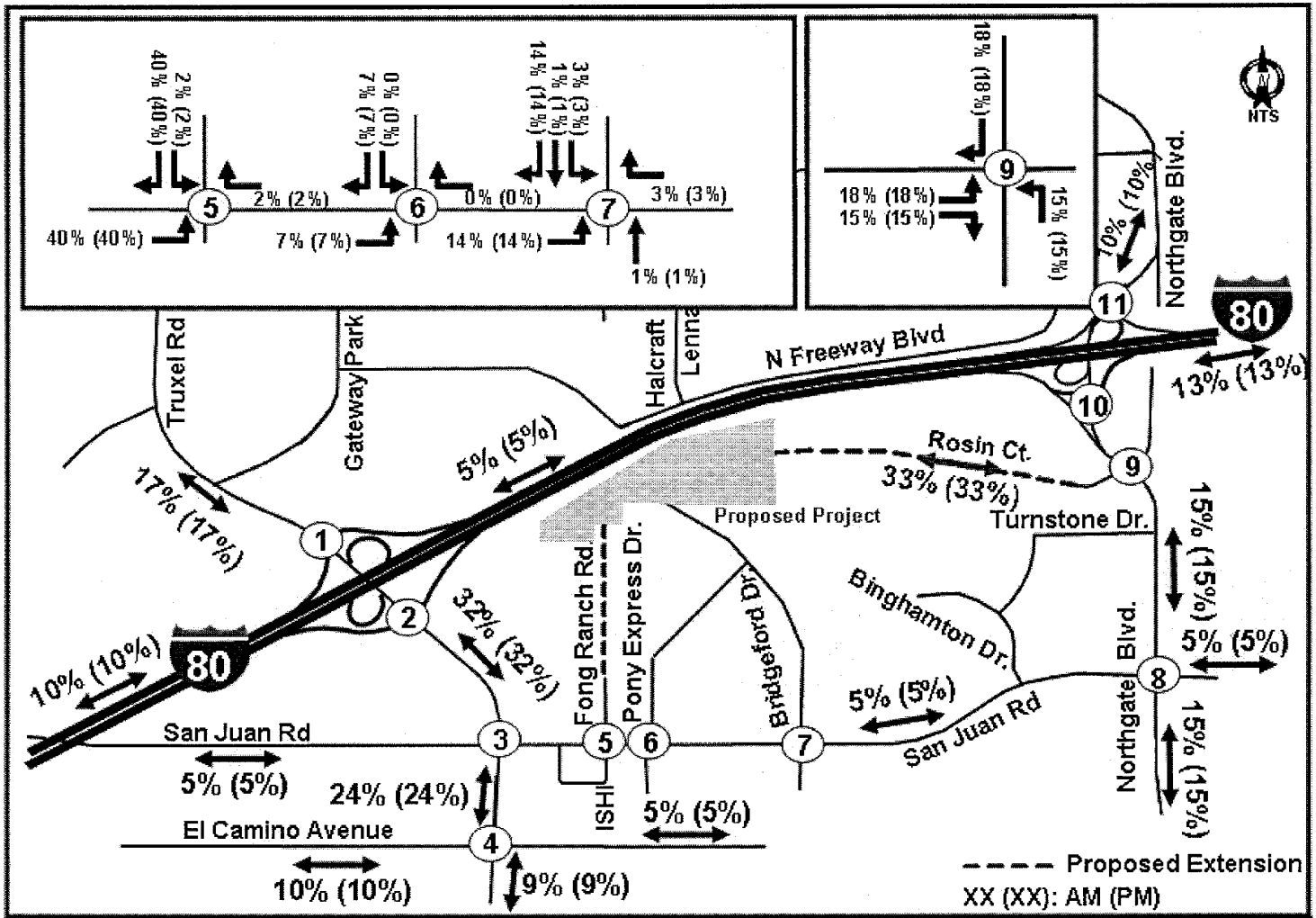

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Figure 5.6-11
Trip Distribution For Proposed Project w/ Fong Ranch Road Extension - Cumulative Conditions

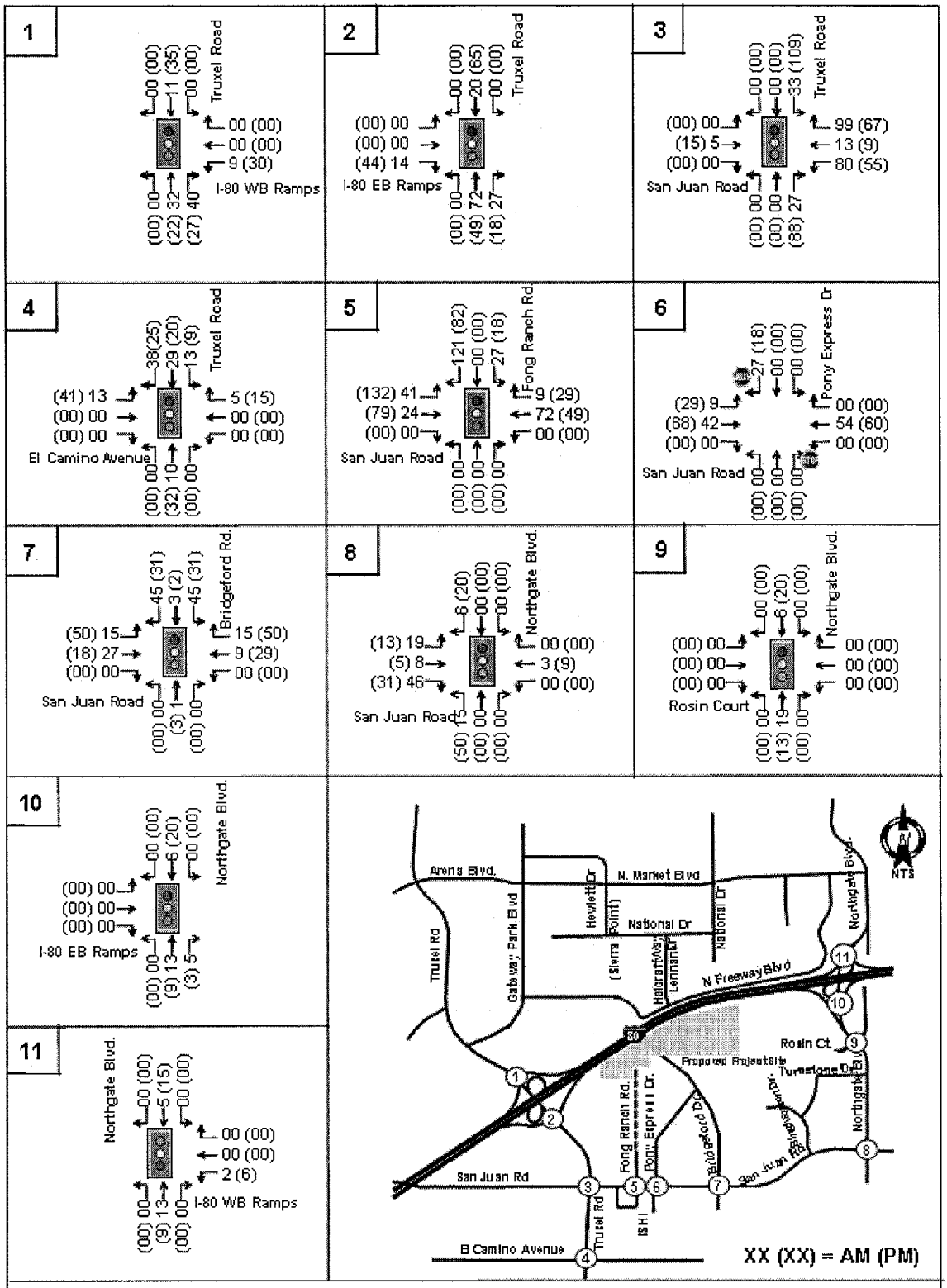

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Figure 5.6-12
PROPOSED PROJECT TRIPS – BASELINE CONDITION

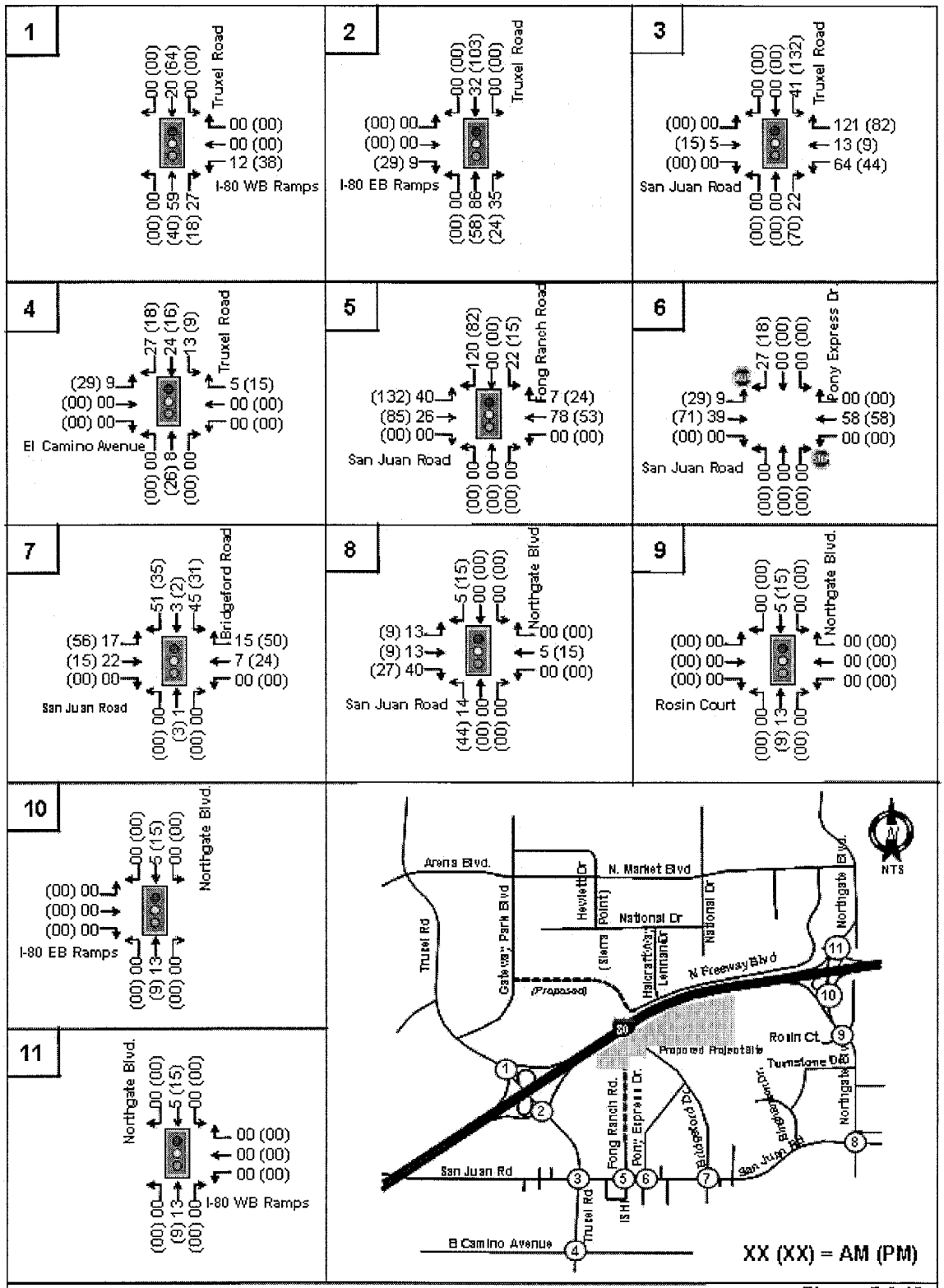

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Figure 5.6-13
PROPOSED PROJECT TRIPS WITHOUT FONG RANCH EXTENSION – CUMULATIVE CONDITION

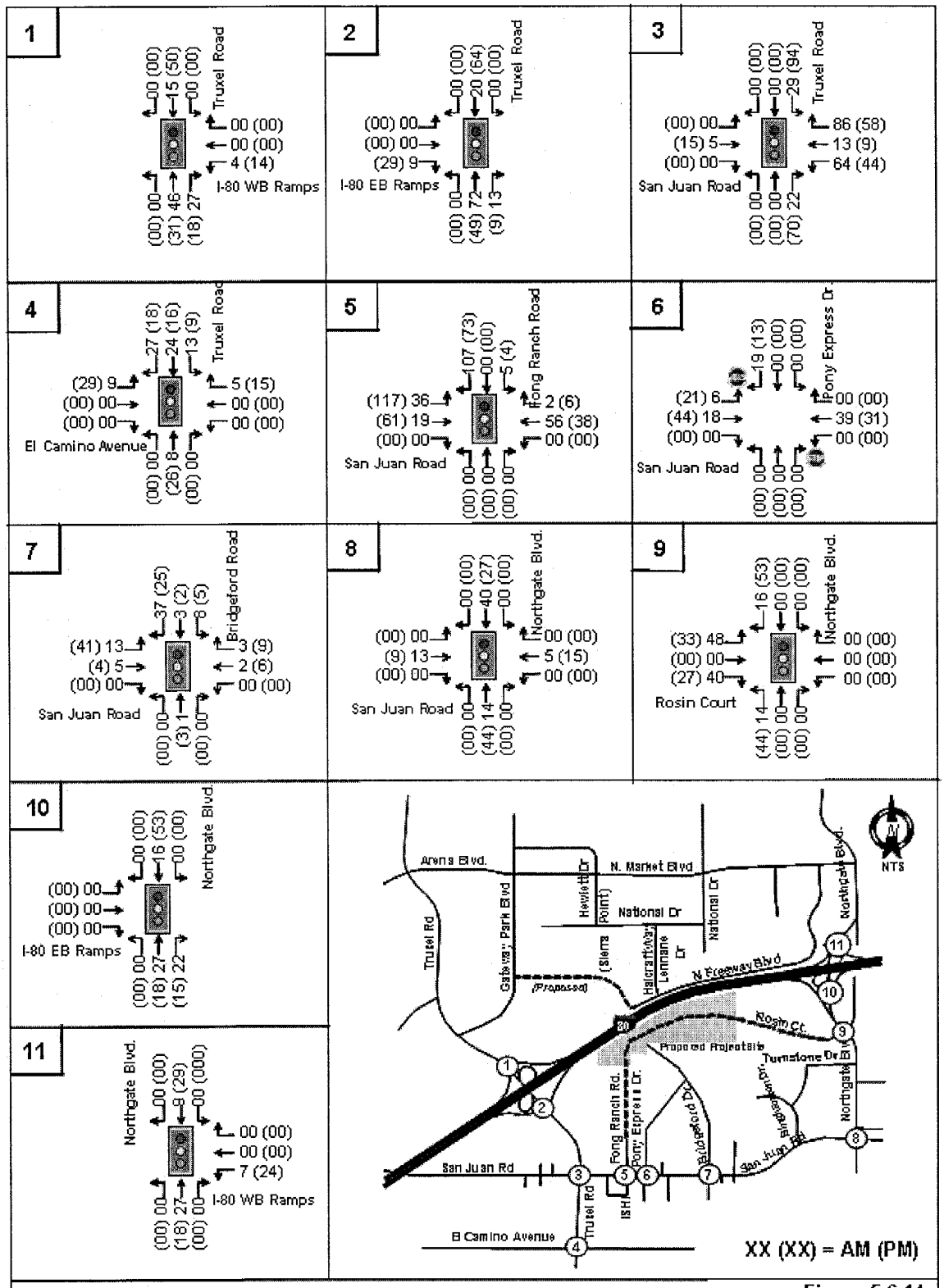

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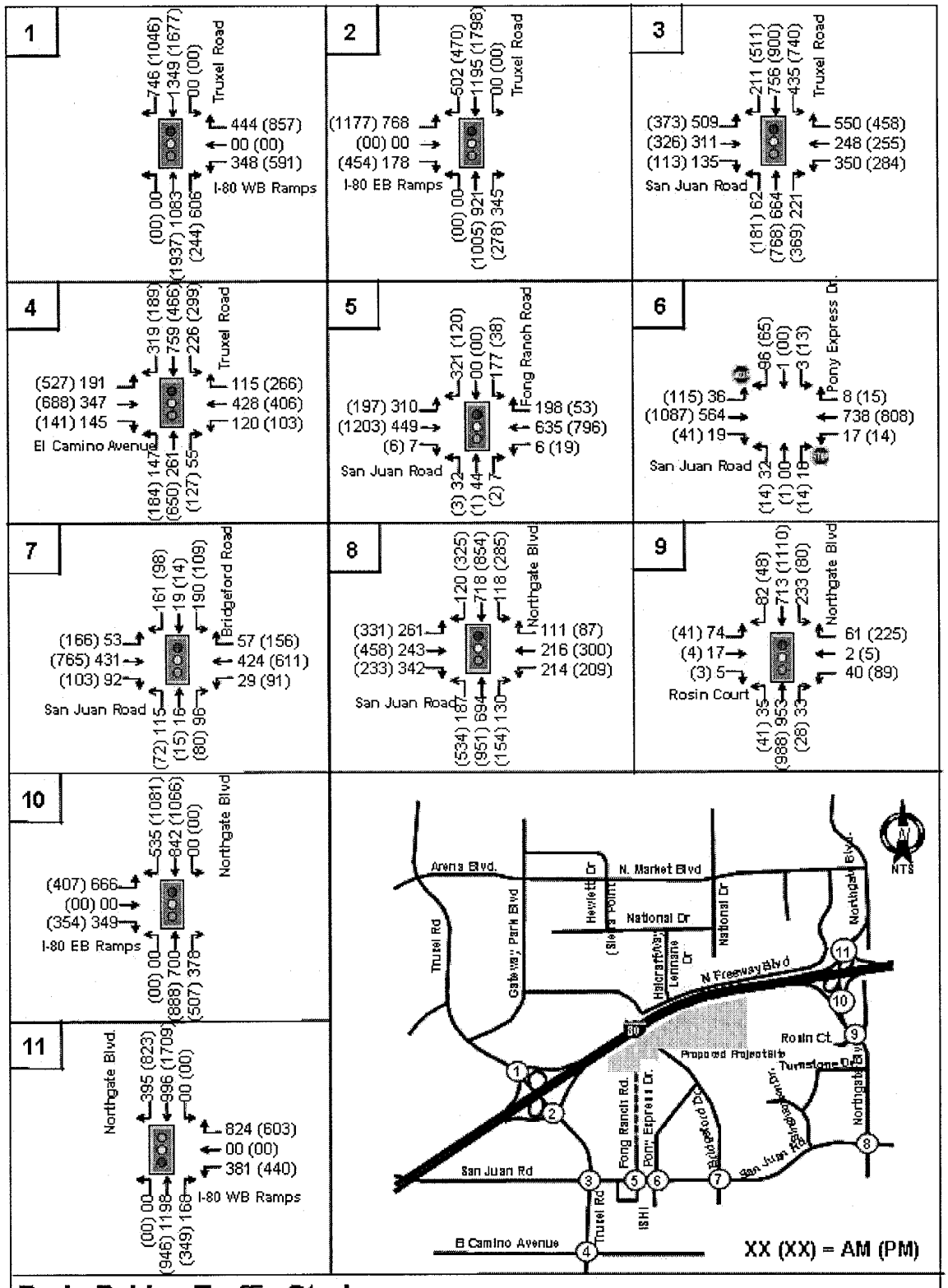
Figure 5.6-14
PROPOSED PROJECT TRIPS WITH FONG RANCH EXTENSION – CUMULATIVE CONDITION



ParkeBridge Traffic Study Figure 5.6-15

Dowling Associates BASELINE + PROPOSED PROJECT PEAK HOUR VOLUMES

TABLE 5.6-21

BASELINE PLUS PROPOSED PROJECT CONDITIONS – INTERSECTION LEVEL OF SERVICE SUMMARY

Intersections	Intersection Control	Baseline Conditions				Baseline + Proposed Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak hour	
		Level of Service	Delay (sec.)	Level of Service	Delay (sec.)	Level of Service	Delay (sec.)	Level of Service	Delay (sec.)
Truxel Road/I-80 WB Ramps	Signal	B	11.3	B	15.4	B	11.3	B	15.6
Truxel Road/I-80 EB Ramps	Signal	B	14.5	B	17.8	B	14.5	B	17.9
Truxel Road/San Juan Road	Signal	C	31.5	C	28.3	C	33.0	C	29.3
Truxel Road/El Camino Avenue	Signal	C	27.5	C	30.4	C	27.4	C	30.6
San Juan Road/Fong Ranch Road	Signal	C	25.0	B	12.6	C	26.1	B	16.8
San Juan Road/Pony Express Drive	NB/SB - Stop	A/C	1.7/23.3	A/F	2.0/>50	A/D	2.0/28.3	A/F	2.7/>50
San Juan Road/Bridgeford Drive	Signal	C	23.4	C	20.2	C	25.0	C	23.2
San Juan Road/Northgate Boulevard	Signal	C	28.8	C	33.9	C	29.3	C	34.2
Northgate Boulevard/Rosin Court	Signal	B	19.1	C	21.3	B	19.0	C	21.3
Northgate Boulevard/I-80 EB Ramps	Signal	B	17.0	B	19.5	B	17.0	B	19.8
Northgate Boulevard/I-80 WB Ramps	Signal	C	33.4	C	27.9	C	33.7	C	28.1

Source: Dowling Associates
XX/XX: Avg. Delay/Worst Movement Delay.

Roadway Segments

Table 5.6-22 summarizes the Baseline Plus Project Conditions average daily traffic (ADT) volumes on study street segments.

TABLE 5.6-22

BASELINE PLUS PROJECT ROADWAY SEGMENT AVERAGE DAILY TRAFFIC

Roadway Segments	Lanes	Baseline No Project Daily Traffic	Baseline With Project Daily Traffic
Truxel Road North of San Juan Road	6	42,120	43,786
Truxel Road South of San Juan Road	4	27,180	28,528
San Juan Road west of Truxel Road	2	19,290	19,514
San Juan Road between Truxel Road and Fong Ranch Road	4	19,740	22,980
San Juan Road between Fong Ranch Road and Bridgeford Dr.	4	17,850	19,060
San Juan Road East of Bridgeford Dr.	4	16,470	17,680
Fong Ranch Road north of San Juan Road.	2	1,240	3,716
Fong Ranch Road east of Street I	2	1,240	3,214
Fong Ranch Road north of the canal	2	1,240	3,716
Pony Express Drive north of San Juan Road.	2	2,010	2,458
Bridgeford Road north of San Juan Road.	2	4,260	5,828

Source: Dowling Associates, Inc.

Freeway Mainline Operations

TABLE 5.6-23 summarizes the LOS results for the freeway mainline study segments under the Baseline Plus Project scenario. The freeway mainline study segments were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours under the Baseline Plus Proposed Project condition except for the following:

- I-80 WB mainline between Norwood Avenue and Northgate Boulevard is projected to operate at LOS F during the AM peak hour, and
- I-80 EB mainline between Northgate Boulevard and Norwood Avenue is projected to operate at LOS F during the PM peak hour.

As seen in TABLE 5.6-23, the above mentioned freeway mainline segments would operate at unacceptable LOS F under Baseline conditions with and without the proposed project.

TABLE 5.6-23

BASELINE PLUS PROJECT I-80 MAINLINE OPERATIONS

Ramp	Baseline Conditions						Baseline + Proposed Project					
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume
Eastbound I-80												
I-5 to Truxel	C	0.63	5,170	D	0.82	6,727	C	0.63	5,184	D	0.83	6,831
Truxel to Northgate	C	0.62	5,058	C	0.72	5,930	C	0.62	5,085	C	0.73	5,948
Northgate to Norwood	D	0.75	4,951	**F**	1.02	6,754	D	0.76	4,983	**F**	1.03	6,775
Westbound I-80												
Norwood to Northgate	**F**	1.03	6,830	D	0.86	5,688	**F**	1.04	6,841	D	0.87	5,724
Northgate to Truxel	D	0.75	6,190	C	0.71	5,823	D	0.76	6,199	C	0.71	5,853
Truxel to I-5	C	0.69	6,719	C	0.58	5,668	C	0.69	6,759	C	0.58	5,695

Notes:
LOS = level of service.
V/C ratio = volume to capacity ratio.
Bolded value indicate non-compliance with Caltrans standards.
Source: Dowling Associates, Inc.

Freeway Ramp and Merge/Diverge Operations

TABLE 5.6-24 summarizes the LOS results for the study area freeway interchanges under the Baseline Plus Project scenario. The calculations are provided in Appendix E3. The study freeway ramps were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB off-ramp to Northgate Boulevard is projected to operate at LOS F during the AM peak hour, and
- I-80 EB on-ramp from northbound Northgate Boulevard is projected to operate at LOS F during the PM peak hour.

As seen in Table 5.6-24, the above mentioned freeway ramps would operate at unacceptable LOS F under Baseline conditions with and without the proposed project.

TABLE 5.6-24

BASELINE PLUS PROJECT I-80 INTERCHANGE OPERATIONS

Ramp	Baseline Conditions						Baseline + Proposed Project					
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	LOS	Density[1] (pc/mi/ln)	Volume	LOS	Density[1] (pc/mi/ln)	Volume	LOS	Density[1] (pc/mi/ln)	Volume	LOS	Density[1] (pc/mi/ln)	Volume
Eastbound I-80												
Truxel Rd. Off-Ramp	B	15.4	932	B	20.0	1,527	B	15.4	946	B	20.3	1,631
Truxel Rd. North On-Ramp	B	20.0	318	C	23.5	260	B	20.1	343	C	23.6	278
Northgate Blvd. North On-Ramp	C	25.8	373	**F[2]**	35.6	504	C	26.0	378	**F[2]**	35.6	507
Westbound I-80												
Northgate Blvd. Off-Ramp	**F[2]**	33.6	1,203	D	29.1	1,037	**F[2]**	33.7	1,205	D	29.3	1,043
Truxel Rd. Off-Ramp	B	18.4	783	B	17.3	1,418	B	18.4	792	B	17.4	1,448
Truxel Rd. North On-Ramp	C	617	566	C	237	217	C	661	606	C	266	244

Notes:
LOS = level of service.
pc/mi/ln = passenger car per mile per lane.
Bolded value indicate non-compliance with Caltrans standards.
1. Numbers with decimals indicate the density of passenger vehicles per mile per lane in the merge or diverge area.
Whole numbers indicate the ramp flow rate in passenger car equivalents where a lane is added to the freeway at an onramp.
2. LOS F designation due to demand exceeding capacity.
Source: Dowling Associates, Inc.

Freeway Off-Ramps were analyzed to determine whether the available storage lengths are adequate for the anticipated queues. The length of a vehicle is assumed to be 25 feet long. **Table 5.6-25** presents the comparison of the queue length and the storage length for the Baseline Plus Project condition. All Off-ramps would have adequate capacity to store the anticipated queue during both the AM and PM peak hours.

TABLE 5.6-25

BASELINE PLUS PROJECT – RAMP QUEUING

Location	AM Peak Hour			PM Peak Hour		
	Storage Capacity (feet)	Queue (feet)	Adequate Capacity	Storage Capacity (feet)	Queue (feet)	Adequate Capacity
I-80 EB Off-ramp to Truxel Road	4040	850	Yes	4040	1450	Yes
I-80 WB off-ramp to Truxel Road	4360	800	Yes	4360	1400	Yes
I-80 WB off-ramp to Northgate Boulevard	2475	850	Yes	2475	925	Yes

Notes:
Bolded values indicate a queue greater than the storage capacity.
Source: Dowling Associates, Inc.

Cumulative (2025) Plus Project without Fong Ranch Road Extension

Intersection Operations

The project traffic volumes were added to the Cumulative No Project volumes to establish the Cumulative Plus Project without Fong Ranch Road extension traffic volumes. **Figure 5.6-16** presents the Cumulative Plus Project without Fong Ranch Road extension traffic volumes for the weekday AM and PM peak hours. These volumes were used to calculate the Cumulative Plus Project without Fong Ranch Road extension LOS at the study intersections. In this scenario it is assumed that light rail transit runs along Truxel Road and in order to account for this, the loss time at the signalized intersections along Truxel Road were increased by 6 seconds. This loss time was selected based on the assumptions that there would be 15 minute headways and approximately 20 seconds for light rail transit to cross each intersection. **Table 5.6-26** summarizes the LOS results for the study intersections under the Cumulative Plus Project without Fong Ranch Road extension scenario. The calculations are provided in Appendix E7. The study intersections were found to be operating acceptably, LOS C or better for City of Sacramento intersections or LOS D or better for I-80 freeway ramp intersections, during the weekday AM peak hour and PM peak hours except for the following:

- San Juan Road and Northgate Boulevard is projected to operate at LOS D during the PM peak hour,
- Truxel Road and San Juan Road is projected to operate at LOS F during the AM peak hour and LOS D during the PM peak hour,
- Truxel Road and El Camino Avenue is projected to operate at LOS D during the PM peak hour,
- Truxel Road and I-80 Westbound Ramps is projected to operate at LOS E during both the AM and PM peak hours, and
- Northgate Boulevard and Rosin Court is projected to operate at LOS F during the PM peak hour.

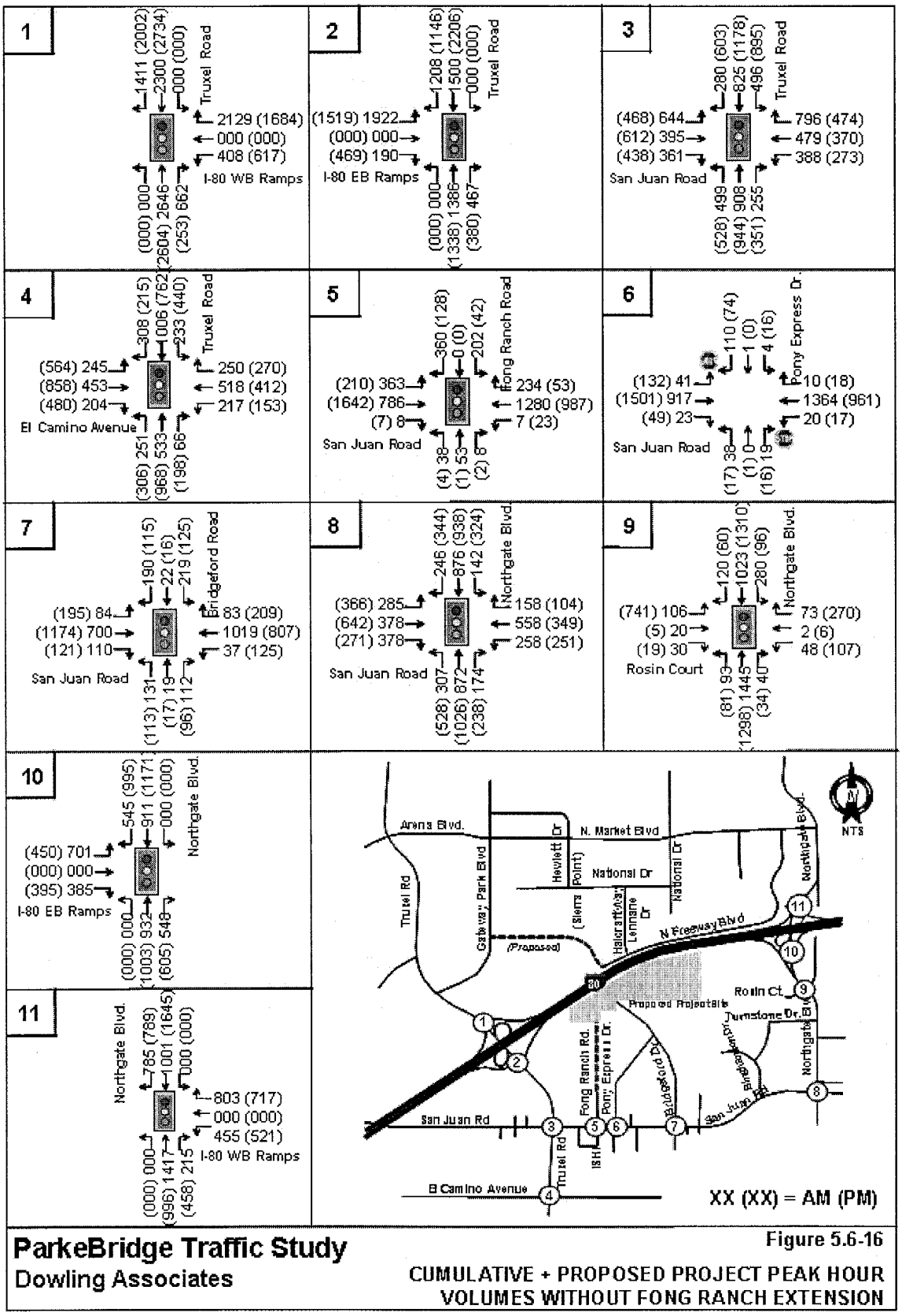


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Figure 5.6-16
CUMULATIVE + PROPOSED PROJECT PEAK HOUR VOLUMES WITHOUT FONG RANCH EXTENSION

TABLE 5.6-26

CUMULATIVE (2025) PLUS PROPOSED PROJECT CONDITIONS WITHOUT FONG RANCH EXTENSION - INTERSECTION LEVEL OF SERVICE SUMMARY

Intersections	Intersection control	Cumulative conditions				Cumulative + Proposed Project W/O Fong Ranch Extension			
		AM Peak hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Level of Service	Delay (sec.)	Level of Service	Delay (sec.)	Level of Service	Delay (sec.)	Level of Service	Delay (sec.)
Truxel Road/I-80 WB Ramps	Signal	**E**	**71.5**	**E**	**59.3**	**E**	**73.6**	**E**	**61.5**
Truxel Road/I-80 EB Ramps	Signal	C	27.4	C	27.0	C	27.6	C	28.4
Truxel Road/San Juan Road	Signal	**E**	**63.8**	**D**	**41.4**	**F**	**>80**	**D**	**45.2**
Truxel Road/El Camino Avenue	Signal	C	31.9	**D**	**36.8**	C	32.0	**D**	**37.5**
San Juan Road/Fong Ranch Road	Signal	C	28.7	B	14.1	C	33.6	B	18.2
San Juan Road/Pony Express Drive	NB/SB - Stop	A/F	4.9/>50	A/F	5.6/>50	A/F	7.5/>50	A/F	9.2/>50
San Juan Road/Bridgeford Drive	Signal	C	24.1	C	22.3	C	28.3	C	25.4
San Juan Road/Northgate Boulevard	Signal	C	33.0	**D**	**40.3**	C	33.3	**D**	**40.9**
Northgate Boulevard/Rosin Court	Signal	C	21.0	**F**	**>80**	C	21.0	**F**	**>80**
Northgate Boulevard/I-80 EB Ramps	Signal	B	17.7	C	22.2	B	17.7	C	22.5
Northgate Boulevard/I-80 WB Ramps	Signal	D	46.1	D	36.2	D	46.7	D	36.6

Notes:
Bolded Values indicate non-compliance with City of Sacramento standards.
Source: Dowling Associates.
XX/XX: Avg. Delay/Worst Movement Delay.

Roadway Segments

Table 5.6-27 summarizes the Cumulative Plus Project without Fong Ranch Road extension average daily traffic (ADT) volumes on study street segments.

TABLE 5.6-27

CUMULATIVE (2025) PLUS PROJECT W/O FONG RANCH EXTENSION ROADWAY SEGMENT AVERAGE DAILY TRAFFIC

Roadway Segments	Lanes	Cumulative Conditions Daily Traffic	Cumulative Plus Project Without Fong Ranch Extension Daily Traffic
Truxel Road North of San Juan Road	6	46,958	48,980
Truxel Road South of San Juan Road	4	35,980	37,058
San Juan Road west of Truxel Road	2	29,950	30,174
San Juan Road between Truxel Road and Fong Ranch Road	4	26,260	29,586
San Juan Road between Fong Ranch Road and Bridgeford Dr.	4	23,950	25,170
San Juan Road East of Bridgeford Dr.	4	24,160	25,284
Fong Ranch Road north of San Juan Road.	2	1,810	4,192
Fong Ranch Road east of Street I	2	1,810	3,876
Fong Ranch Road north of the canal	2	1,810	4,192
Pony Express Drive north of San Juan Road.	2	2,212	2,658
Bridgeford Road north of San Juan Road.	2	4,850	6,514

Source: Dowling Associates, Inc.

Freeway Mainline Operations

TABLE 5.6-28 summarizes the LOS results for the freeway mainline study segments under the Cumulative Plus Project without Fong Ranch Road extension scenario. The freeway mainline study segments were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB mainline between Norwood Avenue and Northgate Boulevard is projected to operate at LOS F during both the AM and PM peak hours,
- I-80 EB mainline between Northgate Boulevard and Norwood Avenue is projected to operate at LOS F during both the AM and PM peak hours,
- I-80 EB mainline between I-5 and Truxel Road is projected to operate at LOS F during the PM peak hour, and
- I-80 WB mainline between Northgate Boulevard and Truxel Road is projected to operate at LOS F during the AM peak hour.

As seen in TABLE 5.6-28, the above mentioned freeway mainline segments would operate at unacceptable LOS F under Cumulative conditions with and without the proposed project.

TABLE 5.6-28

CUMULATIVE (2025) PLUS PROJECT W/O FONG EXTENSION I-80 MAINLINE OPERATION

	Cumulative Conditions						Cumulative + Proposed Project W/O Fong Extension					
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
Ramp	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume
Eastbound I-80												
I-5 to Truxel	D	0.88	7,247	**F**	1.01	8,270	D	0.88	7,256	**F**	1.01	8,299
Truxel to Northgate	D	0.83	6,784	E	0.95	7,813	D	0.83	6,819	E	0.96	7,837
Northgate to Norwood	**F**	1.03	6,791	**F**	1.30	8,568	**F**	1.03	6,826	**F**	1.30	8,592
Westbound I-80												
Norwood to Northgate	**F**	1.42	9,397	**F**	1.16	7,628	**F**	1.43	9,409	**F**	1.16	7,666
Northgate to Truxel	**F**	1.11	9,139	E	0.93	7,637	**F**	1.12	9,151	E	0.94	7,675
Truxel to I-5	D	0.88	8,660	D	0.78	7,611	D	0.88	8,687	D	0.78	7,629

Notes:
LOS = level of service.
V/C ratio = volume to capacity ratio.
Bolded value indicate non-compliance with Caltrans standards.
Source: Dowling Associates, Inc.

Freeway Ramp and Merge/Diverge Operations

TABLE 5.6-29 summarizes the LOS results for the study area freeway interchanges under the Cumulative Plus Project without Fong Ranch Road extension scenario. The calculations are provided in Appendix E3. The study freeway ramps were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB off-ramp to Northgate Boulevard is projected to operate at LOS F during both the AM and PM peak hours,
- I-80 WB off-ramp to Truxel Road is projected to operate at LOS F during both the AM and PM peak hours, and
- I-80 EB on-ramp from northbound Northgate Boulevard is projected to operate at LOS F during both the AM and PM peak hours.

As seen in TABLE 5.6-29, the above mentioned freeway ramps would operate at unacceptable LOS F under Cumulative conditions with and without the proposed project.

TABLE 5.6-29

CUMULATIVE (2025) PLUS PROJECT W/O FONG EXTENSION I-80 INTERCHANGE OPERATIONS

Ramp	Cumulative Conditions						Cumulative + Proposed Project W/O Fong Extension					
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	LOS	Density[1] (pc/mi/ln)	Volume	LOS	Density[1] (pc/mi/ln)	Volume	LOS	Density[1] (pc/mi/ln)	Volume	LOS	Density[1] (pc/mi/ln)	Volume
Eastbound I-80												
Truxel Rd. Off-Ramp	C	21.5	2,103	C	24.6	1,959	C	21.6	2,112	C	24.7	1,988
Truxel Rd. North On-Ramp	C	26.3	432	D	30.5	356	C	26.3	467	D	30.5	380
Northgate Blvd. North On-Ramp	**F**	35.8	548	**F**	45.1	605	**F**	35.9	548	**F**	45.2	605
Westbound I-80												
Northgate Blvd. Off-Ramp	**F**	40.7	1,258	**F**	36.2	1,238	**F**	40.7	1,258	**F**	36.3	1,238
Truxel Rd. Off-Ramp	**F[2]**	27.2	2,525	**F[2]**	22.7	2,263	**F[2]**	27.2	2,537	**F[2]**	22.8	2,301
Truxel Rd. North On-Ramp	C	693	635	C	256	235	C	722	662	C	276	253

Notes:
LOS = level of service.
pc/mi/ln = passenger car per mile per lane.
Bolded value indicate non-compliance with Caltrans standards.
1. Numbers with decimals indicate the density of passenger vehicles per mile per lane in the merge or diverge area.
Whole numbers indicate the ramp flow rate in passenger car equivalents where a lane is added to the freeway at an onramp.
2. LOS F designation due to demand exceeding capacity.
Source: Dowling Associates, Inc.

Freeway Off-Ramps were analyzed to determine whether the available storage lengths are adequate for the anticipated queues. The length of a vehicle is assumed to be 25 feet long. **TABLE 5.6-30** presents the comparison of the queue length and the storage length for the Cumulative Plus Project without the Fong Ranch Road extension condition. All Off-ramps would have adequate capacity to store the anticipated queue during both the AM and PM peak hours.

TABLE 5.6-30

CUMULATIVE (2025) PLUS PROJECT W/O FONG EXTENSION – RAMP QUEUING

	AM Peak Hour			PM Peak Hour		
Location	Storage Capacity (feet)	Queue (feet)	Adequate Capacity	Storage Capacity (feet)	Queue (feet)	Adequate Capacity
I-80 EB Off-ramp to Truxel Road	4040	1850	Yes	4040	1950	Yes
I-80 WB off-ramp to Truxel Road	4360	2200	Yes	4360	2275	Yes
I-80 WB off-ramp to Northgate Boulevard	2475	1000	Yes	2475	1025	Yes

Notes:
Bolded values indicate a queue greater than the storage capacity.
Source: Dowling Associates, Inc.

Cumulative (2025) Plus Project with Fong Ranch Road Extension

Intersection Operations

The project traffic volumes were added to the Cumulative No Project volumes to establish the Cumulative Plus Project with Fong Ranch Road extension traffic volumes. **Figure 5.6-17** presents the Cumulative Plus Project with Fong Ranch Road extension traffic volumes for the weekday AM and PM peak hours. These volumes were used to calculate the Cumulative Plus Project with Fong Ranch Road extension LOS at the study intersections. In this scenario it is assumed that light rail transit runs along Truxel Road and in order to account for this, the loss time at the signalized intersections along Truxel Road were increased by 6 seconds. This loss time was selected based on the assumptions that there would be 15 minute headways and approximately 20 seconds for light rail transit to cross each intersection. **Table 5.6-31** summarizes the LOS results for the study intersections under the Cumulative Plus Project with Fong Ranch Road extension scenario. The calculations are provided in Appendix E8. The study intersections were found to be operating acceptably, LOS C or better for City of Sacramento intersections or LOS D or better for I-80 freeway ramp intersections, during the weekday AM peak hour and PM peak hours except for the following:

- San Juan Road and Northgate Boulevard is projected to operate at LOS D during the PM peak hour,
- Truxel Road and San Juan Road is projected to operate at LOS E during the AM peak hour and LOS D during the PM peak hour,
- Truxel Road and El Camino Avenue is projected to operate at LOS D during the PM peak hour,
- Truxel Road and I-80 Westbound Ramps is projected to operate at LOS E during both the AM and PM peak hours, and
- Northgate Boulevard and Rosin Court is projected to operate at LOS F during the PM peak hour.

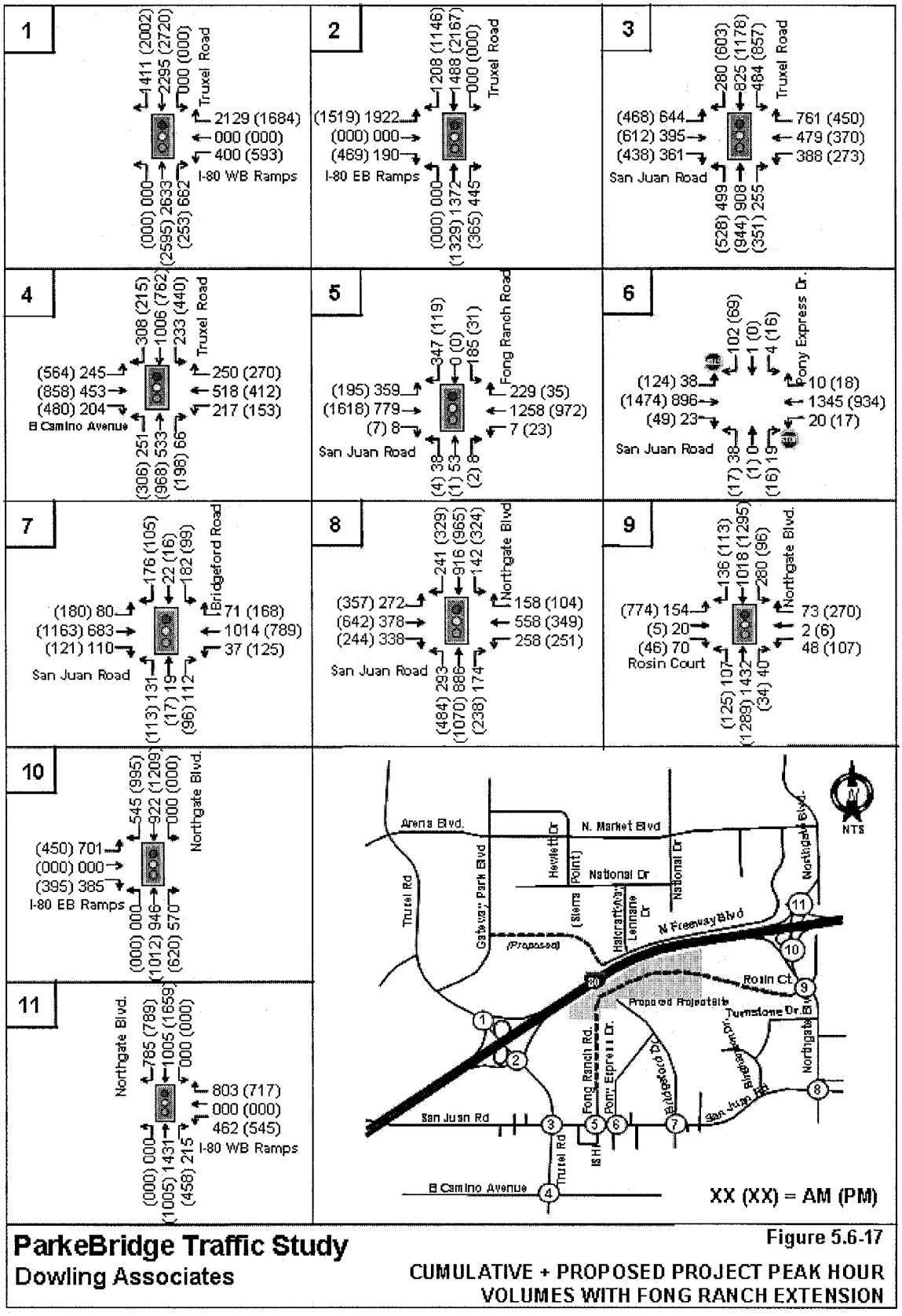

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Figure 5.6-17
CUMULATIVE + PROPOSED PROJECT PEAK HOUR VOLUMES WITH FONG RANCH EXTENSION

TABLE 5.6-31

CUMULATIVE (2025) PLUS PROPOSED PROJECT CONDITIONS WITH FONG RANCH EXTENSION - INTERSECTION LEVEL OF SERVICE SUMMARY

Intersections	Intersection Control	Cumulative Conditions				Cumulative + Proposed Project W/ Fong Ranch Extension			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Level of Service	Delay (sec.)	Level of Service	Delay (sec.)	Level of Service	Delay (sec.)	Level of Service	Delay (sec.)
Truxel Road/I-80 WB Ramps	Signal	**E**	**71.5**	**E**	**59.3**	**E**	**73.1**	**E**	**61.2**
Truxel Road/I-80 EB Ramps	Signal	C	27.4	C	27.0	C	27.5	C	27.9
Truxel Road/San Juan Road	Signal	**E**	**63.8**	**D**	**41.4**	**E**	**75.9**	**D**	**44.2**
Truxel Road/El Camino Avenue	Signal	C	31.9	**D**	**36.8**	C	32.0	**D**	**37.5**
San Juan Road/Fong Ranch Road	Signal	C	28.7	B	14.1	C	32.1	B	17.6
San Juan Road/Pony Express Drive	NB/SB - Stop	A/F	4.9/>50	A/F	5.6/>50	A/F	6.4/>50	A/F	7.7/>50
San Juan Road/Bridgeford Drive	Signal	C	24.1	C	22.3	C	25.9	C	23.9
San Juan Road/Northgate Boulevard	Signal	C	33.0	**D**	**40.3**	C	33.2	**D**	**41.6**
Northgate Boulevard/Rosin Court	Signal	C	21.0	**F**	**>80**	C	23.6	**F**	**>80**
Northgate Boulevard/I-80 EB Ramps	Signal	B	17.7	C	22.2	B	17.7	C	23.4
Northgate Boulevard/I-80 WB Ramps	Signal	D	46.1	D	36.2	D	47.5	D	36.9

Notes:
Bolded Values indicate non-compliance with City of Sacramento standards.
Source: Dowling Associates.
XX/XX: Avg. Delay/Worst Movement Delay.

Roadway Segments

Table 5.6-32 summarizes the Cumulative Plus Project with Fong Ranch Road extension average daily traffic (ADT) volumes on study street segments.

TABLE 5.6-32

CUMULATIVE (2025) PLUS PROJECT W/ FONG RANCH EXTENSION ROADWAY SEGMENT AVERAGE DAILY TRAFFIC

Roadway Segments	Lanes	Cumulative Conditions Daily Traffic	Cumulative Plus Project With Fong Ranch Extension Daily Traffic
Truxel Road North of San Juan Road	6	46,958	48,394
Truxel Road South of San Juan Road	4	35,980	37,058
San Juan Road west of Truxel Road	2	29,950	30,174
San Juan Road between Truxel Road and Fong Ranch Road	4	26,260	28,998
San Juan Road between Fong Ranch Road and Bridgeford Dr.	4	23,950	24,666
San Juan Road East of Bridgeford Dr.	4	24,160	24,384
Fong Ranch Road north of San Juan Road.	2	1,810	3,696
Fong Ranch Road east of Street I	2	1,810	4,374
Fong Ranch Road north of the canal	2	1,810	3,696
Pony Express Drive north of San Juan Road.	2	2,212	2,530
Bridgeford Road north of San Juan Road.	2	4,850	5,654

Source: Dowling Associates, Inc.

Freeway Mainline Operations

TABLE 5.6-33 summarizes the LOS results for the freeway mainline study segments under the Cumulative Plus Project with Fong Ranch Road extension scenario. The freeway mainline study segments were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB mainline between Norwood Avenue and Northgate Boulevard is projected to operate at LOS F during both the AM and PM peak hours,
- I-80 EB mainline between Northgate Boulevard and Norwood Avenue is projected to operate at LOS F during both the AM and PM peak hours,
- I-80 EB mainline between I-5 and Truxel Road is projected to operate at LOS F during the PM peak hour, and
- I-80 WB mainline between Northgate Boulevard and Truxel Road is projected to operate at LOS F during the AM peak hour.

As seen in TABLE 5.6-33, the above mentioned freeway mainline segments would operate at unacceptable LOS F under Cumulative conditions with and without the proposed project.

TABLE 5.6-33

CUMULATIVE (2025) PLUS PROJECT W/ FONG EXTENSION I-80 MAINLINE OPERATIONS

Ramp	Cumulative Conditions						Cumulative + Proposed Project W/ Fong Extension					
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume	LOS	V/C ratio	Volume
Eastbound I-80												
I-5 to Truxel	D	0.88	7,247	**F**	1.01	8,270	D	0.88	7,256	**F**	1.01	8,298
Truxel to Northgate	D	0.83	6,784	E	0.95	7,813	D	0.83	6,797	E	0.95	7,822
Northgate to Norwood	**F**	1.03	6,791	**F**	1.30	8,568	**F**	1.03	6,826	**F**	1.30	8,592
Westbound I-80												
Norwood to Northgate	**F**	1.42	9,397	**F**	1.16	7,628	F	1.43	9,408	**F**	1.16	7,666
Northgate to Truxel	**F**	1.11	9,139	E	0.93	7,637	F	1.12	9,143	E	0.93	7,651
Truxel to I-5	D	0.88	8,660	D	0.78	7,611	D	0.89	8,687	D	0.78	7,629

Notes:
LOS = level of service.
V/C ratio = volume to capacity ratio.
Bolded value indicate non-compliance with Caltrans standards.
Source: Dowling Associates, Inc.

Freeway Ramp and Merge/Diverge Operations

TABLE 5.6-34 summarizes the LOS results for the study area freeway interchanges under the Cumulative Plus Project with Fong Ranch Road extension scenario. The calculations are provided in Appendix E3. The study freeway ramps were found to be operating acceptably, LOS E or better, during the weekday AM and PM peak hours except for the following:

- I-80 WB off-ramp to Northgate Boulevard is projected to operate at LOS F during both the AM and PM peak hours,
- I-80 WB off-ramp to Truxel Road is projected to operate at LOS F during both the AM and PM peak hours, and
- I-80 EB on-ramp from northbound Northgate Boulevard is projected to operate at LOS F during both the AM and PM peak hours.

As seen in **TABLE 5.6-34**, the above mentioned freeway ramps would operate at unacceptable LOS F under Cumulative conditions with and without the proposed project.

TABLE 5.6-34

CUMULATIVE (2025) PLUS PROJECT W/ FONG EXTENSION I-80 INTERCHANGE OPERATIONS

	Cumulative Conditions						Cumulative + Proposed Project W/ Fong Extension					
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
Ramp	LOS	Density[1] (pc/mi/ln)	Volume	LOS	Density[1] (pc/mi/ln)	Volume	LOS	Density[1] (pc/mi/ln)	Volume	LOS	Density[1] (pc/mi/ln)	Volume
Eastbound I-80												
Truxel Rd. Off-Ramp	C	21.5	2,103	C	24.6	1,959	C	21.6	2,111	C	24.7	1,987
Truxel Rd. North On-Ramp	C	26.3	432	D	30.5	356	C	26.3	445	D	30.5	365
Northgate Blvd. North On-Ramp	**F**	35.8	548	**F**	45.1	605	**F**	36.0	570	**F**	45.2	620
Westbound I-80												
Northgate Blvd. Off-Ramp	**F**	40.7	1,258	**F**	36.2	1,238	**F**	40.7	1,265	**F**	36.4	1,262
Truxel Rd. Off-Ramp	**F**[2]	27.2	2,525	**F**[2]	22.7	2,263	**F**[2]	27.2	2,529	**F**[2]	22.8	2,277
Truxel Rd. North On-Ramp	C	693	635	C	256	235	C	722	662	C	276	253

Notes:
LOS = level of service.
pc/mi/ln = passenger car per mile per lane.
Bolded value indicate non-compliance with Caltrans standards.
1. Numbers with decimals indicate the density of passenger vehicles per mile per lane in the merge or diverge area.
2. LOS F designation due to demand exceeding capacity.
Whole numbers indicate the ramp flow rate in passenger car equivalents where a lane is added to the freeway at an onramp.
Source: Dowling Associates, Inc.

Freeway Off-Ramps were analyzed to determine whether the available storage lengths are adequate for the anticipated queues. The length of a vehicle is assumed to be 25 feet long. **TABLE 5.6-35** presents the comparison of the queue length and the storage length for the Cumulative Plus Project with the Fong Ranch Road extension condition. All Off-ramps would have adequate capacity to store the anticipated queue during both the AM and PM peak hours.

TABLE 5.6-35

CUMULATIVE (2025) PLUS PROJECT W/ FONG EXTENSION – RAMP QUEUING

	AM Peak Hour			PM Peak Hour		
Location	Storage Capacity (feet)	Queue (feet)	Adequate Capacity	Storage Capacity (feet)	Queue (feet)	Adequate Capacity
I-80 EB Off-ramp to Truxel Road	4040	1850	Yes	4040	1950	Yes
I-80 WB off-ramp to Truxel Road	4360	2200	Yes	4360	2250	Yes
I-80 WB off-ramp to Northgate Boulevard	2475	1000	Yes	2475	1025	Yes

Notes:
Bolded values indicate a queue greater than the storage capacity.
Source: Dowling Associates, Inc.

Project-Specific Impacts and Mitigation Measures

Baseline Impacts and Mitigation Measures

5.6-1 Intersections

As mentioned previously and as shown in **Table 5.6-21**, all the study intersections would operate under acceptable conditions (LOS C or better for City intersections and LOS D or better for freeway intersections) resulting in ***no impact*** under the Baseline Plus Project condition.

Mitigation Measure

5.6-1 *None required.*

5.6-2 Freeway Mainline

As shown in **TABLE 5.6-23**, the following freeway mainline segments would continue to operate at an unacceptable LOS:

- I-80 WB mainline between Norwood Avenue and Northgate Boulevard is projected to operate at LOS F during the AM peak hour, and
- I-80 EB mainline between Northgate Boulevard and Norwood Avenue is projected to operate at LOS F during the PM peak hour.

The addition of proposed project trips would exacerbate already existing unacceptable operations at the two locations mentioned above. Therefore, this is considered a ***significant impact***.

Mitigation Measure

5.6-2 *To mitigate the impact at the I-80 EB and WB mainline between Norwood Avenue and Northgate Boulevard, the freeway would need to be expanded to provide additional capacity. According to the Interstate 80 Transportation Concept Report, 2001, the I-80 concept facility from the Sacramento County line to Watt Avenue is proposed as an 8 lane freeway. The concept facility is a 20-year planning concept of what the highway should look like at the end of the 20-year planning period. However, I-80 freeway widening in the subject segment is not programmed in the Metropolitan Transportation Plan (MTP) for 2025, 2004. In addition, right-of-way may be required to accommodate the widening. Since the subject segment of the I-80 mainline is already operating at an unacceptable level even without the project, and since the I-80 freeway widening to 8 lanes is not programmed in the MTP for 2025, this impact would remain* ***significant and unavoidable.***

5.6-3 Freeway Ramps

As shown in TABLE 5.6-24, the following study freeway ramps would continue to operate at an unacceptable LOS:

- I-80 WB off-ramp to Northgate Boulevard during the AM peak hour, and
- I-80 EB on-ramp from northbound Northgate Boulevard during the PM peak hour.

A significant impact at a freeway ramp would occur if project traffic would cause the ramp's merge/diverge LOS to be worse than the freeway's LOS. The I-80 WB off-ramp to Northgate Boulevard operates at LOS F during the AM peak hour and the upstream freeway mainline between Norwood Avenue and Northgate Boulevard also operates at LOS F. The I-80 EB on-ramp from northbound Northgate Boulevard operates at LOS F during the PM peak hour and the downstream freeway mainline between Northgate Boulevard and Norwood Avenue also operates at LOS F. Since the ramp's merge/diverge LOS is not worse than the freeway's LOS, this is considered a ***less-than-significant impact.***

Mitigation Measure

5.6-3 *None Required.*

Bicycle, Pedestrian, and Transit Impacts and Mitigation Measures

5.6-4 Transit System

Transit ridership estimates for the Project were based upon information compiled by the Transportation Research Board (*NCHRP Report 187: Quick-Response Urban Travel Estimation Techniques and Transferable Parameters*, 1978). Table 5.6-20 shows the number of transit riders that would be generated for the Proposed Project. The Proposed Project has the potential to generate about 270 transit riders on an average weekday.

Route 86 currently provides access to San Juan Road with a transit stop at the San Juan Road and Truxel Road intersection. The potential increased demand for transit would be met. Therefore, this is considered a ***less-than-significant impact.***

Mitigation Measure

5.6-4 *None Required.*

5.6-5 Pedestrian System and Bicycle Facilities

Development of the Proposed Project would result in an increase in bicycle trips in the study area by residents and visitors. However, the Proposed Project is not anticipated to hinder or eliminate the existing bikeways or interfere with the implementation of the planed bikeways in the study area. Moreover, the development of the Proposed Project would result in an addition of bikeway improvements along the proposed streets within and adjacent to the project site as per the *Bikeway Master Plan* and in accordance with City of Sacramento Standards including a bicycle/pedestrian only bridge. In view of this, the implementation of the Proposed Project would result in ***no impacts*** to the bicycle system.

Development of the Proposed Project would result in an increase of pedestrian trips in the study area by residents and visitors. Moreover, the development of the Proposed Project would result in an addition of pedestrian improvements along the proposed streets within and adjacent to the project site in accordance with the City of Sacramento Standards including a bicycle/pedestrian only bridge. Therefore, the Proposed Project is not anticipated to result in to unsafe conditions for pedestrians, including unsafe pedestrian/bicycle or pedestrian/motor vehicle conflicts. In view of this, the implementation of the Proposed Project would result in ***no impacts*** to pedestrian facilities.

Mitigation Measure

5.6-5 *None Required.*

Cumulative (2025) Impacts and Mitigation Measures

Cumulative (2025) without Fong Ranch Road Extension Impacts and Mitigation Measures

5.6-6 Intersections

As shown in Table 5.6-26, the following study intersections would operate at an unacceptable LOS:

(a) San Juan Road and Northgate Boulevard during the PM peak hour,

(b) Truxel Road and San Juan Road during both the AM and PM peak hours,

(c) Truxel Road and El Camino Avenue during the PM peak hour,

(d) Truxel Road and I-80 Westbound Ramps during both the AM and PM peak hours, and

(e) Northgate Boulevard and Rosin Court during the PM peak hour.

San Juan Road and Northgate Boulevard

As shown in Table 5.6-26, the intersection of San Juan Road and Northgate Boulevard would operate at LOS D, an unacceptable LOS, during the PM peak hour under the Cumulative Plus Project condition. However, since the proposed project would increase the average delay for this intersection by less than 5 seconds from the Cumulative (No Project) condition, the impact at this intersection under Cumulative Plus Project condition is considered ***less-than-significant***.

Truxel Road and San Juan Road

As shown in **Table 5.6-26**, the intersection of Truxel Road and San Juan Road would operate at LOS F, an unacceptable LOS, during the AM peak hour under the Cumulative Plus Project condition. Project-related traffic would contribute to the poor operation and degrade operating conditions at this intersection from LOS E with 63.8 seconds of delay under the Cumulative (No Project) conditions to LOS F with 81.6 seconds of delay under Cumulative Plus Project conditions during the weekday AM peak hour. This increase in the average delay by more than 5 seconds is considered to be a ***significant impact***.

Truxel Road and El Camino Avenue

As shown in Table 5.6-26, the intersection of Truxel Road and El Camino Avenue would operate at LOS D, an unacceptable LOS, during the PM peak hour under the Cumulative Plus Project condition. However, since the proposed project would increase the average delay for this intersection by less than 5 seconds from the Cumulative (No Project) condition, the impact at this intersection under Cumulative Plus Project condition is considered ***less-than-significant***.

Truxel Road and I-80 Westbound Ramps

As shown in Table 5.6-26, the intersection of Truxel Road and I-80 Westbound Ramps would operate at LOS E, an unacceptable LOS, during both the AM and PM peak hours under the Cumulative Plus Project condition. However, since the proposed project would increase the average delay for this intersection by less than 5 seconds from the Cumulative (No Project) condition, the impact at this intersection under Cumulative Plus Project condition is considered ***less-than-significant*** .

Northgate Boulevard and Rosin Court

As shown in Table 5.6-26, the intersection of Northgate Boulevard and Rosin Court would operate at LOS F, an unacceptable LOS, during the PM peak hour under the Cumulative Plus Project condition. However, since the proposed project would increase the average delay for this intersection by less than 5 seconds from the Cumulative (No Project) condition, the impact at this intersection under Cumulative Plus Project condition is considered ***less-than-significant***.

Mitigation Measure

5.6-6 (a) *None required at the intersection of San Juan Road and Northgate Boulevard.*

(b) *The addition of a second right turn lane to the westbound San Juan Road approach to Truxel Road would mitigate the impact to a less-than-significant impact. However, due to right-of-way constraints, this mitigation measure is considered to be infeasible. In view of the lack of feasibility in implementing the required mitigation measure this impact is* ***significant and unavoidable.***

(c) *None required at the intersection of Truxel Road and El Camino Boulevard.*

(d) *None required at the intersection of Truxel Road and I-80 Westbound Ramps.*

(e) *None required at the intersection of Northgate Boulevard and Rosin Court.*

5.6-7 Freeway mainline

As shown in TABLE 5.6-28, the following freeway mainline segments would continue to operate at an unacceptable LOS:

(a) I-80 WB mainline between Norwood Avenue and Northgate Boulevard during both the AM and PM peak hours,

(b) I-80 EB mainline between Northgate Boulevard and Norwood Avenue during both the AM and PM peak hours,

(c) I-80 EB mainline between I-5 and Truxel Road during the PM peak hour, and

(d) I-80 WB mainline between Northgate Boulevard and Truxel Road during the AM peak hour.

The proposed project trips would exacerbate the already existing unacceptable operations at the four locations mentioned above. Therefore, this is considered a ***significant impact***.

Mitigation Measure

5.6-7 *To mitigate the significant cumulative impacts on the abovementioned segments of I-80 mainline, the freeway would need to be expanded to provide additional capacity. According to the Interstate 80 Transportation Concept Report, 2001, the I-80 concept facility from the Sacramento County line to Watt Avenue is proposed as an 8 lane freeway. I-80 freeway widening in the subject segment is not programmed in the Metropolitan Transportation Plan (MTP) for 2025, 2004. In addition, right-of-way may be required to accommodate the widening. Since the subject section of the I-80 mainline is already operating at an unacceptable condition even without the project, and since the I-80 freeway widening to 8 lanes is not in the MTP for 2025, this impact is considered to be* ***significant and unavoidable.***

5.6-8 Freeway Ramps

As shown in TABLE 5.6-29, the following study freeway ramps would continue to operate at an unacceptable LOS:

(a) I-80 WB off-ramp to Northgate Boulevard during PM peak hours,

(b) I-80 WB off-ramp to Truxel Road during both the AM and PM peak hours, and

(c) I-80 EB on-ramp from northbound Northgate Boulevard during both the AM and PM peak hours.

I-80 WB off-ramp to Northgate Boulevard

The I-80 WB off-ramp to Northgate Boulevard operates at LOS F during PM peak hour and the upstream freeway mainline between Norwood Avenue and Northgate Boulevard also operates at LOS F during PM peak hour. A significant impact at a freeway ramp would occur if project traffic would cause the ramp's merge/diverge LOS to be worse than the freeway's LOS. Since the ramp's merge/diverge LOS is not worse than the freeway's LOS, this is considered a ***less-than-significant impact.***

I-80 WB off-ramp to Truxel Road

The I-80 WB off-ramp to Truxel Road operates at LOS F during both the AM peak hour and the upstream freeway mainline between Northgate Boulevard and Truxel Road also operates at LOS F during the AM peak hour. A significant impact at a freeway ramp would occur if project traffic would cause the ramp's merge/diverge LOS to be worse than the freeway's LOS. Since the ramp's merge/diverge LOS is not worse than the freeway's LOS, this is considered a ***less-than-significant impact.***

The I-80 WB off-ramp to Truxel Road operates at LOS F during the PM peak hour and the upstream freeway mainline between Northgate Boulevard and Truxel Road operates at LOS E during the PM peak hour. A significant impact at a freeway ramp would occur if project traffic would cause the ramp's merge/diverge LOS to be worse than the freeway's LOS. Since the ramp's merge/diverge LOS is worse than the freeway's LOS, this is considered a ***significant impact.***

I-80 EB on-ramp from northbound Northgate Boulevard

The I-80 EB on-ramp from northbound Northgate Boulevard operates at LOS F during both the AM and PM peak hour and the downstream freeway mainline between Northgate Boulevard and Norwood Avenue also operates at LOS F during both the AM and PM peak hour. A significant impact at a freeway ramp would occur if project traffic would cause the ramp's merge/diverge LOS to be worse than the freeway's LOS. Since the ramp's merge/diverge LOS is not worse than the freeway's LOS, this is considered a ***less-than-significant impact.***

Mitigation Measure

5.6-8 (a) *None required at the I-80 WB off-ramp to Northgate Boulevard.*

(b) *To mitigate the significant cumulative impact at the I-80 WB off-ramp to Truxel Road, the freeway would need to be expanded to provide additional capacity. According to the Interstate 80 Transportation Concept Report, 2001, the I-80 concept facility from the Sacramento County line to Watt Avenue is proposed as an 8 lane freeway. I-80 freeway widening in the subject segment is not programmed in the Metropolitan Transportation Plan (MTP) for 2025, 2004. In addition, right-of-way may be required to accommodate the widening. Since the subject section of the I-80 mainline is already operating at an unacceptable condition even without the project, and since the I-80 freeway widening to 8 lanes is not in the MTP for 2025, the cumulative impacts at the I-80 WB off-ramp to Truxel Road would remain* ***significant and unavoidable.***

(c) *None required at the I-80 EB on-ramp from northbound Northgate Boulevard..*

Bicycle, Pedestrian, and Transit Impacts and Mitigation Measures

5.6-9 Transit System

Transit ridership estimates for the Project were based upon information compiled by the Transportation Research Board (*NCHRP Report 187: Quick-Response Urban Travel Estimation Techniques and Transferable Parameters*, 1978). Table 5.6-20 shows the number of transit riders that would be generated for the Proposed Project. The Proposed Project has the potential to generate about 270 transit riders on an average weekday.

Route 86 currently provides access to San Juan Road with a transit stop at the San Juan Road and Truxel Road intersection. The potential increased demand for transit would be met. Therefore, this is considered a ***less-than-significant impact***.

Mitigation Measure

5.6-9 *None Required.*

5.6-10 Pedestrian System and Bicycle Facilities

Development of the Proposed Project would result in an increase in bicycle trips in the study area by residents and visitors. However, the Proposed Project is not anticipated to hinder or eliminate the existing bikeways or interfere with the implementation of the planed bikeways in the study area. Moreover, the development of the Proposed Project would result in an addition of bikeway improvements along the proposed streets within and adjacent to the project site as per the *Bikeway Master Plan* and in accordance with City of Sacramento Standards including a bicycle/pedestrian only bridge. In view of this, the implementation of the Proposed Project would result in ***no impacts*** to the bicycle system.

Development of the Proposed Project would result in an increase of pedestrian trips in the study area by residents and visitors. Moreover, the development of the Proposed Project would result in an addition of pedestrian improvements along the proposed streets within and adjacent to the project site in accordance with the City of Sacramento Standards including a bicycle/pedestrian only bridge. Therefore, the Proposed Project is not anticipated to result in to unsafe conditions for pedestrians, including unsafe pedestrian/bicycle or pedestrian/motor vehicle conflicts. In view of this, the implementation of the Proposed Project would result in ***no impacts*** to pedestrian facilities.

Mitigation Measure

5.6-10 *None Required.*

Cumulative (2025) with Fong Ranch Road Extension Impacts and Mitigation Measures

5.6-11 Intersections

As shown in Table 5.6-31, the following study intersections would operate at an unacceptable LOS:

(a) San Juan Road and Northgate Boulevard during the PM peak hour,

(b) Truxel Road and San Juan Road during both the AM and PM peak hours,

(c) Truxel Road and El Camino Avenue during the PM peak hour,

(d) Truxel Road and I-80 Westbound Ramps during both the AM and PM peak hours, and

(e) Northgate Boulevard and Rosin Court during the PM peak hour.

San Juan Road and Northgate Boulevard

As shown in Table 5.6-31, the intersection of San Juan Road and Northgate Boulevard would operate at LOS D, an unacceptable LOS, during the PM peak hour under the Cumulative Plus Project condition. However, since the proposed project would increase the average delay for this intersection by less than 5 seconds from the Cumulative (No Project) condition, the impact at this intersection under Cumulative Plus Project condition is considered ***less-than-significant*** .

Truxel Road and San Juan Road

As shown in Table 5.6-31, the intersection of Truxel Road and San Juan Road would operate at LOS E, an unacceptable LOS, during the AM peak hour under the Cumulative Plus Project condition. Project-related traffic would contribute to the poor operation and degrade operating conditions at this intersection from LOS E with 63.8 seconds of delay under the Cumulative (No Project) conditions to LOS E with 75.9 seconds of delay under Cumulative Plus Project conditions during the weekday AM peak hour. This degradation in the average delay by more than 5 seconds is considered a project-related effect during the weekday AM peak hour. Based on the City of Sacramento *Traffic Impact Analysis Study Guidelines*, the LOS at this intersection is considered to be a ***significant impact***.

Truxel Road and El Camino Avenue

As shown in **Table 5.6-31**, the intersection of Truxel Road and El Camino Avenue would operate at LOS D, an unacceptable LOS, during the PM peak hour under the Cumulative Plus Project condition. However, since the proposed project would increase the average delay for this intersection by less than 5 seconds from the Cumulative (No Project) condition, the impact at this intersection under Cumulative Plus Project condition is considered ***less-than-significant***.

Truxel Road and I-80 Westbound Ramps

As shown in **Table 5.6-31**, the intersection of Truxel Road and I-80 Westbound Ramps would operate at LOS E, an unacceptable LOS, during both the AM and PM peak hours under the Cumulative Plus Project condition. However, since the proposed project would increase the average delay for this intersection by less than 5 seconds from the Cumulative (No Project) condition, the impact at this intersection under Cumulative Plus Project condition is considered ***less-than-significant*** .

Northgate Boulevard and Rosin Court

As shown in Table 5.6-31, the intersection of Northgate Boulevard and Rosin Court would operate at LOS F, an unacceptable LOS, during the PM peak hour under the Cumulative Plus Project condition. Project-related traffic would contribute to the poor operation and degrade operating conditions at this intersection from LOS F with 108.6 seconds of delay under the Cumulative (No Project) conditions to LOS F with 120.8 seconds of delay under Cumulative Plus Project conditions during the weekday PM peak hour. This degradation in the average delay by more than 5 seconds is considered a project-related effect during the weekday PM peak hour. Based on the City of Sacramento *Traffic Impact Analysis Study Guidelines*, the LOS at this intersection is considered to be a ***significant impact***.

Mitigation Measure

5.6-11 (a) *None required at the intersection of San Juan Road and Northgate Boulevard.*

(b) *The addition of a second right turn lane to the westbound San Juan Road approach to Truxel Road would mitigate the impact to a less-than-significant impact. However, due to right-of-way constraints, this mitigation measure is considered to be infeasible. In view of the lack of feasibility in implementing the required mitigation measure this impact is* ***significant and unavoidable****.*

(c) *None required at the intersection of Truxel Road and El Camino Boulevard.*

(d) *None required at the intersection of Truxel Road and I-80 Westbound Ramps.*

(e) *Add a second left-turn lane creating dual left turn lanes to the eastbound approach.*

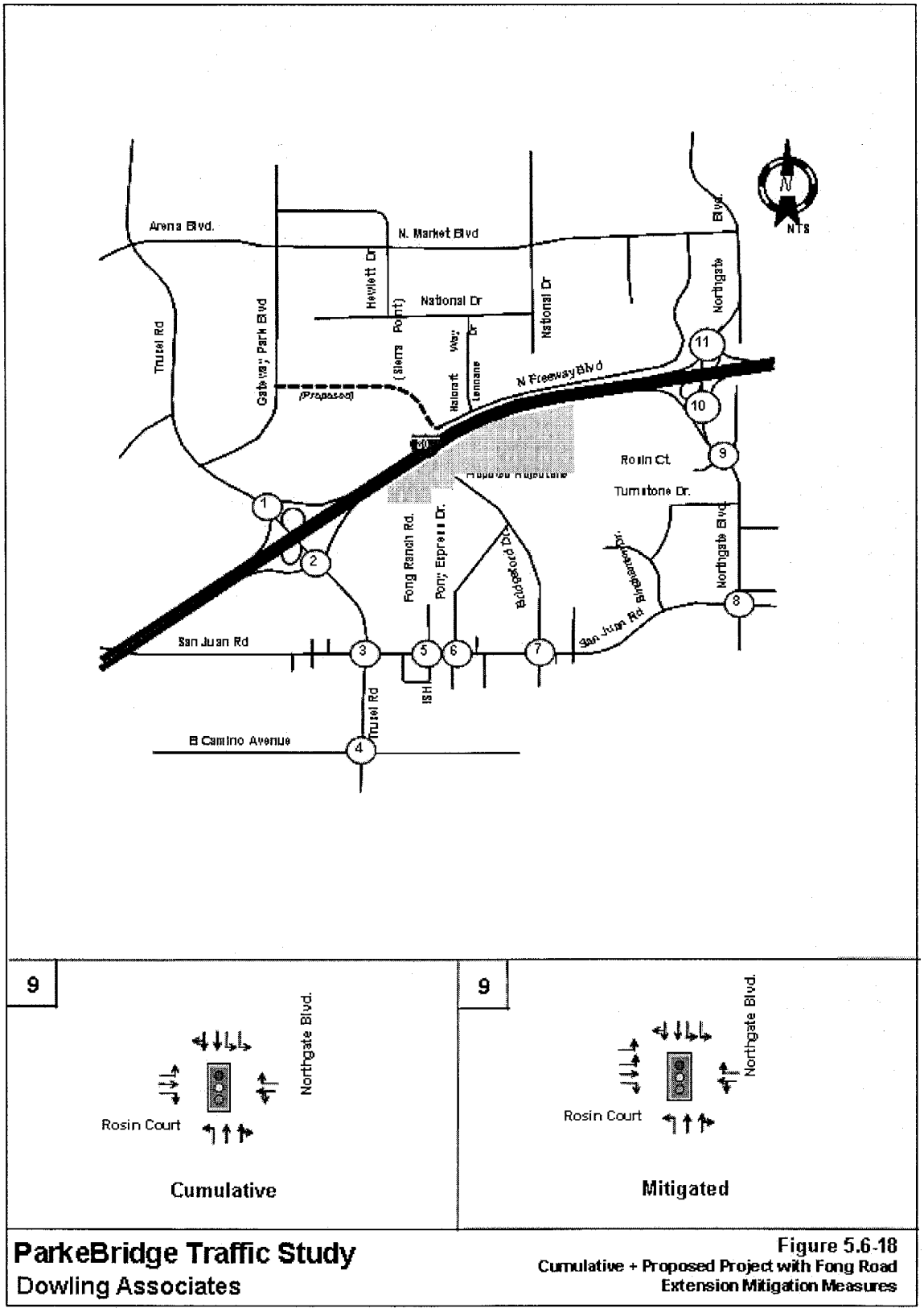
With implementation of this improvement, the intersection would operate at LOS D with 49.6 seconds of delay during the weekday PM peak hour and will improve the Cumulative Plus Project operating conditions to levels that would not have resulted in identification of an impact. Implementation of the recommended improvement would therefore reduce the significance of the proposed project's impact to a ***less-than-significant*** *level. The summary of LOS before and after mitigation is presented in TABLE 5.6-36 and the lane configuration is presented in Table 5.6-18. A detailed intersection operation sheet showing improved operations is included in Appendix E9.*

TABLE 5.6-36

CUMULATIVE (2025) + PROJECT W/ FONG EXTENSION CONDITIONS- MITIGATION MEASURES FOR IMPACTED INTERSECTIONS

	Without Mitigation			With Mitigation		
Intersection	Control	Level of Service	Delay (secs.)	Control	Level of Service	Delay (secs.)
PM Peak Hour						
Northgate Boulevard and Rosin Court	Signalized	F	>80	Signalized	D	49.6

Source: Dowling Associates, Inc.



ParkeBridge Traffic Study
Dowling Associates

Figure 5.6-18
Cumulative + Proposed Project with Fong Road Extension Mitigation Measures

5.6-12 Freeway mainline

As shown in TABLE 5.6-33, the following freeway mainline segments would continue to operate at an unacceptable LOS:

(a) I-80 WB mainline between Norwood Avenue and Northgate Boulevard during both the AM and PM peak hours,

(b) I-80 EB mainline between Northgate Boulevard and Norwood Avenue during both the AM and PM peak hours,

(c) I-80 EB mainline between I-5 and Truxel Road during the PM peak hour, and

(d) I-80 WB mainline between Northgate Boulevard and Truxel Road during the AM peak hour.

The proposed project trips would exacerbate the already existing unacceptable operations at the four locations mentioned above. Therefore, this is considered a ***significant impact.***

Mitigation Measure

5.6-12 *To mitigate the significant cumulative impacts on the abovementioned segments of I-80 mainline, the freeway would need to be expanded to provide additional capacity. According to the Interstate 80 Transportation Concept Report, 2001, the I-80 concept facility from the Sacramento County line to Watt Avenue is proposed as an 8 lane freeway. I-80 freeway widening in the subject segment is not programmed in the Metropolitan Transportation Plan (MTP) for 2025, 2004. In addition, right-of-way may be required to accommodate the widening. Since the subject section of the I-80 mainline is already operating at an unacceptable condition even without the project, and since the I-80 freeway widening to 8 lanes is not in the MTP for 2025, this impact is considered to be* ***significant and unavoidable****.*

5.6-13 Freeway Ramps

As shown in TABLE 5.6-34, the following study freeway ramps would continue to operate at an unacceptable LOS:

(a) I-80 WB off-ramp to Northgate Boulevard during both the AM and PM peak hours,

(b) I-80 WB off-ramp to Truxel Road during both the AM and PM peak hours, and

(c) I-80 EB on-ramp from northbound Northgate Boulevard during both the AM and PM peak hours.

I-80 WB off-ramp to Northgate Boulevard

The I-80 WB off-ramp to Northgate Boulevard operates at LOS F during both the AM and PM peak hour and the upstream freeway mainline between Norwood Avenue and Northgate Boulevard also operates at LOS F during both the AM and PM peak hour. A significant impact at a freeway ramp would occur if project traffic would cause the ramp's merge/diverge LOS to be worse than the freeway's LOS. Since the ramp's merge/diverge LOS is not worse than the freeway's LOS, this is considered a ***less-than-significant impact.***

I-80 WB off-ramp to Truxel Road

The I-80 WB off-ramp to Truxel Road operates at LOS F during both the AM peak hour and the upstream freeway mainline between Northgate Boulevard and Truxel Road also operates at LOS F during the AM peak hour. A significant impact at a freeway ramp would occur if project traffic would cause the ramp's merge/diverge LOS to be worse than the freeway's LOS. Since the ramp's merge/diverge LOS is not worse than the freeway's LOS, this is considered a ***less-than-significant impact***.

The I-80 WB off-ramp to Truxel Road operates at LOS F during the PM peak hour and the upstream freeway mainline between Northgate Boulevard and Truxel Road operates at LOS E during the PM peak hour. A significant impact at a freeway ramp would occur if project traffic would cause the ramp's merge/diverge LOS to be worse than the freeway's LOS. Since the ramp's merge/diverge LOS is worse than the freeway's LOS, this is considered a ***significant impact***.

I-80 EB on-ramp from northbound Northgate Boulevard

The I-80 EB on-ramp from northbound Northgate Boulevard operates at LOS F during both the AM and PM peak hour and the downstream freeway mainline between Northgate Boulevard and Norwood Avenue also operates at LOS F during both the AM and PM peak hour. A significant impact at a freeway ramp would occur if project traffic would cause the ramp's merge/diverge LOS to be worse than the freeway's LOS. Since the ramp's merge/diverge LOS is not worse than the freeway's LOS, this is considered a ***less-than-significant impact***.

Mitigation Measure

5.6-13 (a) *None required at the I-80 WB off-ramp to Northgate Boulevard.*

(b) *To mitigate the significant cumulative impact at the I-80 WB off-ramp to Truxel Road, the freeway would need to be expanded to provide additional capacity. According to the Interstate 80 Transportation Concept Report, 2001, the I-80 concept facility from the Sacramento County line to Watt Avenue is proposed as an 8 lane freeway. I-80 freeway widening in the subject segment is not programmed in the Metropolitan Transportation Plan (MTP) for 2025, 2004. In addition, right-of-way may be required to accommodate the widening. Since the subject section of the I-80 mainline is already operating at an unacceptable condition even without the project, and since the I-80 freeway widening to 8 lanes is not in the MTP for 2025, the cumulative impacts at the I-80 WB off-ramp to Truxel Road would remain* ***significant and unavoidable.***

(c) *None required at the I-80 EB on-ramp from northbound Northgate Boulevard.*

Bicycle, Pedestrian, and Transit Impacts and Mitigation Measures

5.6-14 Transit System

Transit ridership estimates for the Project were based upon information compiled by the Transportation Research Board (*NCHRP Report 187: Quick-Response Urban Travel Estimation Techniques and Transferable Parameters*, 1978). Table 5.6-20 shows the number of transit riders that would be generated for the Proposed Project. The Proposed Project has the potential to generate about 270 transit riders on an average weekday.

Route 86 currently provides access to San Juan Road with a transit stop at the San Juan Road and Truxel Road intersection . The potential increased demand for transit would be met. Therefore, this is considered a ***less-than-significant impact***.

Mitigation Measure

5.6-14 *None Required.*

5.6-15 Pedestrian System and Bicycle Facilities

Development of the Proposed Project would result in an increase in bicycle trips in the study area by residents and visitors. However, the Proposed Project is not anticipated to hinder or eliminate the existing bikeways or interfere with the implementation of the planed bikeways in the study area. Moreover, the development of the Proposed Project would result in an addition of bikeway improvements along the proposed streets within and adjacent to the project site as per the Bikeway Master Plan and in accordance with City of Sacramento Standards including a bicycle/pedestrian only bridge. In view of this, the implementation of the Proposed Project would result in **no impacts** to the bicycle system.

Development of the Proposed Project would result in an increase of pedestrian trips in the study area by residents and visitors. Moreover, the development of the Proposed Project would result in an addition of pedestrian improvements along the proposed streets within and adjacent to the project site in accordance with the City of Sacramento Standards including a bicycle/pedestrian only bridge. Therefore, the Proposed Project is not anticipated to result in to unsafe conditions for pedestrians, including unsafe pedestrian/bicycle or pedestrian/motor vehicle conflicts. In view of this, the implementation of the Proposed Project would result in **no impacts** to pedestrian facilities.

Mitigation Measure

5.5-15 *None Required.*

NEIGHBORHOOD TRAFFIC AND CIRCULATION ISSUES

In addition to the CEQA required traffic impact analysis of the Proposed Project, this traffic study presents the discussion on some of the non-CEQA issues in order to address the neighborhood concerns regarding the existing traffic operations within the residential neighborhoods in the vicinity of the Proposed Project including the potential effects of the project.

Traffic Operations at Natomas High School

In view of the concerns regarding the traffic conditions along San Juan Road in the vicinity of Natomas High School during the commuter peak hours existing traffic operations at Natomas High School were observed and evaluated. The effect of the high school traffic on Fong Ranch Road, San Juan Road and the adjoining residential street (Pony Express Drive) along with potential for the Proposed Project traffic impacts on existing conditions is reported below.

The traffic volumes used in the analysis of existing conditions includes the traffic at Natomas High School. The traffic volumes used in the analysis reflect peak high school traffic demand during the a.m. peak hour because the traffic peak for the high school coincides with the peak for commuter traffic. The traffic volumes used in the analysis for p.m. peak hour does not reflect peak traffic demand for the high school because the high school peak occurs before the commuter peak, which was used in the analysis. Observations of traffic conditions in the field indicated that the commuter peak represents the worst case traffic conditions during the p.m. peak hour.

A high number of pedestrians were observed traveling to school during the a.m. peak hour, particularly at the Truxel Road / San Juan Road intersection. Fewer pedestrians were observed during the p.m. commuter peak. No observations of pedestrian traffic were made during the afternoon peak for high school traffic, although a high level of pedestrian travel is expected during that mid afternoon period.

Concerns have been raised that congestion on Fong Ranch Road due to Natomas High School traffic may result in the tendency for the proposed project traffic to cut through the neighborhood to the east along Bridgeford Drive, Pony Express Drive, or other residential streets. This is a reasonable concern, although substantial cut-through traffic may not be expected. Several speed humps are provided along Bridgeford Drive, Pony Express Drive and other streets in the neighborhood south of the Proposed Project.

Residential Streets

An assessment was performed to determine the potential for traffic from the Proposed Project to affect traffic operations on nearby residential streets. Roadway access to the Proposed Project would be provided at two locations. The primary access would be provided at the existing end of Fong Ranch Road. A secondary access would be provided at an extension of Bridgeford Drive. These access points would result in a distribution of traffic for the Proposed Project as shown in Figure 5.6-9 and Figure 5.6.10, for baseline and cumulative conditions, respectively.

The Proposed Project would increase daily traffic volumes on Fong Ranch Road from 1,240 to 3,654 for baseline conditions and from 1,810 to 4,132 for cumulative conditions as shown in Table 5.6-22 and Table 5.6-27. The levels of traffic on Fong Ranch Road after development of the Proposed Project would be within the normal range of traffic volumes for minor collector streets (4,000 to 7,000 vehicles) identified in the City's Street Design Guidelines.

The Proposed Project would increase daily traffic volumes on Bridgeford Road by 33 to 36 percent, resulting in traffic volumes of approximately 6,500 vehicles daily in 2025. This increase would be noticeable by local residents. However, level of traffic is within the normal range of traffic volumes for minor collector streets (4,000 to 7,000 vehicles) identified in the City's Street Design Guidelines.

The Proposed Project would increase daily traffic volumes on Pony Express Drive by 20 to 22 percent, resulting in traffic volumes of approximately 2,650 daily in 2025. This level of traffic is within the normal range of traffic volumes for residential streets (2,000 to 4,000 vehicles) identified in the City's Street Design Guidelines.

The analysis of traffic impacts showed that none of the streets serving the residential area south of the Proposed Project would be significantly impacted according to the City's significance criteria. However, the analysis revealed that there would be substantial delay for vehicles entering San Juan Road from the stop sign controlled intersection at Pony Express Drive during the a.m. peak hour.

A traffic signal warrant analysis was performed for the San Juan Road / Pony Express Drive intersection, and the analysis showed that the intersection would satisfy the peak hour volume warrant for a traffic signal. A traffic signal is not recommended at that location for several reasons:

1. A traffic signal is not considered to be the most effective means of reducing delay,
2. A traffic signal could encourage cut-through traffic on Pony Express Drive, and
3. The intersection is close to the signalized intersection of San Juan Road and Fong Ranch Road, approximately 250 feet to the west, and may not operate efficiently because of the close spacing.

Instead of a traffic signal, it is recommended to re-configure the San Juan Road / Pony Express Drive intersection and prohibit the outbound left turning and through traffic at the stop controlled approaches, i.e. Pony Express Drive and Rockhampton Drive. The implementation of this recommendation would require the design and installation of hard improvements along San Juan Road such as a median with a design that prohibits the outbound left turning traffic, and the through traffic movements but allows right-ins and right –outs, and the left-ins at the Pony Express Drive and Rockhampton Drive approaches. This change is anticipated to substantially reduce the delay without significantly increasing the potential for cut-through traffic, and avoid the potential for conflicts of the outbound left turning, and through traffic with the high traffic volume on San Juan Road. Allowing the right-turning traffic to bypass other traffic waiting at the stop sign would effectively eliminate the need for a traffic signal.

Effects of Not Extending Fong Ranch Road, Including Impacts to the Neighborhood

The effects of not extending Fong Ranch Road on study area intersections, roadway segments, and freeways have been described previously in this report. The primary effects of extending Fong Ranch Road would be to reduce the amount of traffic that would use neighborhood streets south of the Proposed Project as shown in Table 5.6-27 and Table 5.6-32.

The extension of Fong Ranch Road would reduce the daily traffic volume on Pony Express Drive by 5 percent and on Bridgeford Drive by 13 percent. The extension would reduce traffic volumes on Fong Ranch Road by 12 to 15 percent and on San Juan Road by 2 to 3 percent. The reduction in traffic volumes associated with the Fong Ranch Road extension would be most noticeable on Bridgeford Road and Fong Ranch Road. On the other hand, as reported in the public review comments in response to Notice of Preparation for an Environmental Impact Report, the extension of Fong Ranch Road, Bridgeford Drive may serve as a neighborhood "short-cut" or an alternative route to the I-80 freeway for traffic on San Juan Road between Bridgeford Drive and Northgate Boulevard. The potential reasons for this might be avoiding the relatively high traffic volumes along San Juan Road and the delay at the intersection with Northgate Boulevard and other stop controlled intersections between Bridgeford Drive and Northgate Boulevard.

5.7 Water Supply

5.7 WATER SUPPLY

INTRODUCTION

The Water Supply section of the EIR describes the water supply that would serve the proposed project in relation to overall water supplies for the City of Sacramento. In addition, this section assesses the expected water demand resulting from the proposed project, evaluates the effects of the proposed project on existing and future water infrastructure, and recommends mitigation measures where appropriate. There were no comments in response to the Notice of Preparation (Appendix B) regarding water supply. Information in this section is based on the Water Supply Assessment (WSA, Appendix F) prepared for the ParkeBridge project, the City of Sacramento General Plan, the City of Sacramento Urban Water Management Plan, and information from City staff.

ENVIRONMENTAL SETTING

Existing Water Sources and Supplies

The City claims pre-1914 rights to divert 75 cubic feet per second (cfs) from the Sacramento River and secured five additional appropriative water rights with various priorities from October 1947 to September 1954. Sacramento River permit 00992 and American River permits 011358 and 011361 authorize the taking of water from the respective sources by direct diversion. The other two permits, 011359 and 011360, authorize re-diversion and consumptive uses of stored water and releases from the Upper American River Project. Currently, the City has Application S014834 pending with the State Water Resources Control Board (SWRCB) for an additional 50,581 acre feet per year (AFY) from the Sacramento River. The City's surface water permits require use of the diverted water within the authorized Place of Use (POU). Additionally, the City maintains 32 groundwater wells for potable and non-potable use; 23 wells are actively used to supply drinking water. The current system can supply 24 million gallons per day (mgd) and produce up to 26,800 acre-feet per year (AFY).

In 1957, the U.S. Bureau of Reclamation (USBR) and the City executed a contract that ensures maximum entitlements through the Central Valley Project (CVP). At buildout in 2030, the USBR contract provides the City a maximum annual diversion of 326,800 AFY. This contract has no delivery limitations. The City's surface water entitlements through the permits discussed above and the USBR contractual diversions are listed in Table 5.7-1. As of 2005, the City is authorized to receive 205,000 AFY. The contract amount increases annually to a maximum of 326,800 AFY in 2030 as show in Table 5.7-2.

An important component of water supplies within Sacramento region is the Water Forum Agreement (WFA). The Sacramento WFA is an agreement between multiple stakeholders in the Sacramento metropolitan area and lower foothill regions. After seven years of meetings, sub-committee negotiations, and small group operations, the Water Forum members established a working agreement that provides water quality and reliability for all participants. The WFA's coequal goals were to (1) provide a reliable and safe water supply for the region's economic health and planned development through to the year 2030, and (2) preserve the fishery, wildlife, recreational and aesthetic values of the Lower American River.[1] From these coequal goals, the Water Forum signatories determined seven major elements that must be implemented during the next 30 years if

1 Water Forum Agreement, 2000, page 29.

the agreement is to be successful. The elements specific to reliability of water supplies include: Increased Surface Water Diversions, Actions to Meet Customers' Needs While Reducing Diversion Impacts in Drier Years, Water Conservation, Groundwater Management, and the Water Forum Successor Effort. As a signatory of the WFA, the City of Sacramento Utilities Department is actively participating in all seven elements. Most recently, the City has increased water treatment capacity at the Sacramento River Water Treatment Plant (WTP) and the E.A. Fairbairn WTP.

TABLE 5.7-1

SURFACE WATER ENTITLEMENTS

Permit	Authorized Diversion	Maximum Permitted Diversion	
		AFY	cfs
1957 USBR 2030 Contractual Maximum [c]	American River	245,000	675
	Sacramento River	81,800	225
	Total Combined Diversion	326,800	900
2000 WFA Maximum	American River	245,000	310[a]
	Sacramento River	81,800	290[b]
	Total Combined Diversion	326,800	900

Notes:
a. 310 cfs is a maximum withdrawal rate, additional restrictions apply.
b. The Sacramento WTP, below the confluence of the American and Sacramento River, is an allowable withdrawal point for the permitted American River flows, allowing an increase in the diversion from the Sacramento River.
c. Based on permits 00922, 011358, 011359, 011360, and 11361.
Source: EIP Associates, 2005.

TABLE 5.7-2

USBR MAXIMUM CONTRACTED ANNUAL SURFACE WATER DIVERSION (AFY)

Source	2005	2010	2015	2020	2025	2030
American River	123,200	145,700	170,200	196,200	222,200	245,000
Sacramento River	81,800	81,800	81,800	81,800	81,800	81,800
TOTAL	**205,000**	**227,500**	**252,000**	**248,000**	**304,000**	**326,800**

Source: EIP Associates, 2005.

In an effort to continue to develop a reliable water supply consistent with the WFA, the City is participating in the Sacramento River Water Reliability Study, which includes a feasibility study for a Sacramento River diversion. The Sacramento River Water Reliability Study includes development of alternatives, an environmental evaluation, and consultation with federal and State agencies regarding potential impacts. The draft planning report is scheduled for completion at the end of 2005. The USBR is the lead agency for federal review and Placer County Water Agency is the lead agency for local review.

The WFA places flow restrictions on diversions from the American River when the flow is below "Hodge flows", as defined in *Environmental Defense Fund et al. v. East Bay Municipal Utility District.* Parties in the litigation cannot divert water from the American River unless instream flows measure at least 2,000 cfs from October 15 through February; 3,000 cfs from March through June; and 1,750 cfs from July to October 14. Based on CALSIM II analysis of the 1922 to 1994 climate data, 59 percent of years will experience Hodge flow conditions during the peak months of June through August. As a signatory of WFA, the City will reduce direct diversion from the American River during "Hodge flow" conditions. Table 5.7-3 shows the City's diversion limits.

TABLE 5.7-3

RESTRICTED AMERICAN RIVER DIVERSION RATES

Month	Diversion Limit[a]	
	cfs	AF
January	120	7,400
February	120	6,700
March	120	7,400
April	120	7,100
May	120	7,400
June	155	9,200
July	155	9,500
August	155	9,500
September	120	7,100
October	100	6,100
November	100	6,000
December	100	6,100

Notes:
a. Restriction occurs when the bypassing flow is below the Hodge flow condition.
Source: EIP Associates, 2005.

During years when the projected unimpaired inflow to Folsom Reservoir is less than 400,000 acre-feet (AF), the WFA limits diversion from the American River to 50,000 AFY. The WFA has labeled the extremely low flow conditions as a "conference year" where signatories will meet to discuss water management strategies. Most notably, the WFA does not restrict diversion of the American River entitlements from a Sacramento River diversion point; therefore, supplies in normal year and dry years are identical for the City in any given year. However, annual surface water diversion amounts are limited by the diversion and treatment capacity from the Sacramento River. Assuming a treatment capacity of 50,000 AFY at the Fairbairn WTP and 180,000 AFY at the Sacramento WTP, the current drought limiting scenario still allows the production of 230,000 AFY.

One of the alternatives being evaluated in the Sacramento River Water Reliability Study is for an additional WTP with a treatment capacity of 145 mgd (225 cfs) on the Sacramento River near Elverta Road, north of the Sacramento International Airport. With the addition of the new Sacramento River WTP, the combined production of potable water at all three WTP's will be 505 mgd, or a total annual production capacity of 311,800 AFY. This is 95 percent of the maximum USBR contract deliveries. The potential completion date of a new Sacramento WTP is 2011, before buildout of the City's current General Plan in 2030.

Current Water Use

The City's average water demand is 59.2 million gallons per day (mgd) for the American River and 56.8 mgd for the Sacramento River; the peak demand is 93 mgd and 106 mgd, respectively.[2] Starting in 2006, the City will be wholesaling up to 26,064 AFY to the Sacramento Suburban Water District. The total water demand for the year 2004 was 143,784 AFY (approximately 128 mgd); therefore, based on 2005 entitlements of 205,000 AFY, the City has an excess supply of 35,152 AFY of water.[3]

2 Kathy Mullen, City of Sacramento Utilities Department, personal communication, March 25, 2004.

3 City of Sacramento Utilities Department, Annual Report, Operational Statistics Fiscal Year 2002/2003.

Water Treatment, Storage, and Distribution

Annually, the City of Sacramento provides more than 45 billion gallons of water for drinking, household use, fire suppression, landscaping, and commercial and industrial use. The Department of Utilities operates and maintains the City's two water treatment plants, eight pump stations, thousands of hydrants, and more than 1,400 hundred miles of pipeline necessary to distribute water to homes and businesses throughout the City. The City's water infrastructure includes one pressure zone with two active water treatment plants, 10 storage reservoirs, 47 municipal water wells, and approximately 1,400 miles of water mains ranging from four to 60-inches in diameter.[4]

Water Treatment

The City owns and operates two water diversion and treatment facilities: the Sacramento River WTP and the E.A. Fairbairn WTP on the American River. The Sacramento WTP, located east of Interstate 5 and south of Richards Boulevard, was recently upgraded, increasing the plant's capacity from 110 mgd (123,260 AFY) to 160 mgd (179,288 AFY) in June 2003. The Fairbairn WTP, located on the south bank of the lower American River, was also recently rehabilitated and expanded, which doubled the plant's capacity from 100 mgd (112,055 AFY) to 200 mgd (224,110 AFY). Fairbairn WTP now has a treatment capacity equal to the maximum diversion rate of 310 cfs allowed in the WFA. If both plants operated at their maximum production, the combined output would be approximately 403,000 AFY. At ultimate build out and future expansions, the two treatment plants would produce 545 mgd or 610,670 AFY.[5]

Water Storage

Water storage is required to meet water demand for periods when peak hour demand exceeds maximum daily supply rates. These high demand periods usually occur for four to six hours during hot summer days and for potentially longer periods during large fire events. The City of Sacramento has nine above-ground storage reservoirs (each with a capacity of three mg) for a total capacity of 27 mg, including those that have either been recently completed or will be constructed in the future.[6] The City also has one underground reservoir with a capacity of 15 mg.[7] The reservoirs are at different locations throughout the City's water distribution system. In addition, 34.5 mg of on-site storage exists at the water treatment plants (14.5 mg at the Sacramento WTP and 20 mg at the Fairbairn WTP). Therefore, the total water storage capacity in the City is 76.5 mg. This capacity represents approximately 64 percent of the City's 1999 average daily water demand of 120 mg, or approximately one-third of the 2001 average maximum day demand of 216 mg.[8]

Regulatory Setting

Federal

U.S. Environmental Protection Agency (EPA)

The EPA established primary drinking water standards in the Clean Water Act (CWA) Section 304 and states are required to ensure that potable water for the public meets these standards.

4 City of Sacramento Utilities Department, Annual Report, Operational Statistics Fiscal Year 2002/2003.
5 City of Sacramento, *General Plan Update*, 1987, page 7-2.
6 Michelle Carrey, City of Sacramento Utilities Department, personal communication, March 30, 2004.
7 Kathy Mullen, City of Sacramento Utilities Department, personal communication, March 25, 2004.
8 City of Sacramento Utilities Department, Annual Report, Operational Statistics Fiscal Year 2002/2003.

Standards for a total of 81 individual constituents have been established under the Safe Drinking Water Act, as amended in 1986. The U.S. EPA may add additional constituents in the future.

State

The California Department of Health Services (DHS), SWRCB, and the Department of Water Resources (DWR) would have input into the provision of water for the project site. In compliance with State Water Code Sections 10910(a) and 10910(c)(1), the water supplier for the proposed project is required to prepare a WSA for the water service request as part of the CEQA EIR process. The SWRCB regulates the water quality functions of the Stateand manages the State's Water Code. State primary and secondary drinking water standards are promulgated in California Code of Regulations (CCR) Title 22 Sections 64431-64501. Secondary drinking water standards incorporate non-health risk factors including taste, odor, and appearance.

Water Rights and Entitlements

Since 1914, the SWRCB administers and controls all water rights permits in California. Under this process, an application is filed and the SWRCB issues a permit for surface water diversion, including the approved POU for that water. California water law typically applies only to surface water resources, although according to the SWRCB, "California law also recognizes and protects rights to extract and use waters percolating beneath the surface of the land."[9]

Urban Water Management Planning Act

California Water Code Section 10610 (et seq.) requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 AFY, must prepare an Urban Water Management Plan (UWMP). The DWR provides guidance to urban water suppliers in the preparation and implementation of UWMPs. UWMPs must be updated at least every five years on or before December 31, in years ending in five and zero. The City prepared an UWMP in 2000 and is in the process of producing the 2005 version for release this year.

Senate Bill 610 - Water Supply Assessments

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 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 Code Section 10910 (c)(4) states "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

9 State Water Resources Control Board, *Statutory Water Rights Law*, 1999.

Water supply planning under SB 610 and SB 221 (see below) 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 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. The SB 610 requires the identification of the public water supplier; the City has been identified in the WSA as the public water supplier to the ParkeBridge project.

In addition, SB 610 requires the preparation of a WSA if a project meets the definition of a "Project" under Water Code Section 10912 (a). The code defines a "Project" if it meets any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (sf) of floor space;
- A commercial building employing more than 1,000 persons or having more than 250,000 sf of floor space;
- A hotel or motel with more than 500 rooms;
- 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 sf of floor area;
- A mixed-use project that includes one or more of these elements; or
- A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system. The proposed project includes more than 500 dwelling units, and, therefore, qualifies as a "Project" under Section 10912 (a) of the Water Code. Thus, the City has prepared a WSA as required by these criteria under SB 610 (included as Appendix F).

Water Code Section 10910 (d)(1) states: "The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights or water service contracts."

Section 10910 (d)(2) of the Water Code further defines requirements of WSAs, including: (A) documentation showing proof of water supply entitlements, water rights, or existing water service; (B) copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system; (C) copies of federal, state, or local permits for construction of necessary infrastructure associated with delivery of the water supply; and (D) copies of any necessary regulatory approvals that are required to convey or deliver the water supply.

The City prepared the Draft WSA in June 2005 for the proposed project using technical information included in the City's UWMP which satisfies the documentation requirements of SB 610, CEQA 10583.5, and Water Code sections 10631, 10910, and 10912. The WSA concludes that the project site is within the service area of the City, and the City would provide domestic water to all development in the City's General Plan.

Senate Bill 221- Written Verification of Water Supply

Government Code Section 66473.7(a)(1) requires an affirmative written verification of sufficient water supply. Senate Bill 221 is designed as a "fail-safe" mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs early in the planning process. This verification must also include documentation of historical water deliveries for the previous 20 years, as well as a description of reasonably foreseeable impacts of the proposed subdivision on the availability of water resources of the region. Government Code section 66473.7 (b)(1) states "The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request." In other words, as a result of the information contained in the written verification, the city or county may attach conditions to assure there is an adequate water supply available to serve the proposed project as part of the tentative map approval process. A SB 221 verification will be required for the proposed project.

Drinking Water Quality

The California DHS is responsible for implementing the federal Safe Drinking Water Act of 1974 and its updates, as well as California statutes and regulations related to drinking water. As part of their efforts, the DHS inspects and provides regulatory oversight for public water systems within California. In addition, in the Sacramento area the Central Valley RWQCB has the responsibility for protecting the beneficial uses of the State's waters, including groundwater, and these include municipal drinking water supply, as well as various other uses.

Public water system operators are required to regularly monitor their drinking water sources for microbiological, chemical, and radiological contaminants to show that drinking water supplies meet the regulatory requirements listed in Title 22 of the California Code of Regulations as primary maximum contaminant levels (MCLs). Primary standards are developed to protect public health and are legally enforceable. Among these contaminants are approximately 80 specific inorganic and organic contaminants and six radiological contaminants that reflect the natural environment, as well as human activities. Examples of potential primary inorganic contaminants are aluminum and arsenic, while radiological contaminants can include uranium and radium.

Public water system operators are also required to monitor for a number of other contaminants and characteristics that deal with the aesthetic properties of drinking water. These are known as secondary MCLs. Secondary standards are generally associated with qualities such as taste, odor and appearance, as well as cosmetic qualities. These are generally non-enforceable guidelines. However, in California secondary standards are legally enforceable for all new drinking water systems and new sources developed by existing public water suppliers.[10] The public water system operators are also required to analyze samples for unregulated contaminants, and to report other contaminants that may be detected during sampling.

The California Department of Toxic Substances (DTSC) is the primary agency charged with protecting groundwater resources through their Hazardous Waste Management Program and Site Mitigation Programs. A critical element of both programs is maintaining environmental quality and economic vitality through the protection of groundwater resources. This is accomplished through:

10 California Department of Water Resources, California's Groundwater, Bulletin 118, 2003.

hazardous waste facility permitting and design; oversight of hazardous waste handling; removal and disposal; oversight of remediation of hazardous cleanup of illegal drug labs; cleanup of abandoned hazardous waste sites; oversight of the closure of military bases; and pollution prevention.

Local

Water Forum Agreement

The WFA established the guiding principles for water management in the Sacramento area and adjacent foothill region. The collaborative effort represents business, agricultural, environmental, citizen, water management, and local government interests in Sacramento County, and water interests in Placer County and western El Dorado County. The agreement proposes the American River, the Sacramento River, and groundwater as sources of future water supply. The agreement provides a comprehensive package of linked actions that will achieve the two co-equal objectives: (1) to provide a reliable and safe water supply for the region's economic health and planned development through to the year 2030, and (2) to preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River.[11] From these coequal goals, the Water Forum signatories determined seven major elements that must be implemented during the next thirty years if the agreement is to be successful. These seven major elements include:

1. *Increased surface water diversions* (as noted above, these would occur primarily on the American River);
2. *Actions to meet customers' needs while reducing diversion impacts on the lower American in drier years.* This element is to ensure that sufficient water supplies will be available to customers in dry years as well as wet years;
3. *Support for an improved pattern of fishery flow releases from Folsom Reservoir.* This element supports needed assurances for continued implementation of a pattern of water releases from Folsom Reservoir that more closely matches the needs of anadromous fish;
4. *Lower American River Habitat Management Element.* This element combined with elements #2 and #3 is included to mitigate the impacts of diversions on the Lower American River in a reasonable and feasible manner;
5. *Water Conservation Element.* This element incorporates various conservation measures to help meet both of the co-equal goals listed above;
6. *Groundwater Management Element.* Establishes a framework to protect groundwater resources in Sacramento County and to ensure these resources are used in a sustainable manner. Introduces the concept of "conjunctive use", which entails monitoring the amount of water withdrawn from the groundwater basin and the planned use of surface water in conjunction with groundwater; and
7. *Water Forum Successor Effort.* This element outlines the way WFA members oversee, monitor, and report on implementation of the WFA.

City of Sacramento

City of Sacramento General Plan

The City's current General Plan policies related to water are provided below. The City is presently updating its General Plan, which is anticipated to be completed in Spring 2007.

Goal A
Provide and improve water supply facilities to meet future growth of the City and assure continued supply of safe potable water.

Policies
1. Develop and adopt a comprehensive water policy for the City of Sacramento that is consistent with a long range adopted plan.

11 Water Forum Agreement, 2000, page 29.

2. Develop and implement a financing strategy that the City can use to construct needed water facilities.
3. Work with property owners to develop financing arrangements in order to provide needed water facilities.
4. Give high priority in the Capital Improvements Program to funding infrastructure in highly depressed and designated infill areas.
5. Provide water service meeting or exceeding State and federal regulatory agency requirements.

South Natomas Community Plan

There are no policies related to water supply in the South Natomas Community Plan.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

The analysis in this section focuses on the nature and magnitude of the change in levels of water use compared with existing and projected water use in the project site and the City's water service area. To determine potential impacts, water demands were estimated from demand projection calculations and quantitative evaluation of data relative to the proposed project, along with existing land uses, approved projects, and proposed development. The primary resources used for this analysis include the following technical documents: *Draft Water Supply Assessment for the Proposed ParkeBridge Project*, EIP Associates (June 2005); *Urban Water Management Plan Prepared for the City of Sacramento*, Maddaus Consulting (2000).

Water Demand Analysis

Water Code Section 10910 (c)(3) states "If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, dry and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses." Table 5.7-4 shows a historical comparison of water demands based on population and treated water delivered by the City's Utilities Department.

TABLE 5.7-4

CITY OF SACRAMENTO HISTORICAL WATER DELIVERIES

		Surface Water			Groundwater	Total Water Delivered	
Year	Population[a]	Annual Surface Water Delivered (AFY)	Maximum Day Water Delivered (mgd)	Maximum Day to Average Day Ratio	Annual Groundwater Delivered (AFY)	Total Annual Water Delivery (AFY)	Average (mgd)
1997/98	392,800	92,031	140.40	1.71	7,186	99,216	88.58
1998/99	396,200	102,180	143.60	1.58	24,630	126,810	113.22
1999/00	405,963	112,547	161.60	1.61	24,146	136,693	122.04
2000/01	418,711	114,172	214.00	2.10	23,578	137,750	122.98
2001/02	426,013	113,979	159.80	1.57	24,271	138,250	123.43
2002/03	433,400	111,539	278.90	2.35	23,997	135,537	121.01
2003/04	441,000	128,412	318.40	2.33	15,372	143,784	128.37
Average	**416,298**	**110,694**	**202.39**	**1.89**	**20,454**	**131,149**	**117.09**

a. Operational Statistics 2003/3004.
b. Other data from corresponding annual report.
Source: City of Sacramento, Department of Utilities, Operational Statistics Report 2003/3004.

The most accurate projection of demand can be developed using water demand factors based on land use sectors; for residential, this is measured in gallons per day per dwelling unit (gpd/du). The expected water use of the proposed project was determined by analyzing similar land uses and assigning a demand factor for each proposed use. The demand factors were formulated based on data from the *1994 Proposed Water Demand/Wastewater Generation Factors Report* by Nolte Engineering and West Yost and Associates, City of Sacramento, General Plan Implementation Chapter, as well as current and historical uses at similar facilities, and personal communications with the City of Sacramento Department of Utilities. For the purpose of this EIR, total household water demand is estimated at either 420 gpd/du or 520 gpd/du for single-family residential, as determined by lot size (Table 5.7-5), while the demand factor for townhomes is 350 gpd/du. The residential uses at the project site would potentially use 255 AFY or an average demand of 223,080 gallons per day (gpd). This is the total of the four villages and outdoor irrigation, including the water used in the small pocket parks. The calculated demand represents the upper range of the potential demand.

The proposed project demand of 255 AFY represents approximately 0.17 percent of the water delivered by the City in 2004 and roughly 0.12 percent of USBR contract amount available in 2005. The City's estimated surplus quantities in 2005 could be as much as 62,000 AFY and the proposed project's demand would be 0.40 percent of the surplus supplies available to City.

Standards of Significance

For the purposes of this EIR, impacts to water resources are considered significant if the proposed project would:

- Increase demand for potable water in excess of existing supplies;
- Create an increase in water demand in excess of 10 million gallons per day; or
- Result in inadequate treatment capacity or inadequate distribution infrastructure to supply the project.

Project-Specific Impacts and Mitigation Measures

5.7-1 The proposed project's demand for water could exceed available sources of water supply sources. This would be a *less-than-significant impact.*

The proposed project would include residential units and small pocket parks. The proposed project land uses would generate an increased demand for water of 223,080 gallons per day (gpd) or approximately 255 AFY, as shown in Table 5.7-5. The WSA assumed that the proposed project would use water supplied through surface water rights and entitlements from the Sacramento and American Rivers. These supplies would be delivered through existing City supply facilities and new water infrastructure constructed for delivery into the project site. Overall water consumption for 2004 totaled 143,764 AF, leaving the City with an excess of 56,736 AFY from the 2004 contracted supply. With a potential project demand of 246 AFY, the proposed project demand would represent approximately 0.12 percent of the City's 2005 authorized supply of 205,000 AFY. Alternately, if the proposed project demand is added to the 2004 demand of 143,764, the total demand in the City would be 144,019 AFY, leaving a surplus of 34,481 AFY; this is well below the contracted amounts with the USBR. In addition, the USBR contract continues to increase annually and culminates at 326,800 AFY in 2030; therefore, the surplus will continue to increase simultaneously with customer demands. This analysis finds that the City of Sacramento has sufficient water allocation secured from their 1957 contracts with the USBR and other related permits to serve the proposed project. Therefore, the proposed project would not exceed water supplies in the City, and this is considered a ***less-than-significant impact.***

TABLE 5.7-5

PARKEBRIDGE DEVELOPMENT

	Net Acres	Number of Units	Lot Size	Demand Factor	Gallons per Day	AFY
Village 1 (Townhomes)	7.86	142	TownHome	350 gpd/du	49,700	55.7
Village 2	10.04	135	35" x 73'	420 gpd/du	56,700	63.5
Village 3	14.03	154	45' x 80'	420 gpd/du	64,680	72.4
Village 4	12.66	100	50' x 100'	520 gpd/du	52,520	58.8
Parks	1.23	-	Recreational	-		5.28
TOTAL	**45.82**	**531**	**-**	**-**	**223,080**	**255.1**

Source: EIP Associates, June 2005 and ParkeBridge Tentative Subdivision Map.

Mitigation Measure

None required.

5.7-2 The proposed project could increase water demand in excess of 10 million gallons per day (gpd). This is a *less-than-significant impact.*

The proposed project would increase water demand at the project site by 223,080 gpd; this is far below the City's 10 million gallon per day threshold. Therefore, this would be considered a ***less-than-significant impact.***

Mitigation Measure

None required.

5.7-3 The proposed project's demand for water could exceed the availability of treated water and the distribution systems, resulting in the need for new or expanded facilities. This is a *less-than-significant impact.*

The project's water demand (223,080 gpd) would require treatment prior to delivery at the project site. The Sacramento WTP and Fairbairn WTP have a combined capacity of 360 mgd (403,398 AFY). Based on Sacramento's 2002/2003 water demand of 116 mgd (59.2 mgd from the American River, 56.8 mgd from the Sacramento River), the treatment plants have a combined excess capacity

of 244 mgd. The proposed project demand for water treatment would be 0.09 percent of the excess capacity available at the treatment plants.

The design specifications of the proposed project determined the distribution systems necessary to deliver the appropriate water supplies to the project site; these plans are approved by the City Planning Department and compulsory routine inspections are done during the construction process. Therefore, this impact would be considered ***less than significant.***

Mitigation Measure

None required.

Cumulative Impacts and Mitigation Measures

The cumulative analysis for water supply, distribution, and storage considers the potential environmental effects of supplying water to the project in addition to regional water demands generated in Sacramento County under the provisions of WFA.

5.7-4 The proposed project, in combination with buildout of the City of Sacramento General Plan, would increase water demand throughout the City that could exceed water supplies. This is a *less-than-significant cumulative impact.*

The proposed project would increase the demand for water in the City's service area beyond the existing demand of approximately 143,000 AFY in 2004; this demand is well below the current USBR contracted limit of 200,500 AFY for that year. In addition, the City's authorized supply under both the WFA and USBR contract increases until 2030 when the City's contracted amount will reach 326,800 AFY. The City-wide projected annual demand remains approximately 70 percent of the USBR contracted annual diversion when using a constant 2.0 percent per year growth rate to achieve the 2030 projected demand of 240,080 AFY, as shown in Table 5.7-6. The City-wide water demand would have to nearly triple the 2004 demand in order to exceed the available supply. The City is in the process of updating its General Plan, and it is highly unlikely that the Plan would include a doubling of the population over current buildout. The population projections for Sacramento County estimate that the County would grow less than ten percent every five years.[12]

The cumulative analysis was based on the ParkeBridge WSA (Appendix F). The increase in demand from the project was added to the 2030 projected demand and was included in a constant 2.0 percent annual growth over the next 25 years. The City has limited diversions to 50,000 AFY during Hodge flow conditions in the American River, but is not limited to divert American River entitlements from the Sacramento River, resulting in no reduction in contracted delivery for single or multiple dry years. This analysis reinforces the previous statements that this project, in addition to buildout of the General Plan, would not exceed water supplies or entitlements provided to the City through the USBR contract or WFA. Therefore, this impact is considered ***less-than-significant.***

Mitigation Measure

None required.

12 State of California, *Interim County Population Projections*, Estimated July 1, 2000 and Projections for 2005, 2010, 2015, and 2020, June 2001.

TABLE 5.7-6

SUPPLY AND DEMAND COMPARISON DURING NORMAL YEARS (AFY)

	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Surface Water Supply						
American River	123,200	145,700	170,200	196,200	222,200	245,000
Sacramento River	81,800	81,800	81,800	81,800	81,800	81,800
TOTAL SURFACE WATER SUPPLY[a]	**205,000**	**227,500**	**252,000**	**278,000**	**304,000**	**326,800**
Demand	146,647	161,567	178,336	196,842	217,265	239,805
Net Project Demand	--	255	255	255	255	255
TOTAL DEMAND	**146,647**	**161,576**	**178,345**	**196,851**	**217,474**	**239,814**
SURPLUS	**58,353**	**65,924**	**73,655**	**81,149**	**86,526**	**86,986**

a. Total surface water supply is based on USBR contracted delivery.
Source: EIP Associates, 2005.

5.7-5 The proposed project, in combination with buildout of the City of Sacramento General Plan, would contribute to increased water demands throughout the City that could exceed treatment or pumping capabilities within the City's service area. This is a *less-than-significant cumulative impact.*

Although much of the north and south Natomas are already developed, it is likely that the land uses within the City's service area will intensify in the future as development pressure throughout the metropolitan area increases. The intensification of uses and buildout of the General Plan could result in the need for upgrades in the City's water distribution and/or treatment systems.

The most appropriate approach to address the diversion and treatment limitations is to analyze maximum day demand. The dry year treatment production estimate of 230,000 AFY is based upon a diversion 50,000 AFY from the American River at the Fairbairn WTP and 180,000 AFY at the Sacramento WTP. In order for the Sacramento WTP to achieve 180,000 AFY, the plant would have to consistently treat 160 mgd. However, because the plant only treats water as demand requires, during low demand times, such as during winter months, the plant would produce less than the 160 mgd capacity. Currently, the City does not store surplus water beyond that necessary for operational and emergency needs; consequently, the Sacramento WTP does not produce its annual capacity of 180,000 AFY. Average day demand is not expected to exceed 160 mgd until after 2015; therefore, the Sacramento WTP will operate below annual maximum production capacity until after 2015. Subsequently, reliable supplies to City customers would be ensured through the City's current treatment and infrastructure. However, based on the WSA findings, there is a potential maximum day surface water deficit occurring after 2015, if a new diversion facility and WTP are not constructed on the Sacramento River. The City is aware of this shortfall, and is a partner on the Sacramento River Water Reliability Study, which is investigating alternatives for an additional diversion on the Sacramento River. The environmental documentation for the alternatives analysis is scheduled to be completed in 2006,[13] essentially providing eight years for the design and construction of a selected project before any potential maximum demand shortfall. Specifically, the City claims that the new WTP would be operational with six to ten years.[14] This alternative of a 145 mgd diversion and WTP included in the Sacramento River Water Reliability Study would ensure the delivery of the

13 City of Sacramento, *Sacramento River Water Reliability Study,* Initial Alternatives Report. Final diversion, March 2005.

14 Dan Sherry, City of Sacramento Utilities Department, Comment on Draft WSA for Towers on Capital Mall, June 25, 2005.

entitled water for the City, as well as all wholesale and wheeling agreements in 2015 beyond 2030. Therefore, this is considered a ***less than significant*** impact on water treatment and deliveries.

Mitigation Measure

None required.

6. ALTERNATIVES

6.0 ALTERNATIVES

INTRODUCTION

The purpose of this chapter is to identify and describe the alternatives to the proposed project. Project alternatives are developed to reduce or eliminate the potentially significant adverse environmental effects of the proposed project while still meeting most if not all of the basic project objectives.

California Environmental Quality Act Requirements

An EIR must evaluate a reasonable range of alternatives to the proposed project, or to the location of the proposed project, which could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives (CEQA Guidelines, section 15126.6). An EIR need not evaluate the environmental effects of alternatives in the same level of detail as the proposed project, but must include enough information to allow meaningful evaluation, analysis, and comparison with the proposed project. CEQA provides the following guidelines for discussing alternatives to a proposed project:

> The specific alternative of the "no project" shall also be evaluated along with its impacts....If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines, section 15126.6 subd.(e)(2)).
>
> The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the proposed objectives, or would be more costly (CEQA Guidelines, section 15126.6 subd.(b)).
>
> If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (CEQA Guidelines, section 15126.6 subd.(d)).
>
> The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice....The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making....An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (CEQA Guidelines, section 15126.6 subd.(f)).

The requirement that an EIR evaluate alternatives to the proposed project or alternatives that address the location of the proposed project is a broad one; the primary intent of the alternatives analysis is to disclose other ways that the objectives of the project could be attained while reducing the magnitude of, or avoiding, the environmental impacts of the proposed project. Alternatives that are included and evaluated in the EIR must be feasible alternatives. However, the Public Resources Code and the CEQA Guidelines direct that the EIR need "set forth only those alternatives necessary to permit a reasoned choice." The CEQA Guidelines provide a definition for "a range of reasonable alternatives" and, thus, limit the number and type of alternatives that need to be evaluated in a given EIR. According to the CEQA Guidelines (Section 15126.6(b)):

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.

First and foremost, alternatives in an EIR must be feasible. In the context of CEQA, "feasible" is defined as:

> ...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Further, the following factors may be taken into consideration in the assessment of the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (Section 15126.6(f)(1)). Finally, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative (Section 15126.b(f)(3))."

The selection of alternatives takes into account the project objectives provided in Chapter 2, Project Description. The project objectives include:

- A residential development, consisting of low- and medium-density housing with a variety of architectural styles that compliments the adjacent residential development.
- Provide public services to meet the needs of the proposed development.
- Promote connectivity with the adjacent development by providing pedestrian and bicycle access between the existing and planned development.
- Provide bicycle facilities on the site as identified in the 2010 City/County Bikeway Master Plan.
- Create places to live that foster neighborliness and a sense of community.
- Provide access to open space and park facilities.

Equally important to attaining the project objectives is the reduction of some or all significant impacts, particularly those that could not be mitigated to a level below the threshold of significance. The project-specific and cumulative significant and unavoidable impacts of the proposed project, after mitigation, are:

PROJECT-SPECIFIC SIGNIFICANT AND UNAVOIDABLE IMPACTS

5.1-2 Construction of the proposed project would generate ozone precursors.
5.5-1 The proposed project would generate more than 500 tons per year of solid waste.
5.6-2 Freeway Mainline: the proposed project would contribute to unacceptable conditions on the I-80 mainline between Northgate and Norwood during the PM peak hour (EB) and AM peak hour (WB).

CUMULATIVE SIGNIFICANT AND UNAVOIDABLE IMPACTS

Cumulative Scenario Without Fong Ranch Road Extension

5.6-6 Intersections: the proposed project would exacerbate unacceptable conditions at the Truxel/San Juan intersection (AM peak hour).

5.6-7 Freeway Mainline: the proposed project would contribute to unacceptable conditions on the I-80 mainline EB and WB between Norwood Avenue and Northgate Boulevard during both the AM and PM peak hours; EB between I-5 and Truxel Road during the PM peak hour; and WB between Northgate Boulevard and Truxel Road during the AM peak hour.

5.6-8 Freeway Ramps: the proposed project would contribute to unacceptable conditions on the WB I-80 off-ramp to Truxel Road.

Cumulative Scenario With Fong Ranch Road Extension[1]

5.6-11 Intersections: the proposed project would exacerbate unacceptable conditions at the Truxel/San Juan intersection (AM peak hour).

5.6-12 Freeway Mainline: the proposed project would contribute to unacceptable conditions on the I-80 mainline EB and WB between Norwood Avenue and Northgate Boulevard during both the AM and PM peak hours; EB between I-5 and Truxel Road during the PM peak hour; and WB between Northgate Boulevard and Truxel Road during the AM peak hour.

5.6-13 Freeway Ramps: the proposed project would contribute to unacceptable conditions on the WB I-80 off-ramp to Truxel Road.

ALTERNATIVES CONSIDERED AND DISMISSED FROM FURTHER CONSIDERATION

Consistent with CEQA, primary consideration was given to alternatives that would reduce significant impacts while still meeting most of the project objectives. Those alternatives that would have impacts identical to or more severe than the proposed project, or that would not meet most of the project objectives, were rejected from further consideration. The alternatives included in this chapter were derived after the establishment of significance thresholds for those issue areas with significant and unavoidable post-construction impacts: operational air emissions, solid waste generation, and traffic. Alternatives exceeding the significance thresholds for the aforementioned issue areas would not substantially lessen any significant environmental impacts identified in Chapter 5 of the EIR and were rejected from further analysis. Although any number of alternatives could be designed that could result in the reduction or elimination of project impacts, a total of four representative alternatives are evaluated in this Draft EIR.

ALTERNATIVES CONSIDERED IN THIS EIR

- The **No Project/No Development Alternative** assumes the proposed project will not be developed. The project site would remain agricultural land and would not be developed in the future.
- The **No Project/Existing Land Use Designation Alternative** assumes development of the project site based on the current zoning designations, there would be a total of 296 residential units, 33.4 acres of park/open space, and approximately 331,000 square feet of office use on 30.1 acres.
- The **Reduced Density Alternative** assumes the land swap between the City and Griffin Industries does not occur. Under this alternative, the western corner of the project site would be developed with residential units; the northern strip bordering I-80 would remain in the City's possession for potential development as a park. A total of 366 residential units would be constructed.

[1] The extension of Fong Ranch Road is not part of the proposed project and may not be implemented in the future. Mitigation for this impact, therefore, is not applicable to the proposed project and is not part of project conditions.

- The **Off-Site Alternative** assumes the development of 531 residential units at an alternate location in the South Natomas area.

Each of the alternatives is described in more detail, below, followed by an assessment of the alternative's impacts relative to the proposed project. The focus of this analysis is the difference between the alternative and the proposed project, with an emphasis on addressing the significant impacts identified under the proposed project. For each issue area, the analysis indicates which mitigation measures would be required of the alternative and which significant and unavoidable impacts would be avoided. In some cases, the analysis indicates what additional mitigation measures, if any, would be required for the alternative being discussed, and what significant and unavoidable impacts would be more (or less) severe. Unless otherwise indicated, the level of significance and required mitigation would be the same for the alternative as for the proposed project and no further statement of the level of significance is made. Table 6-1 provides a summary comparison of the severity of impacts for each alternative by topic.

TABLE 6-1

ALTERNATIVE IMPACT COMPARISON

Issue Area	Proposed Project	No Project/No Development	No Project/Existing Designation	Reduced Density	Off-Site
Air Quality	SU	NI	SU	Reduced/SU	SU
Biological Resources	LS	NI	LS	LS	LS
Hydrology	LS	NI	LS	LS	LS
Noise	LS	NI	LS	LS	LS
Solid Waste	SU	NI	Reduced/SU	Reduced/SU	SU
Transportation and Circulation	SU	NI	SU	SU	SU
Water Supply	LS	NI	LS	Reduced/LS	LS

Notes:
NI= No impact
SU= Significant and Unavoidable
LS= Less than Significant
Reduced = Level of significance is reduced compared to the proposed project.
Source: EIP Associates, 2005.

Alternative 1 – No Project/No Development Alternative

CEQA requires the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines Section 15126.6(e)(1)). The No Project/No Development Alternative describes an alternative in which no development would occur on the project site and the uses on the site would remain the same as under existing conditions. Under Alternative 1, the site would remain in its current condition as agricultural land. The site-specific impacts of the No Project/No Development alternative are best described by the existing conditions presented in the environmental setting sections of Chapter 5 of this Draft EIR.

The No Project/No Development Alternative would produce no changes on the project site, which would effectively eliminate all project impacts identified in the DEIR. Because the site would remain in its current condition, there would be no impacts associated with introducing buildings and people into an area that is currently undeveloped. The drainage of the site would remain unchanged, as would the biological resources on site. Residents would not be introduced to the site, so there would be no demand for services or utilities and no traffic would be generated under this alternative.

Mitigation That Would No Longer Be Required

None of the mitigation measures identified in this EIR would be required under the No Project/No Development Alternative.

Significant and Unavoidable Impacts That Would No Longer Occur

None of the significant and unavoidable impacts identified in this EIR would occur under the No Project/No Development Alternative.

Relationship of the No Project/No Development Alternative to the Project Objectives

The No Project Alternative would be environmentally superior to the proposed project, because none of the environmental impacts identified in Chapter 5 would occur. However, the No Project/No Development Alternative would not achieve any of the project objectives; in particular, the alternative would fail to develop a residential community.

Alternative 2 – No Project/Existing Land Use Designation Alternative

A "no action" alternative assumes that future conditions on the site would be that which is reasonably expected to occur under the City's General Plan, South Natomas Community Plan, and zoning ordinance, consistent with available infrastructure and community services. For this discussion, development under existing land use designations would serve as the basis for the No Project/Current Land Use Designation Alternative. As discussed in Chapter 4, Land Use, current zoning districts for the site include low-density residential (R-1A-PUD), office (OB-PUD), and agriculture (A). The No Project/Current Land Use Designation Alternative could accommodate 296 residential units, 33.4 acres of park/open space, and 331,000 square feet of office use (assuming approximately 11,000 square feet per acre). An illustrative site plan for this alternative, which is designed to maximize the number of residential units in the residential-designated areas on the site, is shown in Figure 6-1. The development assumed for this alternative is shown in Table 6-2.

TABLE 6-2

EXISTING LAND USE DESIGNATION ALTERNATIVE

Land Uses	Units	Acres (Gross)
Residential (lot size)		
Village 1 (45' x 75')	105	18.60
Village 2 (35' x 75')	94	12.00
Village 3 (52' x 100')	97	21.30
Park/Open Space		33.4
Office	331,000 square feet	29.4
TOTAL	**296**	**115.4**

Source: City of Sacramento; EIP Associates, 2005.

Development consistent with the current designations would result in many similar impacts as the proposed project. The entire site would be graded and developed, which would result in similar impacts on biological resources and drainage. Construction related impacts associated with noise and air quality would also be similar, and mitigation would be necessary to address short-term

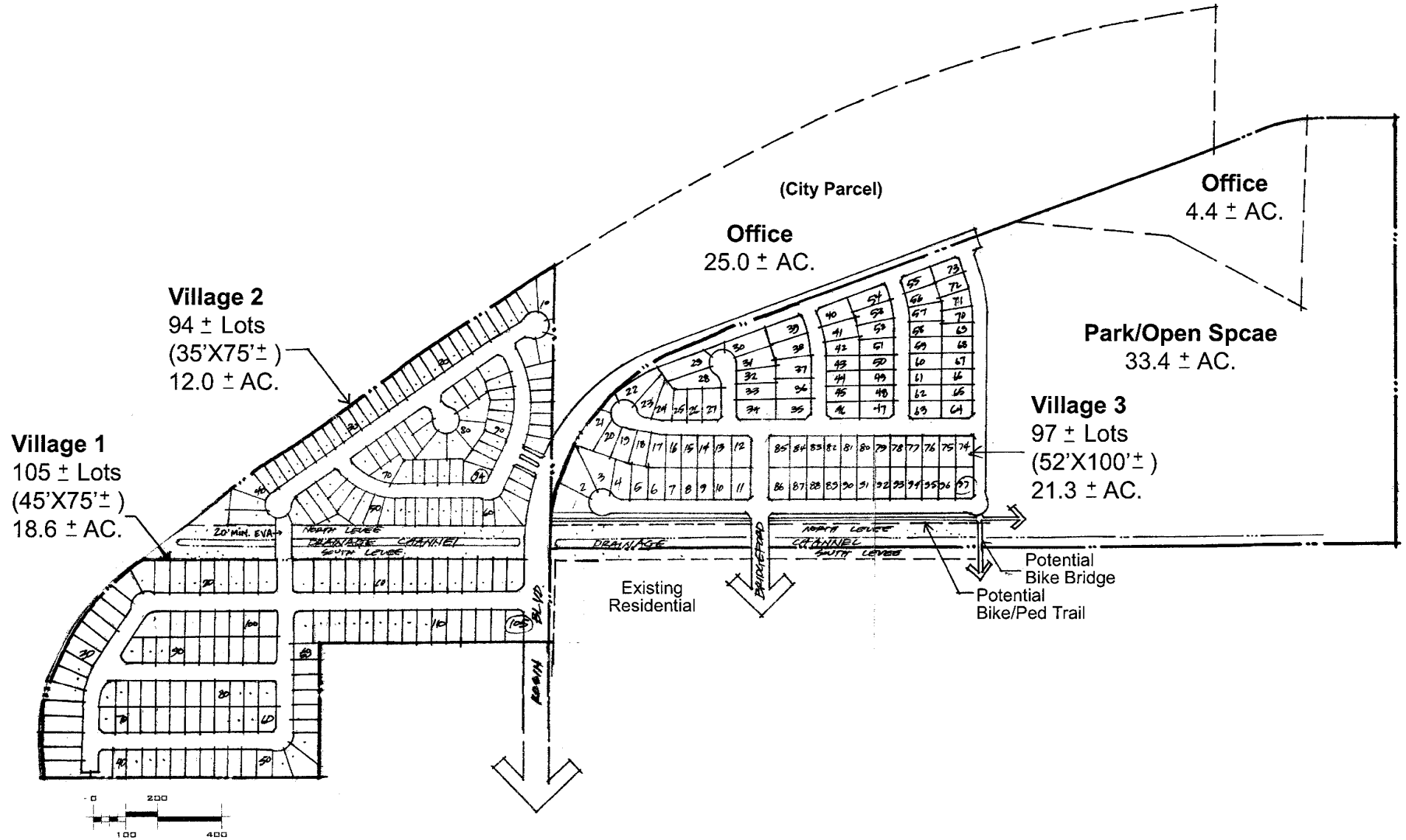


FIGURE **6-1**

Alternative 2 Current Land Use Designation Alternative – Illustrative Land Use Plan

10916-01

Source: Wood Rodgers, 2005

ParkeBridge

EIP

impacts. The illustrative site plan shown in Figure 6-1 includes development of the wetland portion of the project site. A plan could be designed to avoid the wetland feature. If the wetland feature were developed under this alternative, it would result in additional impacts on biological resources and would require mitigation beyond that identified for the proposed project or a reduction in the number of units (eliminating development of the wetland area). The wetland area could be developed, but would require permitting from the U.S. Army Corps of Engineers (Section 404 permit). Assuming 296 units and 331,000 square feet of office use, the Current Land Use Designation Alternative would generate approximately 4.3 tons of solid waste per day (assuming 1 pound per 100 square feet per day for office solid waste generation), less solid waste than the proposed project, but it would still exceed the 500 tons/year threshold, resulting in a significant and unavoidable impact.

The proposed project would contribute to unacceptable conditions at the intersection of Truxel and San Juan Roads and off-ramps and sections of I-80 in the project vicinity. As shown in Table 6-3, Alternative 2 would result in approximately 50 percent more total daily trips than the proposed project. Consequently, this alternative would likely result in substantially more severe impacts than the proposed project. While office uses generate traffic that is generally in the reverse direction as the residential uses on the site (office traffic would generally be entering the site in the am peak hour and leaving the site in the pm hour), because the roadways impacted by the proposed project are already operating at an unacceptable level, these would likely also be impacted by this alternative. Therefore, because this alternative would result in greater trip generation than the proposed project, this impact would be more severe than the proposed project.

TABLE 6-3

ALTERNATIVE 2 – NO PROJECT/EXISTING LAND USE DESIGNATION COMPARED TO PROPOSED PROJECT

Land Use	Amount	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Proposed Project								
Single-Family Townhomes	389 DU	3,628	71	212	282	229	135	364
Condominium/Townhomes	142 DU	865	19	56	75	64	47	111
Total		**4,493**	**89**	**268**	**357**	**294**	**181**	**475**
Alternative								
Single-Family Homes	296 DU	2,822	54	163	217	180	105	285
Office Park	331 KSF	3,859	527	65	592	71	436	507
Total		**6,681**	**581**	**228**	**809**	**251**	**541**	**792**

Source: Dowling Associates, 2005; Institute of Transportation Engineers, *Trip Generation, 7th Edition*, 2003.

Mitigation That Would No Longer Be Required

All of the mitigation measures identified in this EIR would be required under the Existing Land Use Development Alternative. Additional mitigation could be required if the office-generated traffic results in impacts that would not occur under the proposed project.

Significant and Unavoidable Impacts That Would No Longer Occur

Because the Existing Land Use Development Alternative would result in a generally more intense use of the site than the proposed project, it is likely that all of the significant and unavoidable impacts identified for the proposed project would occur under this alternative. Solid waste generation would be reduced under this alternative, but it would remain a significant and unavoidable impact. Traffic

generation would be greater under this alternative, which could result in additional localized traffic impacts and would also contribute to air emissions, though likely not to a significant level.

Relationship of the No Project/Existing Land Use Designation Alternative to the Project Objectives

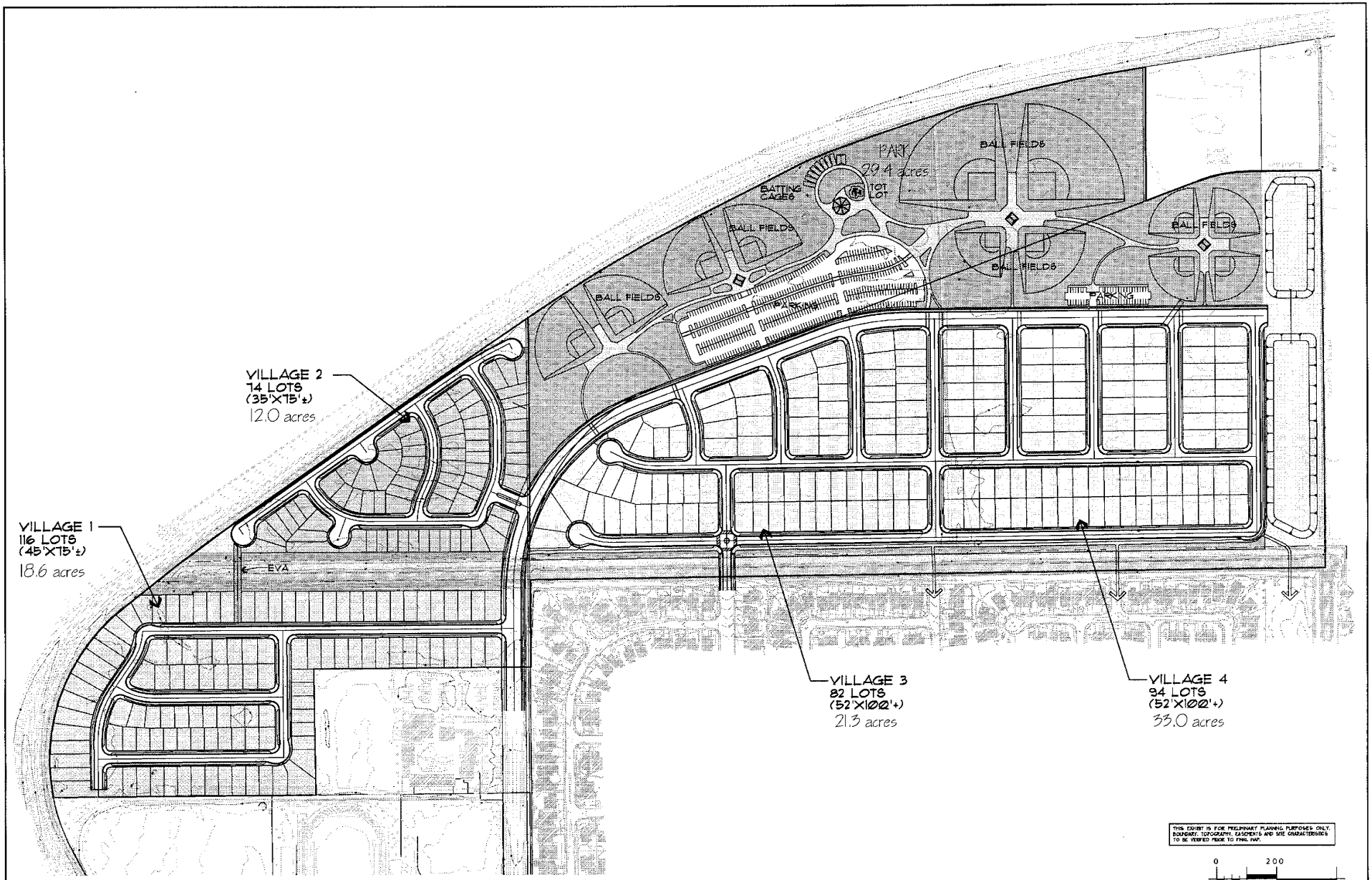
The No Project/Current Land Use Designation Alternative would achieve the project objectives related to creating a residential community with adequate services and facilities. As shown, the Current Land Use Designation Alternative would result in the construction of residential use on the existing wetland. If the wetland were developed, it would result in a larger impact on biological resources than under the proposed project, although impacts on biological resources would likely be reduced to a less-than-significant level with compliance with requirements of the Section 404 permit. Avoiding development in the wetland area in this alternative could be achieved by reducing the number of units for the alternative or increasing the density. In the eastern portion of the site, 33 acres would remain available for development as a park; however, because the plan depicted is intended to maximize the number of residential units, the Current Land Use Designation Alternative would not provide any pocket parks or open space within the residential neighborhoods, conflicting with the stated goal to provide access to these amenities. The number of units would be required to be reduced or the density increased in order to accommodate additional park areas. However, payment of park in-lieu fees and/or dedication of land would satisfy the requirement for parks, and would result in a less-than-significant impact.

The types of housing provided under this alternative would be limited to lower density because the office component would generate more traffic than a comparable amount of residential, thereby increasing the traffic impact compared to the proposed project. Because the housing would generally be limited to low-density, this alternative would not be consistent with the project goal to provide low- and medium-density housing. Providing an equivalent amount of medium-density housing would not be consistent with the adjacent low-density residential development. Further, the project goal is to develop a residential project, so the office component would be inconsistent with that goal.

Alternative 3 - Reduced Density Alternative

This alternative assumes that there would be no land exchange between Griffin Industries and the City. Under this scenario, the northern portion of the site along I-80 would not be owned by the project applicant, leaving the remainder of the site for development by the project applicant. This alternative includes residential uses in the western corner and southern half of the project site, with 366 dwelling units on approximately 84 acres. An illustrative plan showing how this alternative could be achieved is shown in Figure 6-2. This alternative would be a reduction from the 531 units included in the proposed project. The northern parcel, bordering I-80, would remain in the City's control, and it is assumed that at least some portion of that parcel would be developed with a park; however, it could be developed - as it is designated - with office uses, with park uses, or a combination of the two.

The portion of the project site that would be developed with residential uses under the Reduced Density Alternative would be the same as the proposed project, so impacts associated with grading (air quality, noise) would be the same. Construction-related impacts would be the same as the proposed project, requiring mitigation for temporary noise and air quality impacts. The Reduced Density Alternative would result in fewer residents in the project site. This alternative would produce less solid waste (3.29 tons per day) and generate less traffic than the proposed project; however, this alternative would still result in a significant and unavoidable impact related to solid waste, as it



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10916-01

FIGURE **6-2**

Alternative 3 Reduced Density Alternative – Illustrative Land Use Plan

Source: Wood Rodgers, 2005

ParkeBridge

EIP ASSOCIATES

would exceed the 500 tons per year standard. As shown in Table 6-4, Alternative 3 would generate approximately 25 percent fewer trips than the proposed project. However, because the significant traffic impacts identified for the proposed project occur at intersections and road segments that operate at unacceptable levels without the project, this alternative would also contribute to and exacerbate those conditions. Under this alternative, the northern portion of the project site adjacent to I-80 would be under control of the City. Although Figure 6-2 shows that area developed as a park, because that area is designated for office use, it could be developed with office uses. If that area were to be developed as a park, the overall impacts generated from this site would be less intense than the proposed project. However, if a portion of that area were to be developed as office use, the impact associated with development of the site under this alternative could be equal to or more severe than the proposed project, depending on the amount of office use developed.

TABLE 6-4

ALTERNATIVE 3 – REDUCED DENSITY ALTERNATIVE COMPARED TO PROPOSED PROJECT

Land Use	Amount	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Proposed Project								
Single-Family Townhomes	389 DU	3,628	71	212	282	229	135	364
Condominium/Townhomes	142 DU	865	19	56	75	64	47	111
Total		**4,493**	**89**	**268**	**357**	**294**	**181**	**475**
Alternative								
Single-Family Homes	366 DU	3,430	67	200	266	217	128	345

Source: Dowling Associates, 2005; Institute of Transportation Engineers, *Trip Generation, 7th Edition*, 2003.

Mitigation That Would No Longer Be Required

All of the mitigation measures identified in this EIR would be required under the Reduced Density Alternative.

Significant and Unavoidable Impacts That Would No Longer Occur

Although the Reduced Density Alternative would result in a less intense use of the site than the proposed project, it is likely that all of the significant and unavoidable impacts identified for the proposed project would occur under this alternative. Solid waste generation would be reduced under this alternative, but it would remain a significant and unavoidable impact. Traffic generation would also be reduced under this alternative, which would result in a reduced effect on local traffic conditions than the proposed project. However, this alternative would contribute traffic to roadways, intersections, and freeway facilities that operate at unacceptable levels under baseline conditions and would thus increase delays and/or exacerbate the unacceptable baseline conditions, although at a lesser level than the proposed project.

Relationship of the Reduced Density Alternative to the Project Objectives

The residential uses included in the Reduced Density Alternative would achieve the project objectives of providing a community with low and medium density residential units with pedestrian and bicycle connections to the adjacent community. Depending on design, this alternative may not include pocket parks within the neighborhood, thus conflicting with the project objective regarding provision of parks. This objective could be achieved by further reducing the number of units or increasing density to allow for the provision of parks.

Alternative 4 – Off-Site Alternative

The off-site alternative assumes development of 531 residential units on another site within the South Natomas area. It is assumed that this alternative would be developed with a similar density as the proposed project. Although a specific site has not been selected for this alternative, there are other locations within the South Natomas area that are designated for residential use, including the area west of Truxel Road at I-80 and the area north of West El Camino Avenue at I-80. However, because this alternative would include the same number of units as the proposed project, impacts related to population would be the same as those of the proposed project, such as solid waste generation and water demand. Similarly, because the number of units would be the same, this alternative would generate the same volume of traffic as the proposed project. Depending on the location of the alternative, there could be negative effects on local streets due to traffic generated by this alternative. It is also likely that this alternative would have a similar effect on existing unacceptable levels of service on portions of I-80, similar to the proposed project. Specific impacts on biological resources that would occur as a result of an off-site alternative are not known, but the potential for special-species habitat or wetlands in the South Natomas area, and therefore the potential for impacts, exists. However, any development in South Natomas would be required to comply with the Natomas Basin Habitat Conservation Plan, which would reduce biological resource impacts to a less-than-significant level.

For the purposes of this analysis, it is assumed that a drainage plan would be prepared for any alternative location and the plan would be reviewed and approved by the City, which would ensure a less-than-significant impact related to drainage.

Mitigation That Would No Longer Be Required

Because the area and intensity of construction under this alternative would be the same as the proposed project, all construction-related mitigation would still be required. In addition, it is likely that the biological mitigation measures would be required, at a minimum, on any alternate site. For an off-site location not adjacent to the freeway, noise mitigation identified for the proposed project could be avoided. Mitigation measures for traffic would be site-specific, so they would vary from the proposed project. Traffic mitigation would apply to specific roads and intersections surrounding the off-site location and because traffic would be added in South Natomas, which is already largely developed, the intensity of mitigation would likely be similar to the proposed project.

Significant and Unavoidable Impacts That Would No Longer Occur

As stated above, because the level of development for this alternative would be the same as the proposed project, the same impacts would likely occur. Traffic impacts, however, would be specific to the location and would therefore, differ from the proposed project. The intersection of San Juan and Truxel Road may not be affected by an off-site alternative. Nonetheless, because the project would include the same number of units, the traffic generation would be the same and similar impacts would likely occur at any alternative location in a developed area. For instance, it is likely that an off-site alternative would add traffic to the local freeways that are already impacted. In addition, because the South Natomas area is largely developed, it is possible that traffic added to local streets at another location could result in new impacts on local streets adjacent to the site.

Relationship of the Off-Site Alternative to the Project Objectives

The off-site alternative could achieve the objectives of the proposed project. However, potential conflicts could exist at the alternate location that are not present at the proposed project site; for example, adequate infrastructure to provide services and utilities may not be in place.

Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126.6(e) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states that "if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

From the alternatives evaluated for the ParkeBridge project, the environmentally superior alternative would be Alternative 1 – the No Project/No Development Alternative. This alternative would avoid all significant impacts associated with the proposed project. However, in accordance with the CEQA Guidelines, an environmentally superior alternative must also be selected from the remaining alternatives. Development of the site according to the existing designations, as shown in Alternative 2, would result in a more intense development of the site due to traffic generated by office uses. An off-site alternative (Alternative 4) would result in similar impacts, only at a different location. Therefore, the environmentally superior alternative would be the reduced-density alternative (Alternative 3), assuming that the City would develop park uses on the northern portion of the site, with no office uses.

7. CEQA CONSIDERATIONS

7.0 CEQA CONSIDERATIONS

INTRODUCTION

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the EIR must also identify (1) significant environmental effects of the proposed project, (2) significant environmental effects that cannot be avoided if the proposed project is implemented, (3) significant irreversible environmental changes that would result from implementation of the proposed project, and (4) growth-inducing impacts of the proposed project.

Significant Environmental Effects

Chapter 3, Summary of Impacts and Mitigation Measures, and Sections 5.1 through 5.7 of this EIR provide a comprehensive identification of the proposed project's environmental effects, including the level of significance both before and after mitigation.

Significant and Unavoidable Impacts

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The environmental effects of the proposed project on various aspects of the environment are discussed in detail in Chapter 5 of this EIR. Significant impacts that cannot be avoided if the project is approved as proposed include:

Project-Specific Significant and Unavoidable Impacts

5.1-2 Construction of the proposed project would generate ozone precursors.
5.5-1 The proposed project would generate more than 500 tons per year of solid waste.
5.6-2 Freeway Mainline: the proposed project would contribute to unacceptable conditions on the I-80 mainline between Northgate and Norwood during the PM peak hour (EB) and AM peak hour (WB).

Cumulative Significant and Unavoidable Impacts

Cumulative Scenario Without Fong Ranch Road Extension

5.6-6 Intersections: the proposed project would exacerbate unacceptable conditions at the Truxel/San Juan intersection (AM peak hour).
5.6-7 Freeway Mainline: the proposed project would contribute to unacceptable conditions on the I-80 mainline EB and WB between Norwood Avenue and Northgate Boulevard during both the AM and PM peak hours; EB between I-5 and Truxel Road during the PM peak hour; and WB between Northgate Boulevard and Truxel Road during the AM peak hour.
5.6-8 Freeway Ramps: the proposed project would contribute to unacceptable conditions on the WB I-80 off-ramp to Truxel Road.

Cumulative Scenario With Fong Ranch Road Extension[1]

5.6-11 Intersections: the proposed project would exacerbate unacceptable conditions at the Truxel/San Juan intersection (AM peak hour).

5.6-12 Freeway Mainline: the proposed project would contribute to unacceptable conditions on the I-80 mainline EB and WB between Norwood Avenue and Northgate Boulevard during both the AM and PM peak hours; EB between I-5 and Truxel Road during the PM peak hour; and WB between Northgate Boulevard and Truxel Road during the AM peak hour.

5.6-13 Freeway Ramps: the proposed project would contribute to unacceptable conditions on the WB I-80 off-ramp to Truxel Road.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project. Section 15126.2(c) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project would result in significant irreversible environmental changes if:

- The primary and secondary impacts would generally commit future generations to similar uses.
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project.
- The project would involve a large commitment of nonrenewable resources.
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Development of the proposed project would result in the continued commitment of the project site to urban development, thereby precluding any other uses for the lifespan of the project. Restoration of the site to a less developed condition would not be feasible given the degree of disturbance, the urbanization of the area, and the level of capital investment.

CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident associated with the project. While the project would result in the use, transport, storage, and disposal of hazardous wastes, as described in the Initial Study (Hazards and Hazardous Materials), all activities would comply with applicable State and federal laws related to hazardous materials, which significantly reduces the likelihood and severity of accidents that could result in irreversible environmental damage.

Implementation of the proposed project would result in the long-term commitment of resources to urban development. The most notable significant irreversible impacts are increased generation of pollutants; and the short-term commitment of non-renewable and/or slowly renewable natural and energy resources, such as mineral resources and water resources during construction activities.

1 The extension of Fong Ranch Road is not part of the proposed project and may not be implemented in the future. Mitigation for this impact, therefore, is not applicable to the proposed project and is not part of project conditions.

Operations associated with future uses would also consume natural gas and electrical energy. These irreversible impacts, which are, as yet, unavoidable consequences of urban growth, are described in detail in the appropriate sections of this EIR (see Chapter 5).

Resources that would be permanently and continually consumed by project implementation include water, electricity, natural gas, and fossil fuels; however, the amount and rate of consumption of these resources would not result in the unnecessary, inefficient, or wasteful use of resources. With respect to operational activities, compliance with all applicable building codes, as well as mitigation measures, planning policies, and standard conservation features, would ensure that all natural resources are conserved to the maximum extent possible. It is also possible that new technologies or systems will emerge, or will become more cost-effective or user-friendly, to further reduce the reliance upon nonrenewable natural resources. Nonetheless, construction activities related to the proposed project would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobiles and construction equipment.

Specific details regarding the type of appliances to be included in the residential units are not available at this time. Because the project is infill development, however, it would not require the loss of additional natural resources associated with the extension of infrastructure (such as roads, pipelines, etc.) through undeveloped areas.

GROWTH INDUCING IMPACTS

As required by Section 15126.2(d), an EIR must discuss ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also, the EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Growth can be induced in a number of ways, such as through the elimination of obstacles to growth, through the stimulation of economic activity within the region, or through the establishment of policies or other precedents that directly or indirectly encourage additional growth.

In general, a project may foster spatial, economic, or population growth in a geographic area if the project removes an impediment to growth (e.g., the establishment of an essential public service, the provision of the new access to an area; a change in zoning or general plan amendment approval); or economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion). These circumstances are further described below:

- Elimination of Obstacles to Growth: This refers to the extent to which a proposed project removes infrastructure limitations or provides infrastructure capacity, or removes regulatory constraints that could result in growth unforeseen at the time of project approval.

- Economic Effects: This refers to the extent to which a proposed project could cause increased activity in the local or regional economy. Economic effects can include such effects as the Multiplier Effect. A "multiplier" is an economic term used to describe inter-relationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the on-site employment and population growth of each project is not the complete picture of growth caused by the project.

Elimination of Obstacles to Growth

The elimination of physical obstacles to growth is considered a growth-inducing effect. The proposed project would occur in an urban area. The project site is surrounded by development and planned development. Infrastructure to serve the site must be extended from the existing developments around the site; however, the extension of this infrastructure would not permit development outside of the project site. Because the proposed project is infill development, no obstacles to growth would be eliminated.

Economic Effects

The proposed project, as a residential subdivision, would not include any long-term employment generating uses. Short-term, temporary employment would be created during the construction of the proposed project. However, in addition to the employment generated directly by the proposed project, additional local employment can be generated through what is commonly referred to as the "multiplier effect." The multiplier effect tends to be greater in regions with larger diverse economies due to a decrease in the requirement to import goods and services from outside the region.

Two different types of additional employment are tracked through the multiplier effect. *Indirect* employment includes those additional jobs that are generated through the expenditure patterns of residents and direct employment associated with the project. For example, residents and construction workers would spend money in the local economy, and the expenditure of that money would result in additional jobs. Indirect jobs tend to be in relatively close proximity to the places of employment and residence.

The multiplier effect also calculates *induced* employment. Induced employment follows the economic effect of employment beyond the expenditures of the employees within the proposed project area to include jobs created by the stream of goods and services necessary to support the proposed project. For example, when a manufacturer buys products or sells products, the employment associated with those inputs or outputs are considered *induced* employment.

For example, when a resident from the project goes out to lunch, the person who serves the project resident lunch holds a job that was *indirectly* caused by the proposed project. When the server then goes out and spends money in the economy, the jobs generated by this third-tier effect are considered *induced* employment.

The multiplier effect also considers the secondary effect of employee expenditures. Thus, it includes the economic effect of the dollars spent by those employees who support the employees of the project.

Increased future employment generated by resident and employee spending ultimately results in physical development of space to accommodate those employees. It is the characteristics of this physical space and its specific location that will determine the type and magnitude of environmental impacts of this additional economic activity. Although the economic effect can be predicted, the actual environmental implications of this type of economic growth are too speculative to predict or evaluate, since they can be spread throughout the Sacramento metropolitan region and beyond.

It should be noted that, while the proposed project would contribute to direct, indirect, and induced growth in the area, the project is located in a developed area with a variety of resident-serving uses. Residential and mixed use development of the South Natomas area is a goal of the City's General Plan and the South Natomas Community Plan.

Impacts of Induced Growth

While growth in the South Natomas area of the City is an intended consequence of the proposed project, growth induced directly and indirectly by the proposed project could also affect the greater Sacramento area. Potential impacts associated with induced growth in the area could include: traffic congestion; air quality deterioration; loss of agricultural land and open space; loss of habitat and wildlife; impacts on utilities and services, such as fire and police protection, water, recycled water, wastewater, solid waste, energy, and natural gas; and increased demand for commercial and retail services. The construction of additional housing and indirect and induced employment would further contribute to the stated environmental effects.

8. REFERENCES

8.0 REFERENCES

Caltrans, Technical Noise Supplement, October 1998, page N-140, Table N-6110.1 – Approximate Transmission Loss Values for Common Materials.

CARB, *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*, p. 22-23. October 2000.

CARB website, http://www.arb.ca.gov/toxics/cti/hlthrisk/cncrinhl/rskmapvwtrend.htm, accessed August 1, 2005.

California Department of Water Resources, California's Groundwater, Bulletin 118, 2003.

CDFG, Natural Diversity Database, Rarefind 3, Version 3.0.5.

CDFG, 2002, URL;
http://www.dfg.ca.gov/hcpb/species/jsp/ssc_result.jsp?specy=reptiles&query=Thamnophis%20gigas.

City of Sacramento, *Crocker Art Museum Expansion EIR,* August 23, 2004, page 232.

City of Sacramento, *General Plan*, January 1988.

City of Sacramento, *General Plan Update EIR*, 1987.

City of Sacramento, *Sacramento River Water Reliability Study,* Initial Alternatives Report. Final diversion, March 2005.

City of Sacramento, Stormwater Management Program,
http://www.sacstormwater.org/const/manuals/index.html, accessed March 5, 2002.

City of Sacramento Utilities Department, Annual Report, Operational Statistics Fiscal Year 2002/2003.

CIWMB website, www.ciwmb.ca.gov, accessed January 18, 2005.

CNPS Electronic Inventory, Version 1.5.3, May 2003.

http://sacramento.fws.gov/es/spp_lists/auto_list_form.cfm.

Sacramento City/County, Drainage Manual, Volume 2, 1996. page 1-3.

Sacramento Metro Air Quality Management District, *Guide to Air Quality Assessment*, 2004, p. 6-15.

State of California, Interim County Population Projections, Estimated July 1, 2000 and Projections for 2005, 2010, 2015, and 2020, June 2001.

State Water Resources Control Board, *Statutory Water Rights Law*, 1999.

U.S. Census Bureau, American Fact Finder, *Sacramento City, California,* http://factfinder.census.gov, Accessed January 10, 2005.

USFWS, 2002, URL; http://sacramento.fws.gov/es/animal_spp_acct/giant_garter_snake.htm.

Water Forum Agreement, 2000, page 29.

Wood Rodgers, *Drainage Master Plan Parkebridge*, January 18, 2005.

PERSONAL COMMUNICATIONS

Michelle Carrey, City of Sacramento Utilities Department, personal communication, March 30, 2004.

Jim Clifton, District Engineer, RD 1000, written communication, June 1, 2005.

Mark Frankey, Nevada Bureau of Waste Management, personal communication, January 18, 2005.

Kathy Mullen, City of Sacramento Utilities Department, personal communication, March 25, 2004.

Michael Root, Program Analyst, City of Sacramento, Utilities Department, personal communication, May 5, 2005.

Dan Sherry, City of Sacramento Utilities Department, Comment on Draft WSA for Towers on Capital Mall, June 25, 2005.

9. REPORT PREPARATION

9.0 REPORT PREPARATION

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10. ACRONYMS

10.0 ACRONYMS

ADT = average daily traffic
AF = acre feet
AFY = acre feet per year
ANSI = American National Standards Institute
BACT = best available control technology
BMPs = best management practices
BO = Biological Opinion
CAAQS = California Ambient Air Quality Standards
Caltrans = California Department of Transportation
CARB = California Air Resources Board
CCR = California Code of Regulations
CDFG = California Department of Fish and Game
CESA = California Endangered Species Act
CEQA = California Environmental Quality Act
CFR = Code of Federal Regulations
cfs = cubic feet per second
CIWMB = California Integrated Waste Management Board
CLUP = Metropolitan Comprehensive Land Use Plan
CNDDB = California Natural Diversity Database
CNEL = Community Noise Exposure Level
CNPS = California Native Plant Society
CO = carbon monoxide
Corps = Army Corps of Engineers
CVP = Central Valley Project
CWA = Clean Water Act
dB = decibel
dBA = A-weighted decibel, weighted toward the human ear
DEIR = Draft Environmental Impact Report
DHS = California Department of Health Services
DTSC = California Department of Toxic Substances
du = dwelling unit
DWR = California Department of Water Resources
EB = eastbound
EPA = Environmental Protection Agency
FCAA = Federal Clean Air Act
FEIR = Final Environmental Impact Report
FEMA = Federal Emergency Management Agency
FESA = Federal Endangered Species Act
FHWA = Federal Highway Administration
FIRMs = Federal Insurance Rate Maps
gpm = gallons per minute
HCP = Habitat Conservation Plan
I-80 = Interstate 80
ITE = Institute of Transportation Engineers
ITP = Incidental Take Permit
L_{dn} = the Day/Night Average Level, a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the nighttime
L_{eq} = the equivalent energy noise level, the average acoustic energy content of noise for a stated period of time

L_{max} = the maximum instantaneous noise level experienced during a given period of time
L_{min} = the minimum instantaneous noise level experienced during a given period of time
LOS = level of service
MACT = maximum available control technology
MBTA = Migratory Bird Treaty Act
MCL = maximum contaminant level
MEI = maximally exposed individual
MEP = maximum extent practicable
mgd = million gallons per day
msl = mean sea level
MTP = Metropolitan Transportation Plan
NBHCP = Natomas Basin Habitat Conservation Plan
NFIP = National Flood Insurance Program
NO_2 = nitrogen dioxide
NOI = Notice of Intent
NOP = Notice of Preparation
NO_x = nitrogen oxide
NPDES = National Pollution Discharge Elimination System
NUSD = Natomas Unified School District
0_3 = ozone
$PM_{2.5}$ = fine particulate matter 2.5 microns or smaller in diameter
PM_{10} = fine particulate matter 10 microns or smaller in diameter
POU = Place of Use
ppm = parts per million
PUD = Planned Unit Development
RCRA = Resource Conservation and Recovery Act
RD 1000 = Reclamation District 1000
ROG = reactive organic gases
RT = Sacramento Regional Transit
RWQCB = Regional Water Quality Control Board
sf = square feet
SGPU = Sacramento General Plan Update
SIP = State Implementation Plan
SMAQMD = Sacramento Metropolitan Air Quality Management District
SNCP = South Natomas Community Plan
SO_2 = sulfur dioxide
SRRE = Source Reduction and Recycling Element
SVAB = Sacramento Valley Air Basin
SWA = Sacramento Regional County Solid Waste Authority
SWPPP = Stormwater Pollution Prevention Plan
SWRCB = State Water Resources Control Board
TAC = toxic air contaminant
TNBC = The Natomas Basin Conservancy
USBR = United States Bureau of Reclamation
USFWS = United States Fish and Wildlife Service
UWMP = Urban Water Management Plan
v/c = volume-to-capacity ratio
VdB = vibration decibel
VOCs = volatile organic compounds
WB = westbound
WFA = Water Forum Agreement
WSA = Water Supply Assessment
WTP = Water Treatment Plant

APPENDICES

Appendix A

INITIAL STUDY

ENVIRONMENTAL CHECKLIST

I. BACKGROUND

1.	Project Title:	ParkeBridge
2.	Lead Agency Name and Address:	City of Sacramento Environmental Planning Services North Permit Center Arena Boulevard, 2nd Floor Sacramento, California 95834
3.	Contact Person and Phone Number:	Tom Buford Associate Planner (916) 808-7931
4.	Project Location:	City of Sacramento
5.	Project Sponsor's Name and Address:	Griffin Industries 4200 Duckhorn Drive Sacramento, CA 95834
6.	General Plan Designation:	Low-Density Residential Regional Commercial and Offices Parks-Recreation-Open Space
7.	Zoning:	Low-Density Residential (R-1A) Office (OB) Agriculture (A)
8.	Description of Project:	See attached.
9.	Surrounding Land Uses and Setting:	See attached.
10.	Other Public Agencies Whose Approval is Required:	See attached.

II. ENVIRONMENTAL CHECKLIST

Introduction

The following Checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the proposed project. A discussion follows each environmental issue identified in the checklist. Included in each discussion are project-specific mitigation measures recommended as appropriate as part of the proposed project.

For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

Less than Significant With Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than significant level.

Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
1.	**AESTHETICS, LIGHT, AND GLARE.**			
	Would the proposal:			
	a. Affect a scenic vista or adopted view corridor?	☐	☐	■
	b. Have a demonstrable negative aesthetic effect??	☐	☐	■
	c. Create light or glare?	☐	☐	■
	d. Create shadows on adjacent property?	☐	☐	■

Standards of Significance

Shadows. New shadows from developments are generally considered to be significant if they would shade a recognized public gathering place (e.g., park) or place residences/child care centers in complete shade.

Glare. Glare is considered to be significant if it would be cast in such a way as to cause public hazard or annoyance for a sustained period of time.

Discussion

a). The project site is open, flat land, adjacent to I-80, which has historically been used for agriculture. Per the City of Sacramento General Plan, the site is not a designated scenic vista and, within Sacramento County, I-80 is not listed as a State scenic highway; therefore, potential impacts related to adverse effects on a scenic vista or State scenic highway are considered ***less than significant***.

b). The project site is bordered by undeveloped land to the east, residential units and a high school to the south, and I-80 to the north and west. The site is currently designated for office, residential, and park/open space uses. The proposed project would develop uses that are similar to the adjacent residential uses. Although the character of the site would be changed, the site is within the I-80 corridor that is developed with a mix of uses. Because the project would include uses that are similar to the existing residential uses to the south of the site, the change would be in keeping with the surroundings. Therefore, the change from vacant land to residential development would not substantially degrade the visual character or quality of the site or its surroundings. This would be considered a ***less-than-significant impact***.

c). The development of residential uses on an undeveloped site would introduce additional light and glare to the area from streetlights and residential lighting. The project site, however, is adjacent to development that currently includes sources of light and glare. In particular, I-80 is a major source of light and glare in the project site. The South Natomas area is developed with a variety of commercial, residential, and office uses, and the addition of the proposed project would not substantially affect day or nighttime views in the area. However, the proposed project would result in the addition of new sources of light on the project site.

Unshielded lighting from project uses would be visible from surrounding areas. The addition of lighting from the proposed project, especially unshielded light, could result in spillover light that could adversely affect existing residential uses. This would be considered a *significant impact.*

Mitigation Measures

Implementation of the following mitigation would ensure that lighting would be directed onto properties on which the lighting is located, and thus would reduce this impact to a less-than-significant level.

Mitigation Measure AE-1

All light standards shall be shielded and directed such that adjacent properties are not illuminated.

d). The proposed residential development would include townhouses and single family dwellings of varying lot sizes, ranging from 2,500 square feet to 5,000 square feet. The proposed residences would be two-story structures and, therefore, would only result in very localized shadows. The proposed project would not result in the creation of shadows on adjacent properties; therefore, the impact is considered ***less than significant***.

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
2.	**AIR QUALITY.**			
	Would the proposal:			
a.	Violate any air quality standard or contribute to an existing or projected air quality violation?	■	□	□
b.	Exposure of sensitive receptors to pollutants?	■	□	□
c.	Alter air movement, moisture, or temperature, or cause any change in climate?	□	□	■
d.	Create objectionable odors?	□	□	■

Standards of Significance

Ozone and Particulate Matter. An increase in short-term effects (construction) of nitrogen oxides (NO_x) above 85 pounds per day and in increase in long-term effects (operation) of either ozone precursor, nitrogen oxides (NO_x) and/or organic gases (ROG), above 65 pounds per day would result in a significant impact.

Carbon Monoxide. The pollutant of concern for sensitive receptors is carbon monoxide (CO). Motor vehicle emissions are the dominant source of CO in Sacramento County (SMAQMD, 1994). For purposes of environmental analysis, sensitive receptor locations generally include parks, sidewalks, transit stops, hospitals, rest homes, schools, playgrounds and residences. Commercial buildings are generally not considered sensitive receptors. Carbon monoxide concentrations are considered significant if they exceed the one-hour State ambient air quality standard of 20.0 parts per million (ppm) or the eight-hour State ambient standard of 9.0 ppm (State ambient air quality standards are more stringent than their federal counterparts).

Discussion

a, b). The proposed project would include the construction of 531 residential units and the associated infrastructure, which would create air emissions. Operation of the project would involve vehicle trips that would also generate air emissions. These emissions could have a ***potentially significant impact*** on air quality.

c). Project development would result in new residences within an expanding urban community. Land uses in the surrounding area include residential as well as commercial. The South Natomas Community Plan identifies the project site as a mixed-use community. Project development would be consistent with surrounding residential and mixed-use development and would continue to facilitate the goals identified by the Community Plan and the City's General Plan. The Proposed Project would not result in large-scale development, inconsistent with surrounding land uses and would, therefore, not result in the alteration of air movement, moisture or temperatures within the project site and would not result in climatic change. Impacts are considered ***less than significant.***

d). The proposed project would include residential uses, which are not generally considered a major source of odors and would not contribute to odors in the vicinity. Therefore, potential

impacts associated with odor are considered ***less than significant***.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
3. BIOLOGICAL RESOURCES. *Would the proposal result in impacts to:*			
a. Endangered, threatened or rare species or their habitats (including, but not limited to plants, fish, insects, animals and birds)?	■	☐	☐
b. Locally designated species (e.g., heritage or City street trees)?	☐	☐	■
c. Wetland habitat (e.g., marsh, riparian and vernal pool)?	■	☐	☐

Standards of Significance

For purposes of this environmental document, an impact would be significant if any of the following conditions or potential thereof, would result with implementation of the proposed project:

- Creation of a potential health hazard, or use, production or disposal of materials that would pose a hazard to plant or animal populations in the area affected;
- Substantial degradation of the quality of the environment, reduction of the habitat, reduction of population below self-sustaining levels of threatened or endangered species of plant or animal;
- Affect other species of special concern to agencies or natural resource organizations (such as regulatory waters and wetlands); or
- Violate the Heritage Tree Ordinance (City Code 12.64.040).

Discussion

a, c). Wetlands and habitat for special-status species are present on the project site. The proposed project could have a ***potentially significant impact*** on these resources. The Biological Resources section of the EIR will discuss potential impacts and compliance with the Natomas Basin Habitat Conservation Plan.

b). There are no trees on the project site. Therefore, project development would not result in adverse impacts to locally designated tree species or violate the City's Heritage Tree Ordinance. Impacts are considered ***less than significant***.

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
4.	**CULTURAL RESOURCES.**			
	Would the proposal:			
a.	Disturb paleontological resources?	☐	■	☐
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	☐	■	☐
c.	Directly or indirectly destroy a unique paleontological resource or unique geologic feature?	☐	■	☐
d.	Disturb any human remains, including those interred outside of formal cemeteries.	☐	■	☐
e.	Restrict existing religious or sacred uses within the potential impact area?	☐	■	☐

Standards of Significance

Cultural resource impacts may be considered significant if the proposed project would result in one or more of the following:

- Cause a substantial change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Discussion

Historic resources include, but are not limited to, stone or adobe foundations or walls; mining canals or tailing piles, structures and remains with square nails; and refuse deposits, often in old wells and privies. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points or other flaked-stone tools; mortars, pestles, and other ground-stone tools; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials.

The site is an undeveloped field with no existing structures. The North Central Information Center (NCIC) performed a records search for the proposed project site and the area within a 0.25-mile radius around the site to identify any previously recorded archaeological sites and properties listed in the California Historical Resources Information System (CHRIS), as well as previous surveys. A total of 11 archaeological studies conducted within or adjacent to the search area are on file at the NCIC, including two studies on the project site. The NCIC recommendations are included below as mitigation.

a-e). The search for recorded prehistoric resources revealed that "there are no previously recorded Native American sites located within or adjacent to the search radius."[1] The search for recorded historic resources revealed that "there are no recorded historic archaeological sites located in the project site or the 0.25-mile search radius."[2] Prior to the construction of levees on the Sacramento and American Rivers historic maps show the project site extending into "Bush Lake", a seasonal wetland in the American Basin.[3] The NCIC referenced the Office of Historic Preservation's Directory of Properties in the Historic Resources Inventory and found no listed properties in or adjacent to the search radius. As stated above, there are no structures on site and no recorded historic or prehistoric resources in or adjacent to the project site. The NCIC also noted that there is a low possibility of these types of resources to occur in the area. The project site does not contain unique geologic features.

The project site, however, has the potential to contain buried prehistoric, paleontologic and/or historic artifacts, or human remains that are unknown to date. Due to the possible discovery of previously unrecorded subsurface resources during construction, the following mitigation measures shall be implemented to reduce potential effects on these resources to a ***less-than-significant*** level.

Mitigation Measures

Compliance with the following mitigation measures would reduce impacts on buried prehistoric, paleontologic and/or historic artifacts, or human remains, if present, to a *less-than-significant* level:

Mitigation Measure CR-1

(a) In the event that any prehistoric or historic subsurface archeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, animal bone, obsidian and/or mortar are discovered during construction-related earth-moving activities, all work within 50 meters of the resources shall be halted and the City shall consult with a qualified archeologist to assess the significance of the find. Archaeological test excavations shall be conducted by a qualified archaeologist to aid in determining the nature and integrity of the find. If the find is determined to be significant by the qualified archaeologist, representatives of the City and the qualified archaeologist shall meet to determine the appropriate course of action. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report shall be prepared by the qualified archaeologist according to current professional standards.

(b) If a Native American site is discovered, the evaluation process shall include consultation with the appropriate Native American(s) representatives.

If Native American archaeological, ethnographic, or spiritual resources are involved, all identification and treatment shall be conducted by qualified archaeologists who are certified by the Society of Professional Archaeologists (SOPA) and/or meet the federal standards as stated in the Code of Federal Regulations (36 C.F.R. 61), and Native American representatives who are approved by the local Native American community as scholars of the cultural traditions.

1 NCIC, CSU Sacramento, Record Search for ParkeBridge Project letter, January 14, 2005.
2 NCIC, CSU Sacramento, Record Search for ParkeBridge Project letter, January 14, 2005.
3 USGS Topographic Map, Arcade Quad 1:31680, May 1911 reprinted 1942.

In the event that no such Native American is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted. If historic archaeological sites or historic architectural features are involved, all identified and treatment is to be carried out by qualified historical archaeologists or architectural historians. These individuals shall meet either Register of Professional Archaeologists (RPA) or 36 C.F.R. 61 requirements.

(c) *The project proponent shall retain a qualified archaeologist to conduct a workshop on the identification of subsurface cultural resources for all construction workers for the proposed project involved with grading, trenching and/or digging. The workshop shall be completed prior to the commencement of any earth working or other construction activities. The project proponent shall provide to the City verification of compliance by all contractors and construction workers involved with grading, trenching, and/or prior to the issuance of any building permits.*

(d) *Any identified cultural resource shall be recorded on the appropriate DPR 523 form by a qualified professional.*

(e) *If a human bone or bone of unknown origin is found during construction, all work shall stop in the vicinity of the find and the County Coroner shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission who shall notify the person most likely believed to be a descendent. The most likely descendant shall work with the contractor to develop a program for reinternment of the human remains and any associated artifacts. No additional work is to take place within the immediate vicinity of the find until the identified appropriate actions have taken place.*

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
5.	**SEISMICITY, SOILS AND GEOLOGY.** *Would the proposal result in or expose people to potential impacts involving:*			
a.	Seismic hazards?	☐	☐	■
b.	Erosion, changes in topography or unstable soil conditions?	☐	☐	■
c.	Subsidence of land (groundwater pumping or dewatering)?	☐	☐	■
d.	Unique geologic or physical features?	☐	☐	■

Standards of Significance

For the purposes of this analysis, an impact is considered significant if it allows a project to be built that will either introduce geologic or seismic hazards by allowing the construction of the project on such a site without protection against those hazards.

Discussion

a). The Sacramento General Plan Update (SGPU) Draft EIR (1987) identifies all of the City of Sacramento as being subject to potential damage from earthquake ground shaking at a maximum intensity of VIII on the Modified Mercalli scale.[4]

The potential for ground rupture is generally accepted to be restricted to known faults with evidence of Quaternary (i.e., less than 1,600,000 years old) and most probable along Holocene (i.e., less than 10,000 years old) faults. No Quaternary or Holocene faults are mapped on or projecting toward the project site. The nearest major fault is the Willows fault (three miles east of the site), which may have Quaternary displacement but is a blind fault (i.e., displacement does not reach the ground surface) and there is no record of major and/or frequent earthquake activity along this fault. Ground rupture is therefore not expected at the project site.[5]

The project site is not located within an Alquist-Priolo Earthquake Fault Zone[6], nor is it within an official or preliminary official Seismic Hazard Zone area as delineated by the California Division of Mines and Geology.[7] The SGPU area is located within Zone 3 of the Uniform

4 City of Sacramento, *General Plan Update Draft Environmental Impact Report*, March 1987, page T-16.
5 Kleinfelder, *Preliminary Geotechnical and Geologic Hazards Evaluation Proposed Residential Subdivision, I-80 and Truxel Road, Sacramento County, California,* May 27, 2004, Page 6.
6 California Division of Mines and Geology, *Table 4. Cities and Counties Affected by Alquist-Priolo Earthquake Fault Zones*, May 1, 1999, http://www.consrv.ca.gov/GGS/rghm/ap/affected.htm, Accessed June 20, 2005.
7 California Division of Mines and Geology, *Affected Cities and Counties*; http://www.consrv.ca.gov/shmp/affected.htm, Accessed January 11, 2005.

Building Code's (UBC) Seismic Risk Map of the United States.[8] Specific minimum seismic safety requirements are set forth in Chapter 23 of the UBC.

The State of California provides minimum standards for building design through the California Building Standards Code (California Code of Regulations (CCR), Title 24). The California UBC is based on the UBC used widely throughout the U.S. (generally adopted on a state-by-state or district-by-district basis), and has been modified for California conditions with numerous more detailed and/or more stringent regulations. The State earthquake protection law (California Health and Safety Code 19100 *et seq.*) requires that buildings be designed to resist stresses produced by lateral forces caused by earthquakes. Because the City implements the requirements of the California UBC through its building permitting processes, the proposed project would be required to comply with State seismic safety design requirements. Earthquake-resistant design and materials are required to meet or exceed the current seismic engineering standards of the California UBC Seismic Zone 3 requirements. Because of the required building standards and the minimal surface improvements required for the project, impacts related to seismic hazards would be ***less than significant.***

b). Site preparation for the proposed project would include compaction and covering of soil to provide proper drainage, building foundations, and associated infrastructure. Construction of residential units would result in some cut and fill on the project site; however, because the project site is generally flat, extensive excavations or hillside cuts and fills would not be required. Severe erosion depends on the potential for high velocity flow of surface water over soils low in cohesion. As stated above, the project site is generally flat, so high velocity flows across the site are not anticipated.[9] Therefore, substantial soil erosion is not expected during construction and the impact would be ***less than significant.***

c). Although significant amounts of subsidence have occurred in the Sacramento Delta Region, no significant subsidence has been reported within the City of Sacramento.[10] Subsidence events that have occurred have largely been related to peat oxidation, oil and gas withdrawal, and groundwater withdrawal. Project development would not involve groundwater pumping or dewatering. Therefore, impacts are considered ***less than significant.***

d). The project site is flat and contains no trees. Vegetation on the site consists of annual grasses and scattered brush. The project site does not contain unique geologic or physical features; therefore, impacts are considered ***less than significant.***

8 City of Sacramento, *General Plan Update Draft Environmental Impact Report*, March 1987, page T-20.
9 Kleinfelder, *Preliminary Geotechnical and Geologic Hazards Evaluation Proposed Residential Subdivision, I-80 and Truxel Road, Sacramento County, California,* May 27, 2004, Page 9.
10 City of Sacramento, *General Plan Update Draft Environmental Impact Report*, March 1987, page T-13.

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
6.	**HAZARDS.**			
	Would the proposal involve:			
a.	A risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation)?	☐	☐	■
b.	Possible interference with an emergency evacuation plan?	☐	☐	■
c.	The creation of any health hazard or potential health hazard?	☐	☐	■
d.	Exposure of people to existing sources of potential health hazards?	☐	☐	■
e.	Increased fire hazard in areas with flammable brush, grass, or trees?	☐	☐	■

Standards of Significance

For the purposes of this document, an impact is considered significant if the proposed project would:

- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities;
- expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials; or
- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities.

Discussion

a, c). The residents of the proposed project would use hazardous materials typical of those found in all residential developments, such as paints, solvents, cleaning agents, and common gardening chemicals. However, the proposed project would not have sufficient quantities of these substances at any specific location on site to constitute a hazard. Additionally, all hazardous materials must be used, stored and transported according to applicable federal, State, and local requirements. Although Natomas High School is directly southwest of the project site, for the reasons stated above, the materials used within the project site would not generate a hazard to students. Therefore, impacts associated with the transport, use, or disposal of hazardous materials into the environment, and the possibility of creating health hazards or potential health hazards related to project-related hazardous emissions to the environment would be considered ***less than significant***.

b). The proposed project would include internal roadway access throughout the project site that would allow emergency access, as well as access to nearby uses. Construction of proposed ingress and egress routes would be required to be consistent with the City's adopted road

design and construction standards as implemented through the subdivision ordinance and through issuance of encroachment permits. Implementation of the proposed project would not decrease emergency access, or affect emergency access or evacuation plans for the surrounding areas because development of the site does not involve changing or altering any existing evacuation routes. Therefore, the impact is considered ***less than significant***.

d). The project site is not included on the list of hazardous materials sites compiled pursuant to Government Code 65962.5 ("Cortese List").[11] Therefore, development of the proposed project would not create a significant hazard to the public or the environment as a result of known hazardous wastes; impacts are considered ***less than significant***.

e). Land uses adjacent to the project site include residential uses to the south and an undeveloped area to the east. I-80 forms the north and west boundary of the project site. The undeveloped area adjacent to the project site is used for agriculture and would not represent a substantial wildland fire risk to the project site. In addition, the proposed project includes detention basins on the eastern portion of the site, which would create a buffer from undeveloped lands to the east. Further, all new development is required to comply with requirements set forth by the City's Fire Department. Because the land surrounding the project site is primarily developed, the potential for wildland fire hazards to occur in this area is considered ***less than significant***.

11 Department of Toxic Substances, *Hazardous Waste and Substances Sites List (Cortese List)*, http://www.dtsc.ca.gov/database/Calsites/Cortese_List.cfm, Accessed January 11, 2005.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
7. WATER. *Would the proposal result in or expose people to potential impacts involving:*			
a. Changes in absorption rates, drainage patterns, or the rate and amount of surface/stormwater runoff (e.g. during or after construction; or from material storage areas, vehicle fueling/maintenance areas, waste handling, hazardous materials handling or storage, delivery areas, etc.)?	■	□	□
b. Exposure of people or property to water related hazards such as flooding?	□	□	■
c. Discharge into surface waters or other alterations to surface water quality that substantially impact the temperature, dissolved oxygen, turbidity, beneficial uses of receiving waters or areas that provide water quality benefits, or cause harm to the biological integrity of the waters?	□	□	■
d. Changes in flow velocity or volume of stormwater runoff that cause environmental harm or significant increases in erosion of the project site or surrounding areas?	□	□	■
e. Changes in currents, or the course or direction of water movements?	□	□	■
f. Change in the quantity of ground waters, either through direct additions or withdrawal, or through interception of an aquifer by cuts or excavations or through substantial loss of recharge capability?	□	□	■
g. Altered direction or rate of flow of groundwater?	□	□	■
h. Impacts to groundwater quality?	□	□	■

Standards of Significance

Water Quality. For purposes of this environmental document, an impact is considered significant if the proposed project would substantially degrade water quality and violate any water quality objectives set by the State Water Resources Control Board, due to increased sediments and other contaminants generated by consumption and/or operation activities.

Flooding. Substantially increase exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood.

Discussion

a). As discussed in the project description, the project proposes to create drainage corridors. The project would include two detention basins along the eastern portion of the site and a drainage/open space corridor along the length of the southern border. The storm drain system would require a connection to the existing facility near the proposed entry feature in Rosin Boulevard and upgrade improvements to the Sump 141 drainage pump station south of the project site. Runoff from the site would be directed to the proposed detention basins and ultimately to Sump 141.

Project construction would alter the existing drainage pattern of the project site and runoff associated with project construction and operation could potentially exceed the capacity of existing drainage facilities. This is considered a ***potentially significant impact*** and will be addressed in the Drainage section of the EIR.

b). The South Natomas Community Plan area, including the project site, was, until recently, located within the 100-year floodplain.[12] However, as its first incremental project, Sacramento Area Flood Control Agency (SAFCA) initiated, with some modifications, the levee and related improvements which Congress authorized to protect the Natomas Basin and portions of North Sacramento east of the basin (collectively referred to as the North Area) in 1993. These improvements were substantially completed in 1997. This project, referred to as the North Area Local Project, provides most of the 70,000 residents of the North Area with a 200-year level of flood protection.[13] Therefore, impacts associated with placing structures within a 100-year floodplain would be ***less than significant.***

c, d). Because construction of the proposed project would disturb more than one acre, the project applicant is required by State law to obtain and comply with the State General Construction Activity Stormwater Permit. Grading of the project site would be done in compliance with this permit. This would prevent or reduce any adverse water quality impacts due to construction.

After construction, during project operation, stormwater runoff could carry small amounts of oil, grease, and heavy metals from paved areas into waterways. Compliance with applicable federal, State, and local water quality regulations, which require implementation of Best Management Practices (BMPs), would reduce the amount of contaminants reaching surface water. Any post-development activities would comply with the State General Municipal Stormwater Permit and any other federal and State requirements.

Compliance with applicable regulations and implementation of BMPs would ensure impacts on water quality would be ***less than significant.***

e). Project development would result in residential development within an urban area and would not alter currents or change the direction or rate of flow for any waters. Impacts are considered ***less than significant***.

f). The project site includes approximately 113 acres of currently undeveloped land, 84 acres of which would be developed by the project applicant. Development of the proposed project would increase the amount of impervious surface area in this area of the City. The SGPU

12 City of Sacramento, *South Natomas Community Plan,* November 1988, Page 35.

13 Information regarding SAFCA and SAFCA's North Area Local Project was viewed on April 16, 2002 at the following Internet address: http://www.safca.org/. The project site was identified on a map provided by SAFCA titled, "North Area Flood Insurance Risk Zones, Effective as of May 22, 2000.", as cited in City of Sacramento, *Promenade at Natomas,* April 2003.

area's aquifer system is part of the larger Central Valley groundwater basins. The Sacramento, American, and Cosumnes rivers and other tributary streams recharge the area via subsurface inflow from the east and by deep percolation of precipitation and surface water applied to irrigated cropland.[14] Development of the proposed project would not interfere with inflow from tributary streams or rivers. Because the site does not contain irrigated cropland, the project would not affect deep percolation of irrigation water that contributes to recharge in the groundwater aquifer. The proposed project would not require the use of groundwater; water for the proposed project would be supplied by the City of Sacramento from surface water sources. Groundwater wells would not be used to serve the project site, so wells on adjacent lands would not be affected. For these reasons, this impact would be considered ***less than significant***.

g, h). Groundwater on the project site is estimated to be at a depth of 15 feet below site grade; historically, groundwater has been observed on the project site as shallow as eight feet in depth.[15] The proposed project would include connection to existing eight-inch water lines in Bridgeford Drive and Rio Largo Way and to a 12-inch water main in Rosin Boulevard to the south of the project site and would not involve the development of groundwater resources for water supply. Project development would not alter the direction or rate of flow of groundwater and would not impact groundwater quality. Impacts are considered ***less than significant***.

14 City of Sacramento, *General Plan Update Draft Environmental Impact Report*, March 1987, page W-9.
15 Kleinfelder, *Preliminary Geotechnical and Geologic Hazards Evaluation Proposed Residential Subdivision, I-80 and Truxel Road, Sacramento County, California,* May 27, 2004, Page ii.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
8. LAND USE AND PLANNING.			
Would the proposal:			
a. Result in a substantial alteration of the present or planned use of an area?	☐	☐	■
b. Affect agricultural resources or operation (e.g., impacts to soils or farmlands, or impact from incompatible land uses?)	☐	☐	■

Standards of Significance

For the purposes of this analysis, an impact is considered significant if the project would substantially alter an approved land use plan that would result in a physical change to the environment. Impacts to the physical environment resulting from the proposed project are discussed in subsequent sections of this document.

Discussion

a). The project site is within the Sacramento City limits and is subject to the provisions of the City of Sacramento General Plan. General Plan designations for the site include Low Density Residential (4-15 du/ac), Regional Commercial and Offices, and Parks-Recreation-Open Space. The project site is located within the South Natomas Community Plan area, which is bounded generally by the Sacramento River to the west, the American River to the south, I-80 to the north, and Northgate Boulevard to the east. The plan envisions residential development, parks, schools, shopping centers, and office/business uses within the plan area resulting in a high quality mixed-use community.[16] The project site is designated Residential 4-8 du/ac, Residential 7-15 du/ac, Office/Office Park, and Parks/Open Space in the South Natomas Community Plan. Zoning for the site includes low-density residential (R-1A), office (OB), and agriculture (A).

The proposed project would require an amendment to the City of Sacramento General Plan and the South Natomas Community Plan, a rezoning, and an approval of a tentative subdivision map to divide the site. An inconsistency in and of itself would not be considered an environmental impact; where inconsistencies would result in physical effects on the environment, those effects will be addressed in the appropriate technical sections of the EIR. Potential inconsistencies with policies would be considered ***less than significant***; however, the EIR will include a discussion of the project's consistency with the City of Sacramento General Plan, South Natomas Community Plan, and Zoning Ordinance and its compatibility with surrounding land uses.

b). The entire project site is flat and has historically been used for agriculture, although it is currently fallow. The site is categorized as Farmland of Local Importance[17] and does not include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

16 City of Sacramento, Planning and Development Department, *South Natomas Community Plan,* November 1998, Pages 1-2.

17 Farmland Mapping and Monitoring Program, 2002.

Implementation of the proposed project would not result in the conversion of Important Farmland (defined as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) to non-agricultural use. There are no Williamson Act contracts in effect on the site. The area to the east of the project site is undeveloped, but is designated for office and commercial development. The area south of the site is developed with low-density residential uses. While a portion of the project site is currently zoned for agricultural use, the underlying General Plan and South Natomas Community Plan designations are for development and were considered for development in the General Plan EIR; therefore, impacts are considered ***less than significant***.

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
9.	**ENERGY.** *Would the proposal result in impacts to:*			
	a. Power or natural gas?	☐	☐	■
	b. Use non-renewable resources in a wasteful and inefficient manner?	☐	☐	■
	c. Substantial increase in demand of existing sources of energy or require the development of new sources of energy?	☐	☐	■

Standards of Significance

Gas Service. A significant environmental impact would result if a project would require PG&E to secure a new gas source beyond their current supplies.

Electrical Services. A significant environmental impact would occur if a project resulted in the need for a new electrical source (e.g., hydroelectric and geothermal plants).

Discussion

a – c). Electricity in the City of Sacramento is supplied by the Sacramento Municipal Utility District (SMUD). Electrical transmission lines throughout the City consist of 230-kilovolt (kV) transmission lines which are linked to a system of substations. Electrical energy is transmitted to these substations and subsequently re-routed through 69-kV lines to neighborhood substations, spaced approximately one mile apart. SMUD obtains electricity through a number of sources, including hydro generation, cogeneration plants, advanced and renewable technologies such as wind, solar, and biomass/landfill gas power, and power purchased on the wholesale market. SMUD also buys and sells energy in conjunction with several other power companies. In response to State mandates, SMUD plans to increase the amount of energy it obtains from renewable energy sources over the next ten years.[18]

Natural gas service is provided to the City by PG&E. During preparation of the DEIR for the City of Sacramento General Plan, PG&E did not anticipate problems in providing natural gas service to the Sacramento General Plan Update area.[19]

The City's General Plan contains specific policies for energy conservation, in addition to California's building energy standards, Title 24 of the California Code of Regulations. Title 24 standards require that new construction incorporate performance standards emphasizing overall thermal efficiency within building design and construction. Demonstration of structural incorporation of these standards is required prior to issuance of a building permit. SMUD and PG&E have adequate resources to provide energy to the project site and energy conservation policies and standards currently exist for residential development within the City; therefore, impacts are considered ***less than significant***.

18 SMUD website, (http://www.smud.org/about/power/index.html), accessed June 7, 2005.
19 City of Sacramento, *City of Sacramento General Plan Update*, State Clearinghouse Number 86101310, March 1987, p R-7.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
10. NOISE.			
Would the proposal result in:			
a. Increases in existing noise levels? Short-term Long Term	■	□	□
b. Exposure of people to severe noise levels? Short-term Long Term	■	□	□

Standards of Significance

Thresholds of significance are those established by the Title 24 standards and by the City's General Plan Noise Element and the City Noise Ordinance. Noise and vibration impacts resulting from the implementation of the proposed project would be considered significant if they cause any of the following results:

- Exterior noise levels at the proposed project which are above the upper value of the normally acceptable category for various land uses (SGPU DEIR AA-27) caused by noise level increases due to the project;
- Residential interior noise levels of 45 L_{dn} or greater caused by noise level increases due to the project;
- Construction noise levels not in compliance with the City of Sacramento Noise Ordinance;
- Occupied existing and project residential and commercial areas are exposed to vibration peak particle velocities greater than 0.5 inches per second due to project construction;
- Project residential and commercial areas are exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations; and
- Historic buildings and archaeological sites are exposed to vibration peak particle velocities greater than 0.25 inches per second due to project construction, highway traffic, and rail operations.

Discussion

a, b). Short-Term

Construction-related vibration has two potential impacts. First, vibration at high enough levels can disturb people trying to sleep. Thresholds for this vibration have been developed by the Federal Railway Administration, which has determined that any vibration over 80 VdB can be a significant impact at places where people sleep. It can also be assumed that vibration greater than 80 VdB would be distracting to students trying to study at Natomas High School. The equipment likely to be used for construction of the project (large

bulldozers, trucks, graders) would produce typical vibration levels far below the 80 VdB threshold at 100 feet (a large bulldozer would generate approximately 75 VdB at 100 feet). Second, groundborne vibration can potentially damage the foundations and exteriors of existing, older structures. Groundborne vibration that can cause this kind of damage is typically limited to impact equipment, especially pile-drivers. Existing buildings are rarely, if ever, susceptible to structural damage from vibration as long as they are more than 50 feet from the vibration source. The nearest existing buildings are more than 100 feet away from the proposed project's property line. Also, the nature of the proposed project makes it highly unlikely that impact equipment (such as pile drivers) would be used during construction. Consequently, there would be no potential for structural damage to existing buildings as a result of construction activity and there would be no impact related to vibration.

Construction activities would temporarily increase noise levels in the vicinity of the project site. Earthmoving, materials handling, stationary equipment, and construction vehicles would generate noise during site clearing, excavation, grading, and roadway construction. Construction vehicle traffic would also generate an increase in short-term noise levels. Residents of the nearby subdivision, or students at Natomas High School could be affected by the temporary increase in noise levels associated with construction. Since the number, type, and location of each kind of equipment that be used is not known, it is not possible to accurately predict potential noise levels, resulting in a ***potentially significant impact.***

Long-Term

Development of the proposed project could expose future residents to unacceptable existing noise levels from surrounding land uses. The project site is located adjacent to I-80 and could be affected by noise generated from the highway. The proposed project would also increase traffic, and traffic noise along existing roadways near the project site. Traffic noise associated with the project is considered a ***potentially significant impact.***

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
11. POPULATION AND HOUSING. *Would the proposal:*			
a. Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	■	□	□
b. Displace existing housing, especially affordable housing?	□	□	■

Standards of Significance

For the purposes of this analysis, an impact is considered significant if the project would induce substantial growth that is inconsistent with the approved land use plan for the area or displace existing affordable housing.

Discussion

a). The proposed project would include 531 residential units. According to the U.S. Census, the City of Sacramento had 2.57 residents per household in 2000.[20] The proposed project, therefore, would add approximately 1,365 residents to the City, which could result in ***potentially significant*** physical environmental effects. The physical environmental effects of the proposed project will be addressed in the appropriate technical sections of the EIR. The potential for the project to induce growth will also be addressed in the CEQA Considerations section of the EIR.

b). The project site is currently unoccupied. Development of the proposed project would not displace existing housing or people; therefore, impacts are considered ***less than significant.***

20 U.S. Census Bureau, American Fact Finder, *Sacramento City, California,* http://factfinder.census.gov, Accessed January 10, 2005.

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
12.	**PUBLIC SERVICES.**			
	Would the proposal have an effect upon or result in a need for new or altered government services in any of the following areas:			
a.	Fire protection?	☐	☐	■
b.	Police protection?	☐	☐	■
c.	Schools?	☐	☐	■
d.	Maintenance of public facilities, including roads?	☐	☐	■
e.	Other governmental services?	☐	☐	■

Standards of Significance

For the purposes of this report, an impact would be considered significant if the project resulted in the need for new or altered services related to fire protection, police protection, school facilities, roadway maintenance, or other governmental services.

Discussion

a). The project site receives fire protection from the City of Sacramento Fire Department. Station 15 is the primary station serving the site, located at the intersection of Newborough and Truxel Road, approximately 1.3 miles from the project site. Additional coverage is provided by Station 18, located at 746 North Market Street, between Northgate Boulevard and National Drive, approximately two miles from the project site. Because the project site is within the service area of an existing station, a new station would not be required to serve the project. The project would result in an increased number of calls for service from the project site; however, the project proponent would be required to pay all applicable fees for impacts to fire protection services, which would ensure adequate fire protection is available. Therefore, this impact would be ***less than significant.***

b). The project site would be served by the City of Sacramento Police Department (SPD). The addition of 531 residential units, and approximately 1,365 residents, would increase the demand for police services in the South Natomas area. As of December 2003, the SPD employed 662 sworn and 381 non-sworn employees.[21] The North Natomas area, including the project site, is served by the SPD's North Station, located at 3550 Marysville Boulevard.

The Sacramento General Plan and the South Natomas Community Plan do not contain standard ratios of officers per capita. The proposed project would be required to pay all applicable fees.

The proposed project could require changes to patrols in the area, but it would not require the construction of a new station or expansion of an existing station. Therefore, the impact would be ***less than significant.***

21 Sacramento Police Department, Annual Report 2003, Page 5.

c). The project site is within the boundaries of the Natomas Unified School District. The school district operates elementary, middle, and high schools in the Natomas area. The developer would be required to contribute towards school facilities funding. Funding for new school construction is provided through State and local revenue sources. Satisfaction of the statutory requirements by a developer (payment of fees) is deemed to be full and complete mitigation. Therefore, the proposed project would pay all applicable fees, ensuring the impact would be ***less than significant.***

d). Project development would result in the construction of new roadways within the project site. All project-related road construction would be required to be developed in compliance with the City's Road Design and Construction Standards as established by the City Department of Transportation. The proposed project would add residents to the local roads; however, the project's contribution to traffic on the roads would not substantially contribute to wear on the roads such that maintenance requirements would substantially differ than existing conditions. Therefore, this would be a ***less-than-significant impact.***

e). The City and the County contribute to a variety of public opportunities for recreational, social and cultural facilities and activities within the area. The City's Department of Community Services is responsible for the operation, maintenance and control of the City's recreational and cultural programs. Project development would add residents who would access these amenities. However, project development would not result in the need for new or altered governmental services. Impacts are considered ***less than significant.***

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
13.	**RECREATION.**			
	Would the proposal:			
a.	Increase the demand for neighborhood or regional parks or other recreational facilities?	☐	☐	■
b.	Affect existing recreational opportunities?	☐	☐	■

Standards of Significance

The City of Sacramento does not have additional standards of significance for recreation facilities.

Discussion

a, b). The proposed project would include the development of a total of 531 residential units on approximately 87 acres and would include four pocket parks totaling 0.9 acres (see Figure 2-2 in Chapter 2, Project Description, of the DEIR, for location) that would serve as a focal element and gathering place, with recreational opportunities for residents, including a basketball court and tot lot. The 1,365 new residents associated with the proposed project would generate increased demand for parks and recreational facilities. The General Plan park standards require 2.5 acres of neighborhood parks (serving an area within a half-mile radius) and 2.5 acres of community parks (serving an area within a three-mile radius) per 1,000 residents.[22] Thus, the proposed project would generate the need for 6.5 acres of neighborhood and community parks.

The proposed project would be required to pay in-lieu fees, in accordance with the provisions of the Quimby Act, requiring residential developers to dedicate land or in-lieu funds toward park development. As stated in the Project Description (see DEIR Chapter 2), the project applicant is negotiating with the City for an exchange of land. The land exchange agreement would consist of 29.0 acres of applicant land for approximately 25.0 acres of City land. Because of the valuation difference between the two parcels, the land exchange agreement is expected to apply a portion of the Griffin acreage plus on-site park acreage towards the Quimby fee and park improvement fee requirements. The combination of this land exchange and City park fees would satisfy the park facilities requirement. Because all or a portion of the park requirement for the project would be satisfied by park development (to be developed by the City) on the adjacent land, the EIR will address the physical impacts related to the conversion of the park land from its current, undeveloped state. However, because the precise type and size of facilities to be developed on the site is not known at this time, the analysis for this portion of the site will be programmatic. Once a design for the site is developed by the City, the City will prepare environmental documentation analyzing specific impacts associated with park facilities on the site. The proposed project would have a ***less-than-significant impact*** on recreation.

22 City of Sacramento, *General Plan,* 1988, Page 7-26.

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
15.	**TRANSPORTATION / CIRCULATION**			
	Would the proposal result in:			
a.	Increased vehicle trips or traffic congestion?	■	□	□
b.	Hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	□	□	■
c.	Inadequate emergency access or access to nearby uses?	□	□	■
d.	Insufficient parking capacity on-site or off-site?	□	□	■
e.	Hazards or barriers for pedestrians or bicyclists?	□	□	■
f.	Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	□	□	■
g.	Rail, waterborne or air traffic impacts?	□	□	■

Standard of Significance

Impact significance criteria are summarized below for study area intersections, bicycle and pedestrian facilities, and transit facilities.

Intersections and Roadways. The City of Sacramento defines the threshold of significance for traffic impacts at intersections as follows:

- The traffic generated by the project degrades peak period intersection LOS from A, B, or C (without the project) to D, E, or F (with the project); or,
- The existing intersection LOS (without project) is D, E, or F and project generated traffic increases the average vehicle delay by 5 seconds or more.

These standards have been developed consistent with a goal set forth in the City of Sacramento General Plan Update (1988). Specifically, section 5-11 – Goal D, states to "Work towards achieving a LOS C on the City's local and major street system."

Signal Warrant Analysis. A significant impact with regard to signal warrants would occur if the project would generate enough traffic to warrant a traffic signal.

Bicycle Facilities. A significant bikeway impact would occur if:

- The project hindered or eliminated an existing designated bikeway, or if the project interfered with implementation of a proposed bikeway, or

- The project would result in unsafe conditions for bicyclists, including unsafe bicycle/pedestrian or bicycle/motor vehicle conflicts.

Pedestrian Circulation. A significant pedestrian circulation impact would occur if the project would result in unsafe conditions or hindrance for pedestrians, including unsafe pedestrian/bicycle or pedestrian/motor vehicle conflicts.

Transit System. A significant impact to the transit system would occur where project generated ridership when added to the existing or future ridership exceeds available or planned system capacity. Capacity is defined as the total number of passengers the system of busses and light rail vehicles can carry during the peak hours of operations.

Parking. A significant impact to parking would occur if the anticipated parking demand of the proposed project exceeds the available or planned parking supply for typical day conditions. However, the impact would not be significant if the project is consistent with the parking requirements stipulated in the City Code.

Discussion

a). Primary access to the site would be via Fong Ranch Road (currently Rosin Boulevard) at the western portion of the site. Secondary access to the site would be via an extension of the existing Bridgeford Drive from the subdivision located to the south of the project site. An approximately 60- to 70-foot minor collector street with landscaping and sidewalks on both sides of the street would bisect the project site from the main entrance at the southwest portion of the site to the eastern edge of the site. All additional internal collector and residential streets would also have separated sidewalks. Additionally, four crossings of the RD 1000 canal are proposed: two for primarily automobile traffic and two strictly for bicycle and pedestrian traffic. The applicant intends to design the crossing structures to completely span the canal so that there would be no footings or pilings placed within the canal; however, if that is not feasible, culverts could be placed in the canal for the two automobile crossings. One of the bicycle crossings of the canal would be north of Rio Rosa Way and the other would be at the eastern portion of the project site. 531 new residential units would result in a ***potentially significant impact*** to traffic levels in the project vicinity. This issue will be addressed in the EIR.

b). Public improvements required for the proposed project would be designed to appropriate City standards. Therefore, creation of hazards is not expected, impacts are considered ***less than significant*** and no mitigation is required.

c). The proposed project would include an internal roadway system, providing access throughout the project site. Therefore, impacts on emergency access would be ***less than significant***.

d). The project proposes to develop 531 residential units. Each unit would include a garage and on-street parking would also be allowed on residential streets. There would be no other parking demand generated by the proposed project that would require additional parking. Therefore, impacts related to parking are considered ***less than significant***.

e, f). The proposed project would be required to comply with all adopted policies or plans supporting alternative transportation. A bike trail and parkway are included as part of the

proposed project along the southern border of the project site, and would include a ten-foot wide meandering bike trail along the open space area at the southern border of the site. Impacts are therefore, considered ***less than significant***.

g). Sacramento International is the nearest public or private airstrip to the project site, more than seven miles northeast. The project site is not located within an airport land use plan and would therefore, not impact air traffic patterns. The project site is not located in the vicinity of rail lines or water ways. Therefore, these impacts are considered ***less than significant***.

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
16.	**UTILITIES.**			
	Would the proposal result in the need for new systems or supplies, or substantial alterations to the following utilities:			
a.	Communication systems?	☐	☐	■
b.	Local or regional water supplies?	■	☐	☐
c.	Local or regional water treatment or distribution facilities?	■	☐	☐
d.	Sewer or septic tanks?	☐	☐	■
e.	Storm water drainage?	■	☐	☐
f.	Solid waste disposal?	■	☐	☐

Standards of Significance

For purposes of this environmental document, an impact is considered significant if the proposed project would:

- Result in a detriment to microwave, radar, or radio transmissions;
- Create an increase in water demand of more than 10 million gallons per day;
- Substantially degrade water quality;
- Generate more than 500 tons of solid waste per year; or
- Generate stormwater that would exceed the capacity of the stormwater system.

Discussion

a). Residential development resulting from development of the proposed project would not result in a detriment to microwave, radar, or radio transmissions. Impacts are considered ***less than significant***.

b, c). The proposed project would connect to existing eight-inch water lines in Bridgeford Drive and Rio Largo Way and to a 12-inch water main in Rosin Boulevard to the south of the project site. The construction of 531 residential units would generate increased demand for water supplies; this is a ***potentially significant impact***.

d). Wastewater treatment services within the Sacramento area are provided by the Sacramento Regional County Sanitation District (SRCSD) and the three contributing agencies (Sacramento County Sanitation District No. 1 (CSD-1), and the Cities of Sacramento and Folsom) that comprise the SRCSD service area. SRCSD provides transport, treatment, and

disposal of the wastewater generated within the three collections systems while the three contributing agencies provide wastewater collection services. The project site is located within the CSD-1 Service Area.

The Sacramento Regional Wastewater Treatment Plant (Regional Plant), the main SRCSD wastewater treatment plant, is located on a 3,500-acre site between Franklin Road and I-5, north of Laguna Road. The Regional Plant has a wastewater treatment capacity of approximately 390 mgd of wet weather flow during peak wet weather conditions and treats an average of 181 mgd.[23] The Regional Plant discharges secondarily-treated effluent into the Sacramento River, downstream of the City's domestic water supplies.[24]

User fees provide for the system's operation and maintenance, while hookup fees provide most of the funding for new trunks and interceptors. The SRCSD requires a regional connection fee be paid to the District for any users connecting to or expanding sewer collection systems, if they connect to an interceptor or a plant (Regional Connection Fee Ordinance, SRCSD Ordinance No. SRCSD-0043).

The proposed project would generate wastewater, which would require wastewater treatment and connection to the City's sewer system. Improvements for the proposed project would include a 24-inch sewer along the western border of the project site that would connect to sewer trunk facilities to be constructed by the Natomas Unified School District south of I-80 and the Opus West Corporation north of I-80. The Opus West Corporation is expected to have their portion of the sewer trunk facilities constructed by the end of summer 2005. The project would also participate in downstream sewer lift station improvements to increase the capacity of the proposed facility. Assuming a wastewater generation rate of 400 gallons per day (gpd) per dwelling unit,[25] the proposed project would generate 203,200 gpd of wastewater, which represents approximately 0.05 percent of the capacity of the treatment plant. Because the proposed project would construct or contribute to improvements to ensure sufficient capacity of the conveyance facilities and would generate only a small percentage of the treatment plant's total flows, this impact would be ***less than significant.***

e). Development of the proposed project would create new impervious surfaces that would result in changes in absorption rates, drainage patterns, or the rate and amount of surface runoff. The amount of runoff generated by the proposed project is anticipated to increase due to an increase in impervious surfaces. This is considered a ***potentially significant impact.***

f). The proposed project could result in the generation of solid waste exceeding the City's adopted standard of 500 tons annually; therefore, impacts are considered ***potentially significant***. This issue will be addressed in the EIR.

23 City of Sacramento, *Promenade at Natomas/Sacramento Auto Loop Project Draft Environmental Impact Report* (SCH#2000072035), April 2003, p. 7.5-20.

24 *Draft Environmental Impact Report, City of Sacramento General Plan Update*, City of Sacramento, March 1987.

25 Rick Batha, Supervising Engineer, City of Sacramento Utilities Department, personal communication, January 19, 2005; and Kim Yee, City of Sacramento Utilities Department, personal communication, January 24, 2005.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact
17. MANDATORY FINDINGS OF SIGNIFICANCE.			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	■	□	□
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term environmental goals?	■	□	□
c. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	■	□	□
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? Disturb paleontological resources?	■	□	□

Discussion

a). As discussed in Item 4, the project site is unlikely to yield historic or prehistoric resources, however the possibility of unearthing unknown or buried resources during grading activities exists. Mitigation measures contained in this Initial Study would reduce potential impacts on subsurface cultural resources to less-than-significant levels. However, as discussed under Item 3, the proposed project could have a ***potentially significant impact*** on biological resources.

c). The proposed project would create additional residential opportunities within the City, providing for additional growth that, in combination with other projects, could create ***potentially significant cumulative impacts.***

b, d). As discussed above, the proposed project could contribute to an increase in air emissions or noise levels, resulting in ***potentially significant impacts*** on human beings.

III. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	■ Air Quality
■ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	■ Water	☐ Land Use/Planning
☐ Energy	■ Noise	■ Population/Housing
☐ Public Services	☐ Recreation	■ Transportation/Traffic
■ Utilities/Service Systems	■ Mandatory Findings of Significance	

IV. DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

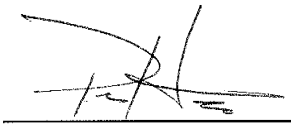
☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.

■ I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR OR NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

10/5/05

Date

Patrick Hindmarsh

Printed Name

Tom Buford, City of Sacramento

For

Appendix B

NOTICE OF PREPARATION (NOP) AND NOP RESPONSES

DEVELOPMENT SERVICES
DEPARTMENT

CITY OF SACRAMENTO
CALIFORNIA

1231 I STREET
ROOM 300
SACRAMENTO, CA
95814-2998

DEVELOPMENT SERVICES
916-808-7601
FAX: 916-264-7185

DATE: January 28, 2005

TO: Interested Persons

FROM: Grace Hovey
Development Services Department

SUBJECT: **NOTICE OF PREPARATION FOR AN ENVIRONMENTAL IMPACT REPORT (EIR) FOR *PARKEBRIDGE RESIDENTIAL SUBDIVISION* PROJECT**

PUBLIC REVIEW PERIOD: January 28 through February 28, 2005

Introduction

The City of Sacramento, Development Services Department, will be the *Lead Agency* for the preparation of an Environmental Impact Report (EIR) for The ParkeBridge project (proposed project). The California Environmental Quality Act (CEQA), Section 15082, states that once a decision is made to prepare an EIR, the lead agency must prepare a Notice of Preparation (NOP) to inform all responsible agencies of that decision. The purpose of the NOP is to provide responsible agencies and interested persons with sufficient information describing the proposed project and its potential environmental effects to enable them to make a meaningful response as to the scope and content of the information to be included in the EIR.

The NOP is being released to request comments on the scope of the EIR for the proposed project. The responses to this NOP will help the City of Sacramento determine the scope of the EIR and ensure an appropriate level of environmental review.

The EIR will evaluate the potential environmental impacts of the proposed project and recommend mitigation measures, as required. The EIR will provide a project-specific evaluation of the environmental effects of the proposed project, pursuant to Section 15161 of the State CEQA Guidelines.

Project Location

The 84-acre ParkeBridge project site is located on an undeveloped parcel south of Interstate 80 and east of Truxel Road within the South Natomas Community Plan Area.

The project is bordered on the south by the Reclamation District 1000 canal with existing residential development to the south.

Project Description

The proposed project would include the development of a total of 508 residential units and associated infrastructure. It is anticipated that residential uses would include 116 town home cluster lots, 137 single-family units on 35 foot by 73 foot lots, 154 single-family units on 45 foot by 75 foot lots, and 101 single-family units on 50 foot by 100 foot lots. The project would dedicate 4.4 acres toward a City-owned community park and would construct a 1.23-acre neighborhood park. Primary access would be via a connection with the existing Rosin Road.

The proposed project could require the following actions:

- Amendment of the General Plan and South Natomas Community Plan
- Rezoning
- Approval of a tentative subdivision map
- Certification of the EIR.

Project Objectives

The following are the objectives of the proposed project:

- A residential development, consisting of low- and medium-density housing with a variety of architectural styles, that is consistent with and compliments the adjacent residential development.
- Provide public services to meet the needs of the proposed development.
- Promote connectivity with the adjacent development by providing pedestrian and bicycle access between the existing and planned development.
- Protect and enhance the existing wetlands on the site.
- Provide bicycle facilities on the site as identified in the 2010 City/County Bikeway Master Plan.
- Create places to live that foster neighborliness and a sense of community.
- Provide access to open space and park facilities.

Environmental Effects

The technical sections of the Draft EIR will describe the existing conditions in the proposed project area and surrounding lands. Relevant federal, State and local laws and regulations, including City of Sacramento General Plan policies, will be summarized. The methods and standards of significance used for impacts of the project will be described in each of the technical sections of the EIR, including any assumptions that are important to understand the conclusions of the analysis. The standards for determining impact significance will be based on existing State and federal rules, regulations and laws, City ordinances and policies, and past practices. The standards will be used both to determine whether an impact is significant and the effectiveness of recommended mitigation. Any feasible mitigation measures will be identified for each significant impact. The description of mitigation measures will identify the specific

actions to be taken, the timing of the action, and the parties responsible for implementation of the measure.

At this time, it is anticipated that the following issue areas will be addressed in the EIR:

- Air Quality
- Biological Resources
- Cultural Resources
- Hydrology & Water Quality
- Land Use & Planning
- Noise
- Public Services & Utilities
- Transportation & Traffic/Circulation
- Mandatory Findings of Significance

During the scoping process, it may be determined that the proposed project would have a less-than-significant impact in one or more of the technical issue areas. Those technical discussions will be included in an Initial Study, which will be attached as an appendix to the Draft EIR. At this time, it is anticipated that the following issue areas will be addressed solely in the Initial Study:

- Aesthetics
- Agricultural Resources
- Geology & Soils
- Hazards & Hazardous Materials
- Mineral Resources
- Population & Housing
- Recreation

Alternatives

The EIR will examine a range of feasible alternatives to the proposed project. A discussion of alternatives considered but rejected without full analysis will also be included. At this time, it is anticipated that the alternatives would include:

- No Project Alternative
- Reduced Intensity Development Alternative
- Off-Site Alternative

Submitting Comments

To ensure that the full range of project issues of interest to responsible government agencies and the public are addressed, comments and suggestions are invited from all interested parties. Written comments or questions concerning the EIR for the proposed project should be directed to the environmental project manager at the following address by **5:00 p.m. on February 28, 2005:**

City of Sacramento Development Services Department
Attn: Grace Hovey
1231 I Street, Room 300

Sacramento, CA 95814
(916) 808-7601
(916) 264-7185

All comments must include full name and address in order for staff to respond appropriately.

A public scoping meeting will also be held during the public comment period (see attached flyer). Responsible agencies and members of the public are invited to attend and provide input on the scope of the EIR.

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Arnold
Schwarzenegger
Governor

Jan Boel
Acting Director

Notice of Preparation

February 4, 2005

To: Reviewing Agencies

Re: Parkerbridge Project EIR (P04-212)
SCH# 2005012119

Attached for your review and comment is the Notice of Preparation (NOP) for the Parkerbridge Project EIR (P04-212) 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:

Grace Hovey
City of Sacramento
1231 I Street, Room 300
Sacramento, CA 95814

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
Associate Planner, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2005012119
Project Title Parkerbridge Project EIR (P04-212)
Lead Agency Sacramento, City of

Type NOP Notice of Preparation

Description EIR for residential development of approximately 500 low density and medium density units and parks on approximately 113 acres.

Lead Agency Contact

Name Grace Hovey
Agency City of Sacramento
Phone (916) 808.7601 **Fax**
email
Address 1231 I Street, Room 300
City Sacramento **State** CA **Zip** 95814

Project Location

County Sacramento
City Sacramento
Region
Cross Streets Southeast of Truxel Road and Interstate 80
Parcel No. 225-0160-084, 088, 054, 225-0170-055
Township **Range** **Section** **Base**

Proximity to:

Highways I-5 / I-80 / Hwy 99
Airports Sac International Airport
Railways UPRR
Waterways Sacramento River, American River
Schools Natomas High School
Land Use Vacant / Low Density Residential and Regional Commercial

Project Issues Air Quality; Archaeologic-Historic; Drainage/Absorption; Noise; Public Services; Recreation/Parks; Sewer Capacity; Soil Erosion/Compaction/Grading; Traffic/Circulation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Landuse; Growth Inducing; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Conservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 2; Department of Health Services; Office of Emergency Services; Native American Heritage Commission; Department of Housing and Community Development; California Highway Patrol; Caltrans, Division of Aeronautics; Caltrans, District 3; Regional Water Quality Control Bd., Region 5 (Sacramento)

Date Received 01/28/2005 **Start of Review** 01/28/2005 **End of Review** 02/28/2005

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: Sacramento

SCH# 2005012119

Resources Agency

- [■] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  David Johnson
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
- [■] **Dept. of Conservation**
  Roseanne Taylor
- [ ] **California Energy Commission**
  Environmental Office
- [ ] **Dept. of Forestry & Fire Protection**
  Allen Robertson
- [ ] **Office of Historic Preservation**
  Wayne Donaldson
- [■] **Dept of Parks & Recreation**
  B. Noah Tilghman
  Environmental Stewardship Section
- [ ] **Reclamation Board**
  DeeDee Jones
- [ ] **Santa Monica Mountains Conservancy**
  Paul Edelman
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- [■] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Fish and Game

- [ ] **Depart. of Fish & Game**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Game Region 1**
  Donald Koch
- [■] **Fish & Game Region 2**
  Banky Curtis
- [ ] **Fish & Game Region 3**
  Robert Floerke
- [ ] **Fish & Game Region 4**
  William Laudermilk
- [ ] **Fish & Game Region 5**
  Don Chadwick
  Habitat Conservation Program
- [ ] **Fish & Game Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- [ ] **Fish & Game Region 6 I/M**
  Tammy Allen
  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**
  Robert Sleppy
  Environmental Services Section
- [■] **Dept. of Health Services**
  Veronica Rameriz
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] **Coachella Valley Mountains Conservancy**
- [ ] **Delta Protection Commission**
  Debby Eddy
- [■] **Office of Emergency Services**
  Dennis Castrillo
- [ ] **Governor's Office of Planning & Research**
  State Clearinghouse
- [■] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Ken Lewis
- [ ] **San Gabriel & Lower LA Rivers**
- [ ] **San Joaquin River Conservancy**
- [ ] **State Lands Commission**
  Jean Sarino
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- [■] **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- [ ] **Caltrans - Planning**
  Terri Pencovic
- [■] **California Highway Patrol**
  John Olejnik
  Office of Special Projects
- [■] **Housing & Community Development**
  Lisa Nichols
  Housing Policy Division

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Mike Eagan
- [ ] **Caltrans, District 2**
  Don Anderson
- [■] **Caltrans, District 3**
  Jeff Pulverman
- [ ] **Caltrans, District 4**
  Tim Sable
- [ ] **Caltrans, District 5**
  David Murray
- [ ] **Clatrans, District 6**
  Marc Birnbaum
- [ ] **Caltrans, District 7**
  Cheryl J. Powell
- [ ] **Caltrans, District 8**
  John Pagano
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Mario Orso
- [ ] **Caltrans, District 12**
  Bob Joseph

Cal EPA

Air Resources Board

- [ ] Airport Projects
  Jim Lerner
- [ ] Transportation Projects
  Kurt Karperos
- [ ] Industrial Projects
  Mike Tollstrup

- [ ] **California Integrated Waste Management Board**
  Sue O'Leary
- [ ] **State Water Resources Control Board**
  Jim Hockenberry
  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**

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**
  Jonathan Bishop
  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 9/16/04

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390

February 17, 2005

Grace Hovey
City of Sacramento
1231 I Street, Room 300
Sacramento, CA 95814

RE: SCH# 2005012119 – Parkerbridge Project, Sacramento County

Dear Ms. Hovey:

The Native American Heritage Commission has reviewed the above mentioned NOP. To adequately assess and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

1. Contact the appropriate Information Center for a record search. The record search will determine:
   - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
   - If any known cultural resources have already been recorded on or adjacent to the APE.
   - If the probability is low, moderate, or high that cultural resources are located in the APE.
   - If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
   - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
   - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
3. Contact the Native American Heritage Commission for:
   - A Sacred Lands File Check. Requests must be made in writing with the County, Quad map name, township, range and section.
   - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures.
4. Lack of surface evidence of archeological resources does not preclude their subsurface existence.
   - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
   - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
   - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5 (e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

If you have any questions, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

CC: State Clearinghouse

State of California—Health and Human Services Agency
Department of Health Services

California Department of Health Services
SANDRA SHEWRY
Director

ARNOLD SCHWARZENEGGER
Governor

February 23, 2005

City of Sacramento
Development Services Department
Grace Hovey
1231 I Street, Room 300
Sacramento, CA 95814

RE: Parkerbridge Project EIR (P04-212) – SCH2005012119

The California Department of Health Services (CDHS) is in receipt of the Notice of Preparation for the above project.

If the City of Sacramento plans to develop a new water supply well or make modifications to the existing domestic water treatment system to serve the Parkerbridge Project EIR (P04-212) project site, an application to amend the water system permit must be reviewed and approved by the CDHS Sacramento District Office. These future developments may be subject to separate environmental review.

Please contact the office at (916) 449-5600 for further information.

Sincerely,

Bridget Binning
California Department of Health Services
Environmental Review Unit

Division of Drinking Water and Environmental Management
Environmental Review Unit/State Revolving Fund/Prop 50
1616 Capitol Avenue, MS 7418, P.O. Box 997413, Sacramento CA 95899-7413
(916) 449-5600 Fax: (916) 446-5656
Internet Address: www.dhs.ca.gov/ps/ddwem

Cc:

Terry Macaulay, District Engineer
CDHS Sacramento
1616 Capitol Avenue, MS 7407
Sacramento, CA 95899

State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

RD1000

RECLAMATION
DISTRICT 1000

February 3, 2005

Grace Hovey
Development Services Department
City of Sacramento
1231 I Street, Room 300
Sacramento, CA 95814-2998

RE: NOP – Parkebridge Residential Subdivision Project

Dear Grace:

Reclamation District 1000 (RD 1000) operates a canal (B drain) on a portion of the south boundary and through the westerly area of the subject project. The City operates a pumping plant Sump 141?) and canal that discharges into B drain.

B drain is fenced and has berms on both sides and presently has residential property and a school site on the south side of the canal. At various times Ed Cox, the City alternate transportation modes coordinator has expressed a desire to have a bike/pedestrian trail adjacent to the canal.

The canal must remain in operation because it conveys runoff from areas outside of the subject project. However should the developer wish to pipe the canal and the City would agree to maintain the pipeline RD 1000 would be pleased to quit claim its canal easement.

If you have any questions please advise me.

Sincerely,

J. N. Clifton
District Engineer

1633 GARDEN HIGHWAY
SACRAMENTO, CA 95833
916-922-1449

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

Larry Greene
AIR POLLUTION CONTROL OFFICER

March 4, 2005

Ms Grace Hovey
City of Sacramento
Department of Planning and Building
1231 I Street, Suite 200
Sacramento, CA 95814

SUBJECT: ParkeBridge #P04-212
SMAQMD # SAC200400301B

Dear Ms Hovey:

Thank you for providing the project listed above to the Sacramento Metropolitan Air Quality Management District (District). Staff comments follow.

As you know, the District has recently published new guidance on air quality assessment entitled "Guide to Air Quality Assessment in Sacramento County." That guidance replaces our 1994 "Air Quality Thresholds of Significance" document and can be found on our website www.airquality.org under Plans & Rules/ CEQA & mitigation. Table 4.2 (pg. 4-3) in that new document gives a framework to judge whether air quality impacts of projects of various sizes may exceed District thresholds of significance. Under the new guidance which uses the latest analysis tools, construction related air quality impacts trigger the thresholds of significance with smaller projects than before.

Because of the size of this project, we believe it will generate short term (construction) but perhaps not long-term (operations) air quality impacts which may be in excess of the established threshold. An air quality analysis should be done on both types of impacts in conjunction with the environmental document in order to determine if those impacts are significant. Relative to the construction impacts, if those impacts are significant, we recommend our standard construction mitigation measures and all other feasible mitigation. The mitigation wording for the standard construction mitigation can be found on our website in the same place as listed above.

The project will also be subject to District Rule 403 which has to do with fugitive dust. That rule can be found on our website.

If you have questions, please contact me at 874-4885 or jborkenhagen@airquality.org.

Sincerely,

Jeane Borkenhagen
Associate Air Quality Planner Analyst

cc: Ron Maertz SMAQMD

777 12th Street, 3rd Floor ▪ Sacramento, CA 95814-1908
916/874-4800 ▪ 916/874-4899 fax
www.airquality.org

(916) 646-9370 / 927 Elmridge Way, Sacrmamento, CA 95834

City of Sacramento
Attn: Grace Hovey
1231 I Street, Room 300
Sacramento, Ca 95814

Re: Project (P04-212)

February 2, 2005

To whom this may concern:

Dear Grace Hovey:

Thank you for informing me about the ***Preparation for an Environmental Impact Report for Parkbridge Residential Subdivision Project.***

I am aware of changes in our community. Changes that will effect the environmental living for residents, and those who have been living here in this community for a very long time. Being a business owner, I have some concerns in this area. The concerns are gang related issues, and our community. I also have a concern for the elderly.

I have lived in an area for over sixteen years. I hear shooting three to four times a week, during summer. I always hear the screeching of cars, blasting of music, using profanities, and fighting on the streets. I often feel unsafe in my own home. The children are always running in the streets in the middle of the night, as though they have a need for release of some energy. When I first moved here, it was never like this. The majority of the people were middle class, police officers, attorneys, and business owners as myself. Sadly to say, so much has changed. The question is: How will this change impact our community?

My suggestion would be a ***Complex for the Elderly, with a beautiful park.*** I firmly believe this would smooth out the rough edges of this neighborhood, bring a salvation of peace. Because we need it. I watch my neighbors who take their walks, on that beautiful levy which is a haven for our dogs. This area has a great deal of natural habitats. I have seem cranes, ducks, owls, finches, parakeets, rabbits, squirrels, coyotes,.... even fish are in that canal. What will happen to this beautiful habitat? Please consider your decision, as you begin the planning stages of the Parkebridge Residential Subdivision Project. Thank you.

Sincerely,

Mary Edwards

1121 Rio Norte Way
Sacramento, CA 95834
February 20, 2005

Grace Hovey
City of Sacramento Development Services Department
1231 I Street, Room 300
Sacramento, CA 95814

Dear Grace,

I am writing to you about the Parkbridge project next to my home. My objections to this project are numerous but there two issues that are most important to me. One is the relocation of the Parks/ Open Space area from its current location in the existing Community Plan which I have addressed in a separate letter to David Kwong. The second issue involves vehicle traffic in the vicinity of Natomas High School and the potential increase on Bridgeford Drive.

Currently, traffic is extremely chaotic on San Juan Road between Rockhampton/ Pony Express Dr. and Truxel Rd. when classes are in session at the High School. This occurs between about 7:15 to 8:00 am and to a lesser degree at around 3:00 pm. This may not seem like a significant period but if you are a commuter during this time like myself it is a Very Big Problem. Adding 508 residential units with a potential 1,016 more commuter vehicles to the existing streets in the area seems incredulous to me. Trying to get to Truxel Rd. from Bridgeford Dr. or Fong Ranch Rd. will become an impossible endeavor. The unfortunate commuters from Rockhampton and Pony Express Dr. will be up against the proverbial brick wall.

The plan to have Bridgeford Dr. serve as a second major thoroughfare for this development is a bad idea. I think Bridgeford could accomodate more traffic but not on a scale that this

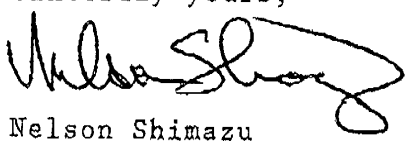
project will cause. I would support the connection of additional development to Bridgeford but only a limited amount. Bridgeford Drive is a residential street. Converting it to a thoroughfare for Parkbridge will greatly increase congestion, hazzards to children, noise and reduce air quality for the adjoining residents. Speed bumps were recently installed to 'calm' traffic. Connecting Parkbridge to Bridgeford would be counter to this effort.

The location of a street behind my home (Street Q?) with bike/pedestrian bridges are a concern in that it provides an additional readily accessible and direct escape route for persons who might commit crimes in my neighborhood. The streets in my neighborhood require many turns to exit the area. This tends to reduce speeds and discourage casual traffic to the area. The streets in the proposed development provides very direct escape routes for criminals.

The increased density of this project is also a problem for me. It will reduce that much more the quality of my life and enjoyment of my property. All the detriments of development such as noise, reduced air quality, congestion etc. will be further increased. My sense of harmony with my enviornment will be that much further reduced. A related issue to this is that having so many homes next to the freeway will eventually lead to those residents demanding a sound wall be built. I think sound walls are ugly, confining, and degrades the ambiance of our city. As a taxpayer, I will also be required to pay for it. I don't think this will be the result if the area was developed into an office park as currently designated.

I would like to request that you consider my comments and objections in preparing the EIR and determine that this project will have a significant detrimental effect.

Sincerely yours,



Nelson Shimazu

Connie Christensen
3567 Rancho Vista Way
Sacramento, CA 95834
916.923.5356

March 4, 2005

City of Sacramento Development Services Dept.
Attn: Ms. Grace Hovey
1231 I Street Room 300
Sacramento, CA 95814
Fax: (916) 264-7185

Re: ParkeBridge Residential Subdivision Project
EIR Preparation Comments & Questions

Dear Ms. Hovey,

I am a South Natomas resident (Garden Valley School neighborhood) with a residence that abuts the high voltage power line & drainage canal right-of-way. Unfortunately, I was not able to attend the community presentation and meeting on February 14, 2005, however, I do have some questions, concerns and suggestions about the project which I will list following. I apologize in advance if some of my questions are explained in the exhibits provided, but the reductions were so small, much of the text was unreadable. A larger copy of Exhibit C would be helpful.

- What is the Rosin Road/Fong Ranch Road layout through to Northgate and how will high speed, "short-cut" drivers be discouraged through this new neighborhood (speed humps, diverters, etc.)?
- Will new parks be installed complete with amenities (playground structures, benches, picnic tables, ball fields, community garden, restrooms)? Will bike/pedestrian paths & bridges be installed as part of this development? If not, what is the parks funding mechanism and how will maintenance be funded?
- Will the city provide maintenance of the landscape corridors Lots G, H, J, K, L, M, N? If not, who will provide maintenance and who will oversee that maintenance is completed regularly and satisfactorily?
- Why is Lot B "Additional Park", located on the periphery of the development? It should be located centrally for equal access by all residents.
- Provide street lighting (dark-sky design) that has attractive street light poles & fixtures and does not allow light to scatter or light the sky, but are of sufficient quantity/frequency to avoid darkened sidewalks (good lighting deters auto theft).
- What is meant by "Proposed Sub-Mod" notation on Exhibit C?
- Require that residential façade design includes locating garages back from street and provide front porches (for eyes–on-the-street).

- Require that residential façade design include "coach lights" at driveways to deter auto theft.
- Do Townhomes in "Village 1" provide adequate, secure, off-street parking for the typical 2-car family? (auto theft is high in this zip code, consequently auto insurance is expensive also)
- Is Village 1 fenced and gated?
- Provide "Village 1" with a 1.5 acre park (minimum) centrally located to accommodate this high density for residents, children and pets.
- "Village 1" should be re-arranged to create 2-4 smaller complexes/neighborhoods with shared common space (post boxes, playgrounds, benches, etc.).
- Lot C "Pocket Park" should be increased in size to 2 acres (it serves 137 dwellings).
- The townhomes mini-park (Lot B?) should be increased in size to 2 acres minimum (one half court hoop and one tiny tot-lot is hardly enough room for 116 dwellings with no yards).
- Lot DD "Open Space" does not appear functional for people or natural habitat; how does the designer anticipate it's use?
- What are lots 1-16 surrounding Lot DD designated use? The large size of these lots seems disproportionate to the scale and density of the remaining development.
- Provide street trees and front yard trees of a species that will grow to be substantial, not shrubs pruned like trees.
- Provide some scattered double lots for sale as custom home lots.
- Apartments/Townhomes/Condominiums are common security issues, and special measures should be required to maintain safe, secure neighborhoods; individual developments should be small in number of units; fenced with gates; well lit and management should provide nighttime security guards.
- Development lighting (non-glare)-reduce light into night sky (consult Sacramento Valley Astronomical Society) but improve coverage for evening pedestrians and patrol visibility (more fixtures per lineal foot of street avoids dark patches)
- Provide traffic analysis of traffic circulation issues onto San Juan including the traffic associated with Natomas High School pedestrian/vehicle traffic, as well as the traffic effects on Truxel from the existing Natomas Crossing and future shopping center on the north side of Interstate 80.
- Provide traffic analysis at the Rosin Road-Fong Ranch Road/Northgate Blvd intersection in conjunction with freeway on/off ramps at peak travel commute time as well as lunch hour traffic associated with fast food restaurants at that location.
- Provide easy light rail passenger loading station access-coordinate with Regional Transit plans for future light rail line down Truxel.
- Provide bus stop pull outs, out of traffic lane, with shelters and trash containers.
- Provide community church site.
- Initiate neighborhood watch program.
- Which Sacramento City fire station will provide service to this development? What will the response time be?

- Has City Police reviewed the plan for comments on improving neighborhood security, especially deterring auto theft?
- Issues: crime, youth from adjacent HS loitering, littering; security along drainage canal (fencing is frequently compromised); maintenance of drainage canal and pump stations, development of bike path along WWPA easement.
- Abutting to hotel use on Northgate, (is this correct?), separation, security, lighting: how will these elements be handled?
- The property is currently habitat to Chinese Ringneck Pheasants; this should be studied and actions taken to preserve some habitat with open space and natural vegetation left in existing state perhaps in conjunction with the detention basin and soccer fields/community garden.

This sums up my thoughts on the project. I would like to receive a copy of the EIR when it becomes available, and if there are any future community meetings, please let me know as I would like to attend. So much information can be conveyed in that way. Thank you for the opportunity to comment on the project.

Sincerely,

Connie Christensen

Connie Christensen

Keith Alan Watkins
851 Maplegrove Way
Sacramento, CA 95834
Residence ph (916) 646-0324
fx (916) 646-6309
e-mail address Keithh2o@aol.com

March 4, 2005

Ms. Grace Hovey, Development Services Manager
Development Services Department
City of Sacramento
1231 I Street, Room 300
Sacramento, CA 95814-2998

Subject: Revised Notice of Preparation for an Environmental Impact Report (EIR) for the proposed Parkebridge Residential Subdivision Project

Dear Ms. Hovey:

As the Lead Agency representative, I write you as an interested person understanding that the comment period has been extended to March 4, 2005. My desire is to preserve the entire 84 acre parcel in commercial agricultural production potentially different from what currently exists.

However, I request a brief extension in order to provide you with a concept proposal to support the preservation of an approximate 5 acre portion of the of the parcel for agricultural use aside from the 4.4 acre proposed city-owned community park, and 1.23 acre neighborhood park. Thank you for the opportunity to comment, and for your consideration.

Sincerely,

Keith A. Watkins

Appendix C

Air Quality Modeling Results

URBEMIS 2002 For Windows 8.7.0

'ile Name: P:\Projects - All Employees\10916-01 ParkeBridge EIR\Matt J\URBEMIS\Operation and Construct
'roject Name: Parkebridge Operation and Construction 8.7
'roject Location: Lower Sacramento Valley Air Basin
)n-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

:ONSTRUCTION EMISSION ESTIMATES

*** 2006 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	20.85	150.76	160.55	0.00	156.94	6.93	150.01

*** 2007 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	28.83	180.11	204.36	0.02	7.75	7.43	0.32

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	28.80	6.03	17.98	0.18	0.07

)PERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	34.60	35.50	363.97	0.21	34.80

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	63.39	41.52	381.94	0.38	34.87

URBEMIS 2002 For Windows 8.7.0

File Name: P:\Projects - All Employees\10916-01 ParkeBridge EIR\Matt J\URBEMIS\Operation and Cons
Project Name: Parkebridge Operation and Construction 8.7
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: June, 2006
Construction Duration: 18
Total Land Use Area to be Developed: 85.2 acres
Maximum Acreage Disturbed Per Day: 15 acres
Single Family Units: 389 Multi-Family Units: 142
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	150.00	-	150.00
Off-Road Diesel	18.05	125.49	143.29	-	5.50	5.50	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.14	0.16	2.93	0.00	0.01	0.00	0.01
Maximum lbs/day	18.19	125.65	146.22	0.00	155.51	5.50	150.01
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	149.46	133.02	-	6.91	6.91	0.00
Bldg Const Worker Trips	2.17	1.30	27.54	0.00	0.32	0.02	0.30
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	20.85	150.76	160.55	0.00	7.23	6.93	0.30
Max lbs/day all phases	20.85	150.76	160.55	0.00	156.94	6.93	150.01
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	142.54	138.25	-	6.35	6.35	0.00
Bldg Const Worker Trips	2.01	1.23	25.89	0.00	0.32	0.02	0.30
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	3.13	-	-	-	-	-	-
Asphalt Off-Road Diesel	4.47	26.57	38.01	-	0.85	0.85	0.00
Asphalt On-Road Diesel	0.50	9.75	1.83	0.02	0.22	0.21	0.01
Asphalt Worker Trips	0.03	0.02	0.39	0.00	0.00	0.00	0.00
Maximum lbs/day	28.83	180.11	204.36	0.02	7.75	7.43	0.32
Max lbs/day all phases	28.83	180.11	204.36	0.02	7.75	7.43	0.32

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Jun '06
Phase 2 Duration: 2 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
2	Graders	174	0.575	8.0
2	Off Highway Trucks	417	0.490	8.0
2	Rubber Tired Dozers	352	0.590	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Aug '06
Phase 3 Duration: 16 months
Start Month/Year for SubPhase Building: Aug '06
SubPhase Building Duration: 16 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
9	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
Start Month/Year for SubPhase Asphalt: Nov '07
SubPhase Asphalt Duration: 0.8 months
Acres to be Paved: 21
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
2	Pavers	132	0.590	8.0
2	Rollers	114	0.430	8.0

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.46	5.95	2.53	0	0.01
Hearth - No summer emissions					
Landscaping	2.36	0.08	15.45	0.18	0.06
Consumer Prdcts	25.98	-	-	-	-
Architectural Coatings	0.00	-	-	-	-
TOTALS(lbs/day,unmitigated)	28.80	6.03	17.98	0.18	0.07

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	27.44	28.66	293.87	0.17	28.10
Condo/townhouse general	7.16	6.84	70.10	0.04	6.70
TOTAL EMISSIONS (lbs/day)	34.60	35.50	363.97	0.21	34.80

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2008 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	129.67	9.32 trips/dwelling unit	389.00	3,625.48
Condo/townhouse general	8.88	6.09 trips/dwelling unit	142.00	864.78
		Sum of Total Trips		4,490.26
		Total Vehicle Miles Traveled		22,890.33

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.00	1.60	98.00	0.40
Light Truck < 3,750 lbs	15.00	2.70	95.30	2.00
Light Truck 3,751- 5,750	16.20	1.20	97.50	1.30
Med Truck 5,751- 8,500	7.20	1.40	95.80	2.80
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.40	0.00	50.00	50.00
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.70	76.50	23.50	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	8.30	83.30	8.40

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
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	27.3	21.2	51.5			

Changes made to the default values for Land Use Trip Percentages

The Trip Rate and/or Acreage values for Single family housing
have changed from the defaults 9.57/129.67 to 9.32/129.67
The Trip Rate and/or Acreage values for Condominium/townhouse general
have changed from the defaults 6.9/8.88 to 6.09/8.88

Changes made to the default values for Construction

Changes made to the default values for Area

The hearth option switch changed from on to off.
The arch. coatings option switch changed from on to off.

Changes made to the default values for Operations

The pass by trips option switch changed from off to on.
The operational emission year changed from 2005 to 2008.

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

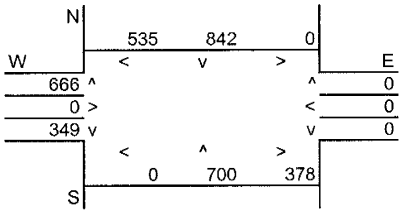
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

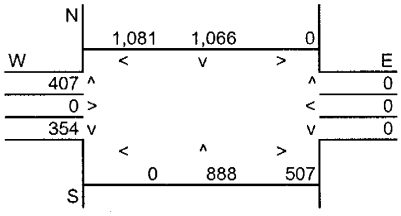
Intersection: Northgat/I-80 EB
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	6	15	15
East-West Roadway:	I-80 EB	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

	A.M.		P.M.
N-S Road:	2,743		3,442
E-W Road:	1,550		1,842

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,743	6.37	1.07	0.86	0.61
East-West Road	2.7	2.2	1.7	1,550	6.37	0.27	0.22	0.17
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,442	6.37	1.34	1.07	0.77
East-West Road	2.7	2.2	1.7	1,842	6.37	0.32	0.26	0.20

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	1.3	1.7	4.7
50 Feet from Roadway Edge	1.1	1.3	4.5
100 Feet from Roadway Edge	0.8	1.0	4.2

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

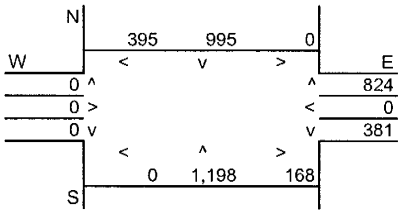
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

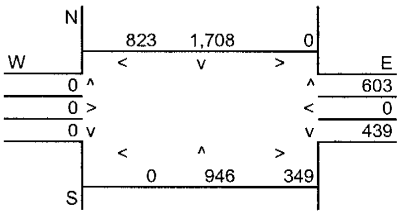
Intersection: Northgate/I-80 WB
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	4	15	15
East-West Roadway:	I-80 WB	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	3,412	N-S Road:	4,080
E-W Road:	1,373	E-W Road:	1,391

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	3,412	6.37	1.52	1.17	0.83
East-West Road	2.7	2.2	1.7	1,373	6.37	0.24	0.19	0.15
P.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	4,080	6.37	1.82	1.40	0.99
East-West Road	2.7	2.2	1.7	1,391	6.37	0.24	0.19	0.15

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	1.8	2.1	5.0
50 Feet from Roadway Edge	1.4	1.6	4.6
100 Feet from Roadway Edge	1.0	1.1	4.3

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

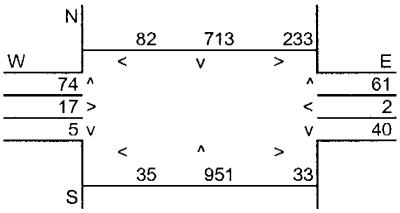
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

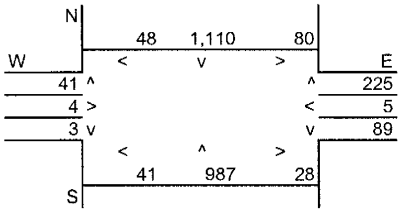
Intersection: Rosin/Northgate
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	6	15	15
East-West Roadway:	Rosin Ct.	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	2,114	N-S Road:	2,491
E-W Road:	386	E-W Road:	431

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,114	6.37	0.82	0.66	0.47
East-West Road	2.7	2.2	1.7	386	6.37	0.07	0.05	0.04
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,491	6.37	0.97	0.78	0.56
East-West Road	2.7	2.2	1.7	431	6.37	0.07	0.06	0.05

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.9	1.0	4.3
50 Feet from Roadway Edge	0.7	0.8	4.1
100 Feet from Roadway Edge	0.5	0.6	4.0

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

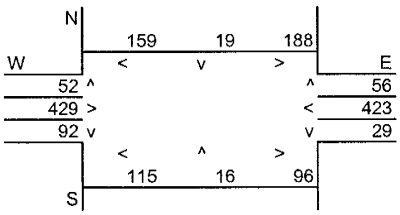
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

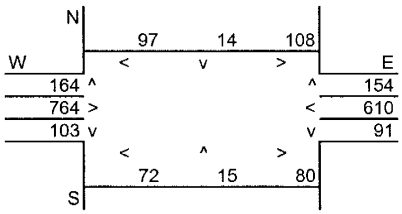
Intersection: San Juan/Bridgeford
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Bridgeford	At Grade	2	15	15
East-West Roadway:	San Juan	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	490	N-S Road:	552
E-W Road:	1,270	E-W Road:	1,810

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	490	6.37	0.08	0.07	0.05
East-West Road	7.6	5.7	4.0	1,270	6.37	0.61	0.46	0.32
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	552	6.37	0.09	0.08	0.06
East-West Road	7.6	5.7	4.0	1,810	6.37	0.88	0.66	0.46

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.7	1.0	4.2
50 Feet from Roadway Edge	0.5	0.7	4.0
100 Feet from Roadway Edge	0.4	0.5	3.9

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

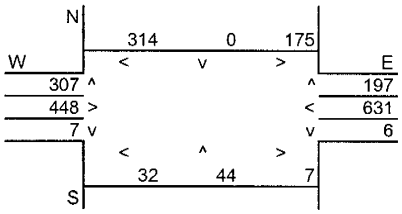
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

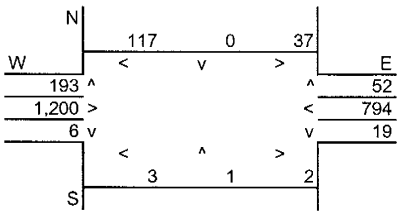
Intersection: San Juan/Fong Ranch
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Fong Ranch	At Grade	2	15	15
East-West Roadway:	San Juan	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	1,037	N-S Road:	400
E-W Road:	1,739	E-W Road:	2,313

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	1,037	6.37	0.18	0.15	0.11
East-West Road	7.6	5.7	4.0	1,739	6.37	0.84	0.63	0.44
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	400	6.37	0.07	0.06	0.04
East-West Road	7.6	5.7	4.0	2,313	6.37	1.12	0.84	0.59

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	1.0	1.2	4.4
50 Feet from Roadway Edge	0.8	0.9	4.2
100 Feet from Roadway Edge	0.6	0.6	4.0

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

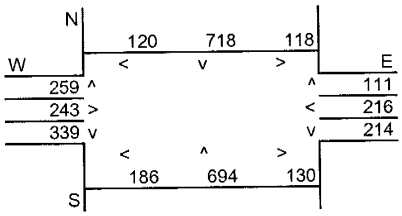
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

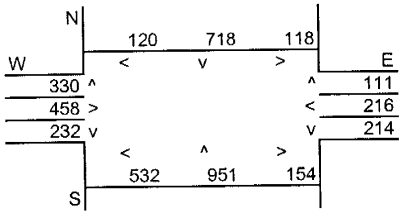
Intersection: San Juan/Northgate
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	6	15	15
East-West Roadway:	San Juan	At Grade	6	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

	A.M.	P.M.
N-S Road:	2,281	2,801
E-W Road:	1,363	1,888

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,281	6.37	0.89	0.71	0.51
East-West Road	2.3	2.0	1.7	1,363	6.37	0.20	0.17	0.15
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,801	6.37	1.09	0.87	0.62
East-West Road	2.3	2.0	1.7	1,888	6.37	0.28	0.24	0.20

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	1.1	1.4	4.5
50 Feet from Roadway Edge	0.9	1.1	4.3
100 Feet from Roadway Edge	0.7	0.8	4.1

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

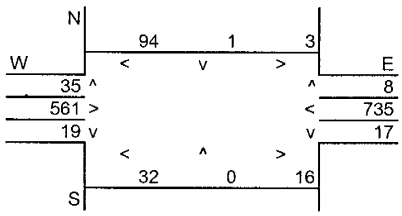
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

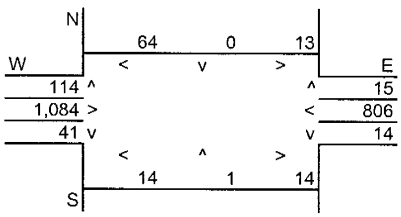
Intersection: San Juan/Pony Express
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Pony Express	At Grade	2	15	15
East-West Roadway:	San Juan	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	141	N-S Road:	207
E-W Road:	1,476	E-W Road:	2,123

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	141	6.37	0.02	0.02	0.02
East-West Road	7.6	5.7	4.0	1,476	6.37	0.71	0.54	0.38
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	207	6.37	0.04	0.03	0.02
East-West Road	7.6	5.7	4.0	2,123	6.37	1.03	0.77	0.54

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.7	1.1	4.3
50 Feet from Roadway Edge	0.6	0.8	4.1
100 Feet from Roadway Edge	0.4	0.6	3.9

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

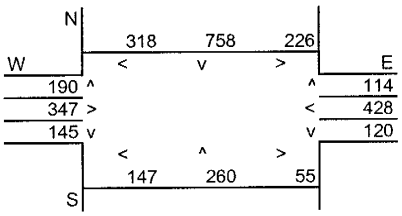
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

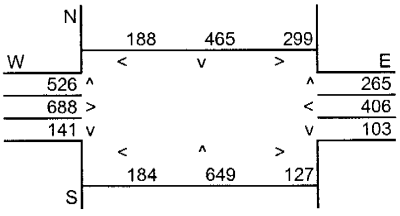
Intersection: Truxel/El Camino
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	El Camino Ave.	At Grade	6	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	1,866	N-S Road:	2,392
E-W Road:	1,575	E-W Road:	2,133

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	1,866	6.37	0.73	0.58	0.42
East-West Road	2.3	2.0	1.7	1,575	6.37	0.23	0.20	0.17
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,392	6.37	0.93	0.75	0.53
East-West Road	2.3	2.0	1.7	2,133	6.37	0.31	0.27	0.23

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	1.0	1.2	4.4
50 Feet from Roadway Edge	0.8	1.0	4.2
100 Feet from Roadway Edge	0.6	0.8	4.1

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

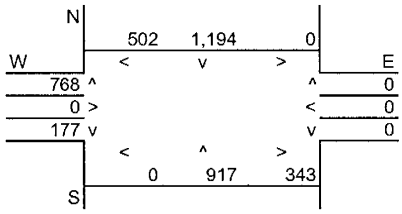
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

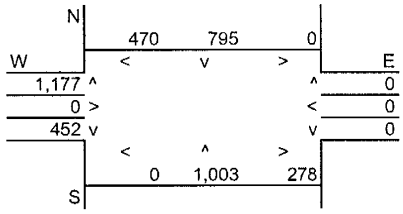
Intersection: Truxel/I-80 EB
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	I-80 EB	At Grade	4	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

	A.M.	P.M.
N-S Road:	3,381	3,445
E-W Road:	1,447	2,099

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,381	6.37	1.31	1.06	0.75
East-West Road	2.6	2.2	1.7	1,447	6.37	0.24	0.20	0.16
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,445	6.37	1.34	1.08	0.77
East-West Road	2.6	2.2	1.7	2,099	6.37	0.35	0.29	0.23

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	1.6	1.7	4.7
50 Feet from Roadway Edge	1.3	1.4	4.5
100 Feet from Roadway Edge	0.9	1.0	4.2

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

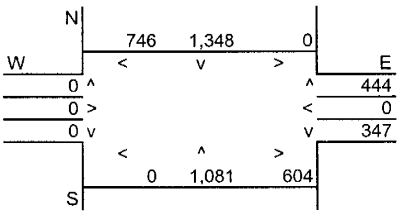
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

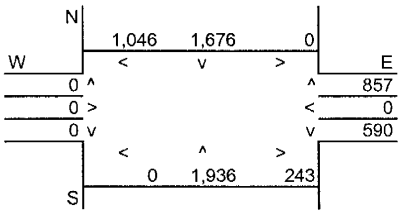
Intersection: Truxel/I-80 WB
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	I-80 WB	At Grade	4	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	3,619	N-S Road:	5,515
E-W Road:	1,395	E-W Road:	1,690

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,619	6.37	1.41	1.13	0.81
East-West Road	2.6	2.2	1.7	1,395	6.37	0.23	0.20	0.15
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	5,515	6.37	2.14	1.72	1.23
East-West Road	2.6	2.2	1.7	1,690	6.37	0.28	0.24	0.18

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	1.6	2.4	5.2
50 Feet from Roadway Edge	1.3	2.0	4.9
100 Feet from Roadway Edge	1.0	1.4	4.5

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

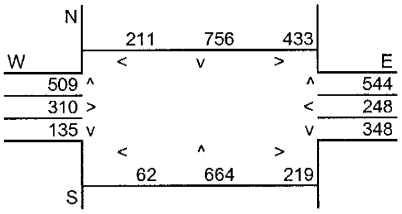
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2008

Roadway Data

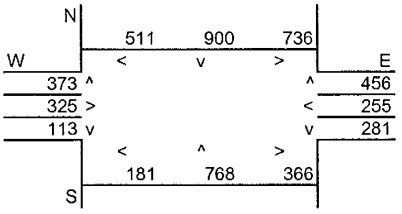
Intersection: Truxel/San Juan
Analysis Condition: Existing Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	San Juan Road	At Grade	6	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	3,117	N-S Road:	3,744
E-W Road:	2,102	E-W Road:	2,419

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,117	6.37	1.21	0.97	0.70
East-West Road	2.3	2.0	1.7	2,102	6.37	0.31	0.27	0.23
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,744	6.37	1.46	1.17	0.83
East-West Road	2.3	2.0	1.7	2,419	6.37	0.35	0.31	0.26

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	1.5	1.8	4.8
50 Feet from Roadway Edge	1.2	1.5	4.6
100 Feet from Roadway Edge	0.9	1.1	4.3

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

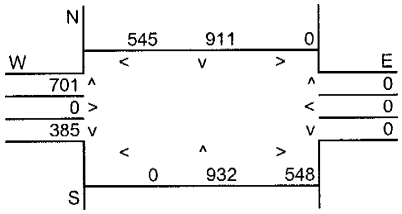
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

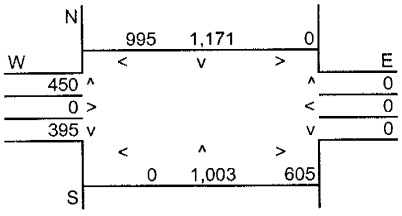
Intersection: Northgat/I-80 EB
Analysis Condition: Future Plus Project w/o Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	6	15	15
East-West Roadway:	I-80 EB	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	3,089	N-S Road:	3,619
E-W Road:	1,631	E-W Road:	1,840

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,089	1.54	0.29	0.23	0.17
East-West Road	2.7	2.2	1.7	1,631	1.54	0.07	0.06	0.04
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,619	1.54	0.34	0.27	0.20
East-West Road	2.7	2.2	1.7	1,840	1.54	0.08	0.06	0.05

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.4	0.4	3.8
50 Feet from Roadway Edge	0.3	0.3	3.8
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

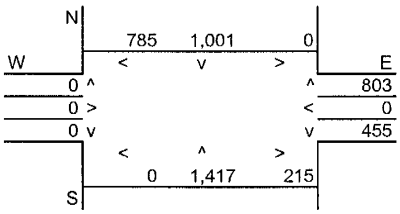
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

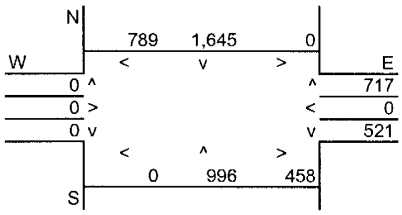
Intersection: Northgate/I-80 WB
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	4	15	15
East-West Roadway:	I-80 WB	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	4,006	N-S Road:	4,147
E-W Road:	1,473	E-W Road:	1,696

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	4,006	1.54	0.43	0.33	0.23
East-West Road	2.7	2.2	1.7	1,473	1.54	0.06	0.05	0.04
P.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	4,147	1.54	0.45	0.35	0.24
East-West Road	2.7	2.2	1.7	1,696	1.54	0.07	0.06	0.04

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.5	0.5	3.9
50 Feet from Roadway Edge	0.4	0.4	3.8
100 Feet from Roadway Edge	0.3	0.3	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

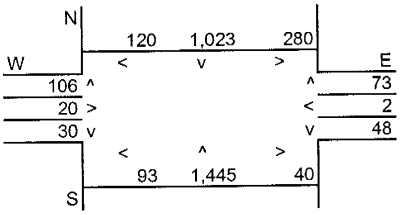
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

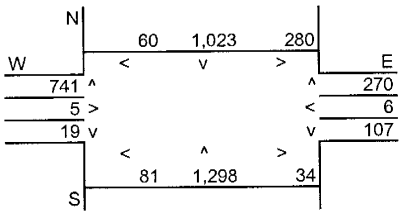
Intersection: Rosin/Northgate
Analysis Condition: Future Plus Project w/o Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	6	15	15
East-West Roadway:	Rosin Ct.	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	3,047	N-S Road:	3,672
E-W Road:	463	E-W Road:	912

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,047	1.54	0.29	0.23	0.16
East-West Road	2.7	2.2	1.7	463	1.54	0.02	0.02	0.01
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,672	1.54	0.35	0.28	0.20
East-West Road	2.7	2.2	1.7	912	1.54	0.04	0.03	0.02

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.4	3.8
50 Feet from Roadway Edge	0.2	0.3	3.7
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

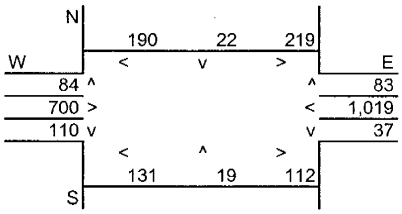
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

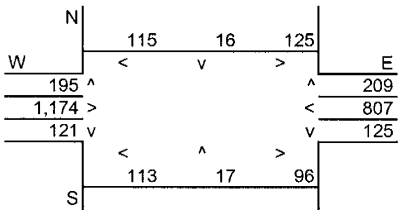
Intersection: San Juan/Bridgeford
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Bridgeford	At Grade	2	15	15
East-West Roadway:	San Juan	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	617	N-S Road:	677
E-W Road:	2,234	E-W Road:	2,536

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	617	1.54	0.03	0.02	0.02
East-West Road	7.6	5.7	4.0	2,234	1.54	0.26	0.20	0.14
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	677	1.54	0.03	0.02	0.02
East-West Road	7.6	5.7	4.0	2,536	1.54	0.30	0.22	0.16

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.3	3.8
50 Feet from Roadway Edge	0.2	0.2	3.7
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

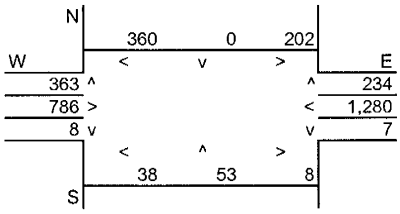
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

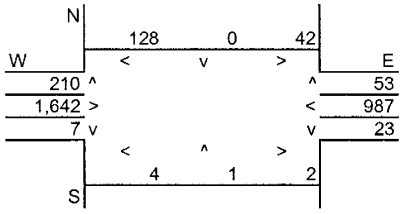
Intersection: San Juan/Fong Ranch
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Fong Ranch	At Grade	2	15	15
East-West Roadway:	San Juan	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	1,212	N-S Road:	434
E-W Road:	2,835	E-W Road:	2,978

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	1,212	1.54	0.05	0.04	0.03
East-West Road	7.6	5.7	4.0	2,835	1.54	0.33	0.25	0.17
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	434	1.54	0.02	0.01	0.01
East-West Road	7.6	5.7	4.0	2,978	1.54	0.35	0.26	0.18

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.4	0.4	3.8
50 Feet from Roadway Edge	0.3	0.3	3.7
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

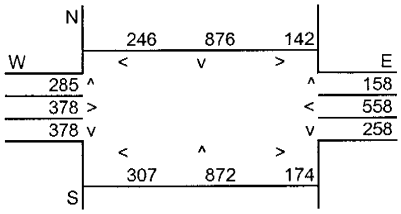
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

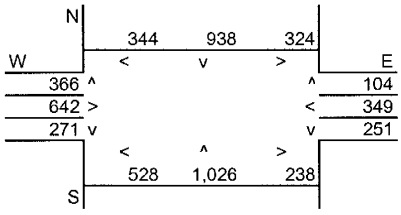
Intersection: San Juan/Northgate
Analysis Condition: Future Plus Project w/o Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	6	15	15
East-West Roadway:	San Juan	At Grade	6	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	2,865	N-S Road:	3,252
E-W Road:	2,152	E-W Road:	2,500

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,865	1.54	0.27	0.22	0.15
East-West Road	2.3	2.0	1.7	2,152	1.54	0.08	0.07	0.06
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,252	1.54	0.31	0.25	0.18
East-West Road	2.3	2.0	1.7	2,500	1.54	0.09	0.08	0.07

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.4	3.8
50 Feet from Roadway Edge	0.3	0.3	3.8
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

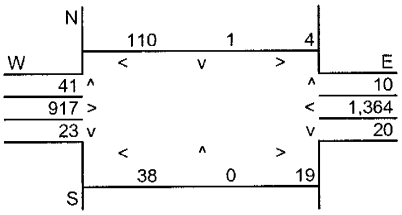
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

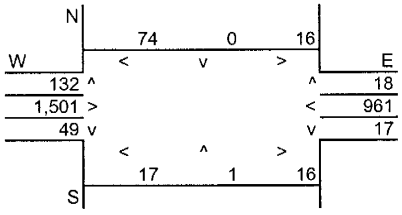
Intersection: San Juan/Pony Express
Analysis Condition: Future Plus Project w/o Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Pony Express	At Grade	2	15	15
East-West Roadway:	San Juan	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	166	N-S Road:	241
E-W Road:	2,493	E-W Road:	2,734

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	166	1.54	0.01	0.01	0.00
East-West Road	7.6	5.7	4.0	2,493	1.54	0.29	0.22	0.15
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	241	1.54	0.01	0.01	0.01
East-West Road	7.6	5.7	4.0	2,734	1.54	0.32	0.24	0.17

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.3	3.8
50 Feet from Roadway Edge	0.2	0.2	3.7
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

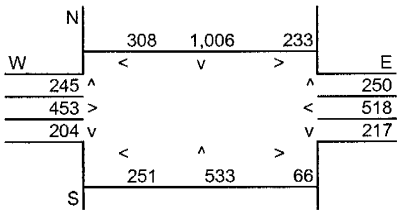
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

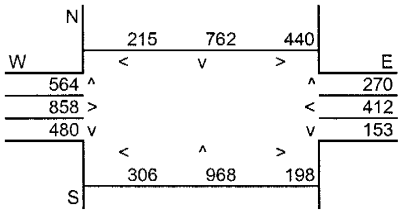
Intersection: Truxel/El Camino
Analysis Condition: Future Plus Project w/o Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	El Camino Ave.	At Grade	6	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	2,575	N-S Road:	3,219
E-W Road:	1,979	E-W Road:	2,835

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,575	1.54	0.24	0.19	0.14
East-West Road	2.3	2.0	1.7	1,979	1.54	0.07	0.06	0.05
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,219	1.54	0.30	0.24	0.17
East-West Road	2.3	2.0	1.7	2,835	1.54	0.10	0.09	0.07

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.4	3.8
50 Feet from Roadway Edge	0.3	0.3	3.8
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

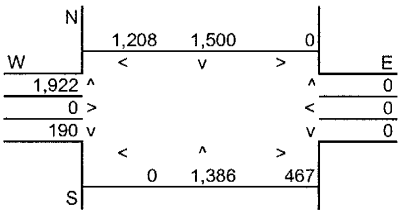
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

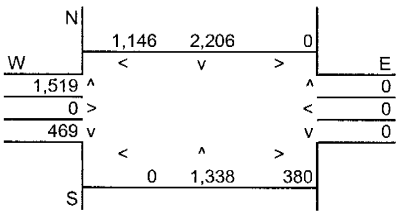
Intersection: Truxel/I-80 EB
Analysis Condition: Future Plus Project w/o Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	I-80 EB	At Grade	4	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	6,016	N-S Road:	6,209
E-W Road:	3,320	E-W Road:	3,134

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	6,016	1.54	0.57	0.45	0.32
East-West Road	2.6	2.2	1.7	3,320	1.54	0.13	0.11	0.09
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	6,209	1.54	0.58	0.47	0.34
East-West Road	2.6	2.2	1.7	3,134	1.54	0.13	0.11	0.08

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.7	0.7	4.0
50 Feet from Roadway Edge	0.6	0.6	3.9
100 Feet from Roadway Edge	0.4	0.4	3.8

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

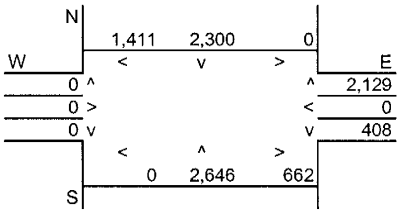
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

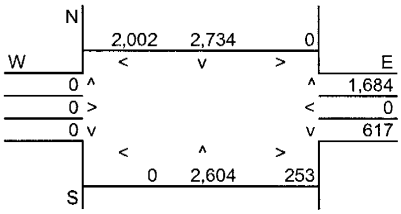
Intersection: Truxel/I-80 WB
Analysis Condition: Future Plus Project w/o Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	I-80 WB	At Grade	4	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

	A.M.	P.M.
N-S Road:	8,486	9,024
E-W Road:	3,199	2,554

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	8,486	1.54	0.80	0.64	0.46
East-West Road	2.6	2.2	1.7	3,199	1.54	0.13	0.11	0.08
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	9,024	1.54	0.85	0.68	0.49
East-West Road	2.6	2.2	1.7	2,554	1.54	0.10	0.09	0.07

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.9	1.0	4.2
50 Feet from Roadway Edge	0.7	0.8	4.1
100 Feet from Roadway Edge	0.5	0.6	3.9

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

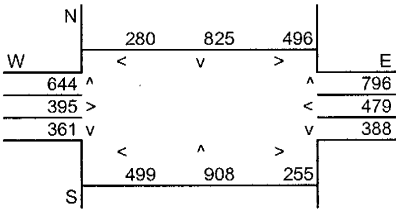
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

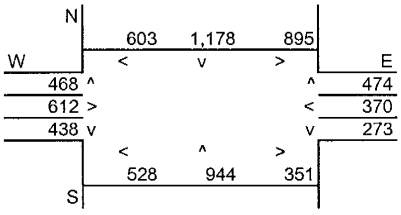
Intersection: Truxel/San Juan
Analysis Condition: Future Plus Project w/o Project

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	San Juan Road	At Grade	6	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	3,949	N-S Road:	4,562
E-W Road:	2,809	E-W Road:	3,019

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,949	1.54	0.37	0.30	0.21
East-West Road	2.3	2.0	1.7	2,809	1.54	0.10	0.09	0.07
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	4,562	1.54	0.43	0.34	0.25
East-West Road	2.3	2.0	1.7	3,019	1.54	0.11	0.09	0.08

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.5	0.5	3.9
50 Feet from Roadway Edge	0.4	0.4	3.8
100 Feet from Roadway Edge	0.3	0.3	3.8

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

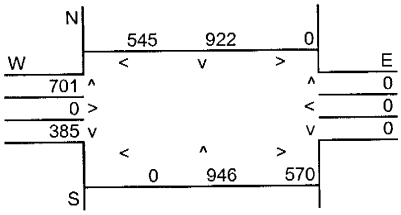
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

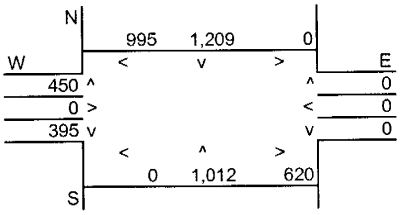
Intersection: Northgat/I-80 EB
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	6	15	15
East-West Roadway:	I-80 EB	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	3,114	N-S Road:	3,666
E-W Road:	1,631	E-W Road:	1,840

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,114	1.54	0.29	0.24	0.17
East-West Road	2.7	2.2	1.7	1,631	1.54	0.07	0.06	0.04
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,666	1.54	0.34	0.28	0.20
East-West Road	2.7	2.2	1.7	1,840	1.54	0.08	0.06	0.05

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.4	0.4	3.8
50 Feet from Roadway Edge	0.3	0.3	3.8
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

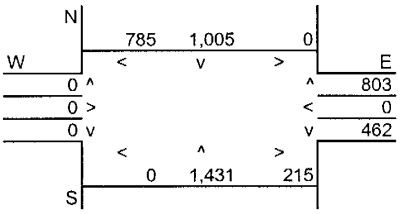
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

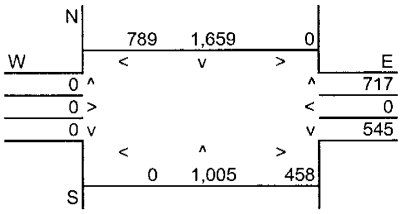
Intersection: Northgate/I-80 WB
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	4	15	15
East-West Roadway:	I-80 WB	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	4,024	N-S Road:	4,170
E-W Road:	1,480	E-W Road:	1,720

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	4,024	1.54	0.43	0.34	0.24
East-West Road	2.7	2.2	1.7	1,480	1.54	0.06	0.05	0.04
P.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	4,170	1.54	0.45	0.35	0.24
East-West Road	2.7	2.2	1.7	1,720	1.54	0.07	0.06	0.05

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.5	0.5	3.9
50 Feet from Roadway Edge	0.4	0.4	3.8
100 Feet from Roadway Edge	0.3	0.3	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

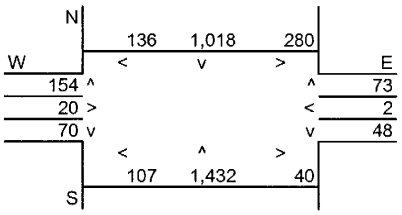
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

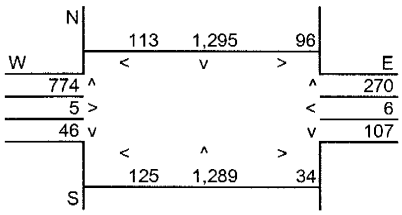
Intersection: Rosin/Northgate
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	6	15	15
East-West Roadway:	Rosin Ct.	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	3,093	N-S Road:	3,837
E-W Road:	489	E-W Road:	1,069

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,093	1.54	0.29	0.23	0.17
East-West Road	2.7	2.2	1.7	489	1.54	0.02	0.02	0.01
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,837	1.54	0.36	0.29	0.21
East-West Road	2.7	2.2	1.7	1,069	1.54	0.04	0.04	0.03

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.4	3.8
50 Feet from Roadway Edge	0.3	0.3	3.8
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

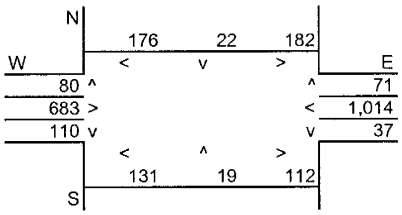
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

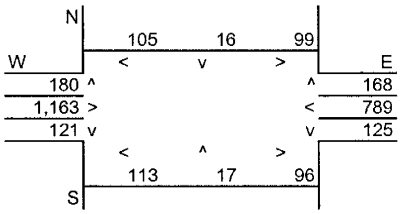
Intersection: San Juan/Bridgeford
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Bridgeford	At Grade	2	15	15
East-West Roadway:	San Juan	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	550	N-S Road:	585
E-W Road:	2,194	E-W Road:	2,471

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	550	1.54	0.02	0.02	0.01
East-West Road	7.6	5.7	4.0	2,194	1.54	0.26	0.19	0.14
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	585	1.54	0.02	0.02	0.02
East-West Road	7.6	5.7	4.0	2,471	1.54	0.29	0.22	0.15

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.3	3.7
50 Feet from Roadway Edge	0.2	0.2	3.7
100 Feet from Roadway Edge	0.1	0.2	3.6

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

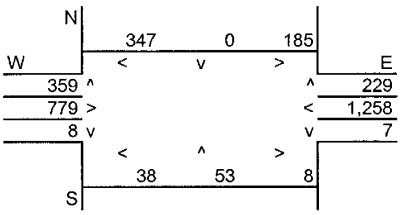
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

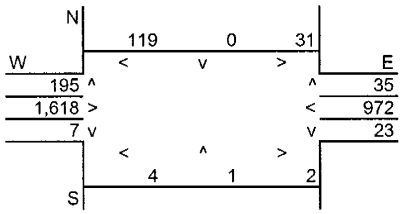
Intersection: San Juan/Fong Ranch
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Fong Ranch	At Grade	2	15	15
East-West Roadway:	San Juan	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	1,173	N-S Road:	381
E-W Road:	2,789	E-W Road:	2,915

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	1,173	1.54	0.05	0.04	0.03
East-West Road	7.6	5.7	4.0	2,789	1.54	0.33	0.25	0.17
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	381	1.54	0.02	0.01	0.01
East-West Road	7.6	5.7	4.0	2,915	1.54	0.34	0.26	0.18

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.4	0.4	3.8
50 Feet from Roadway Edge	0.3	0.3	3.7
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

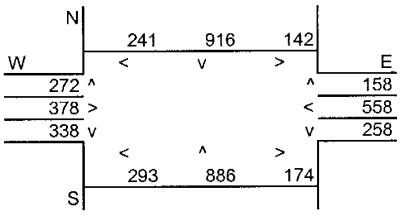
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

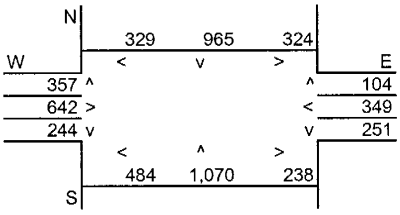
Intersection: San Juan/Northgate
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Northgate Blvd.	At Grade	6	15	15
East-West Roadway:	San Juan	At Grade	6	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	2,865	N-S Road:	3,252
E-W Road:	2,080	E-W Road:	2,405

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,865	1.54	0.27	0.22	0.15
East-West Road	2.3	2.0	1.7	2,080	1.54	0.07	0.06	0.05
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,252	1.54	0.31	0.25	0.18
East-West Road	2.3	2.0	1.7	2,405	1.54	0.09	0.07	0.06

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.4	3.8
50 Feet from Roadway Edge	0.3	0.3	3.8
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

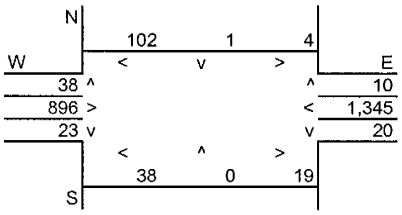
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

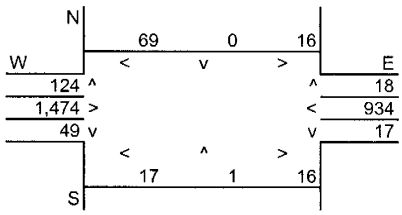
Intersection: San Juan/Pony Express
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Pony Express	At Grade	2	15	15
East-West Roadway:	San Juan	At Grade	2	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	155	N-S Road:	228
E-W Road:	2,442	E-W Road:	2,667

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	155	1.54	0.01	0.01	0.00
East-West Road	7.6	5.7	4.0	2,442	1.54	0.29	0.21	0.15
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	228	1.54	0.01	0.01	0.01
East-West Road	7.6	5.7	4.0	2,667	1.54	0.31	0.23	0.16

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.3	3.8
50 Feet from Roadway Edge	0.2	0.2	3.7
100 Feet from Roadway Edge	0.2	0.2	3.6

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

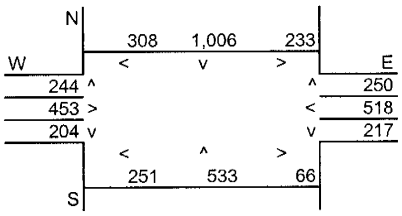
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

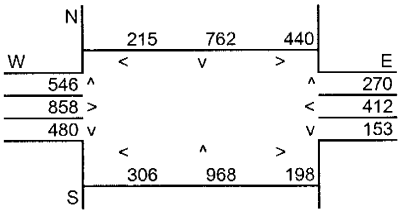
Intersection: Truxel/El Camino
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	El Camino Ave.	At Grade	6	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	2,574	N-S Road:	3,201
E-W Road:	1,978	E-W Road:	2,817

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	2,574	1.54	0.24	0.19	0.14
East-West Road	2.3	2.0	1.7	1,978	1.54	0.07	0.06	0.05
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,201	1.54	0.30	0.24	0.17
East-West Road	2.3	2.0	1.7	2,817	1.54	0.10	0.09	0.07

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.3	0.4	3.8
50 Feet from Roadway Edge	0.3	0.3	3.8
100 Feet from Roadway Edge	0.2	0.2	3.7

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

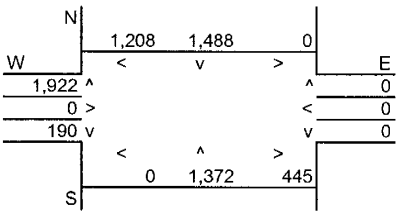
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

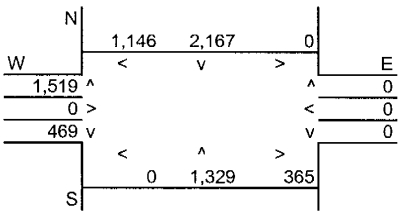
Intersection: Truxel/I-80 EB
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	I-80 EB	At Grade	4	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	5,990	N-S Road:	6,161
E-W Road:	3,320	E-W Road:	3,134

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	5,990	1.54	0.56	0.45	0.32
East-West Road	2.6	2.2	1.7	3,320	1.54	0.13	0.11	0.09
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	6,161	1.54	0.58	0.47	0.33
East-West Road	2.6	2.2	1.7	3,134	1.54	0.13	0.11	0.08

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.7	0.7	4.0
50 Feet from Roadway Edge	0.6	0.6	3.9
100 Feet from Roadway Edge	0.4	0.4	3.8

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

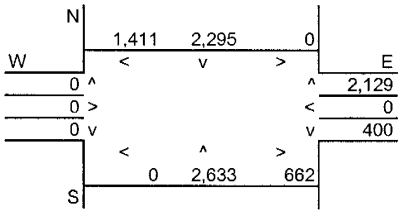
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

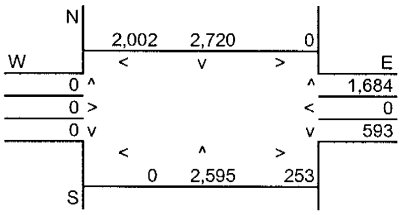
Intersection: Truxel/I-80 WB
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	I-80 WB	At Grade	4	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	8,468	N-S Road:	9,001
E-W Road:	3,191	E-W Road:	2,530

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	8,468	1.54	0.80	0.64	0.46
East-West Road	2.6	2.2	1.7	3,191	1.54	0.13	0.11	0.08
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	9,001	1.54	0.85	0.68	0.49
East-West Road	2.6	2.2	1.7	2,530	1.54	0.10	0.09	0.07

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.9	0.9	4.2
50 Feet from Roadway Edge	0.7	0.8	4.1
100 Feet from Roadway Edge	0.5	0.6	3.9

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10916-01
Project Title: Parkebridge

Background Information

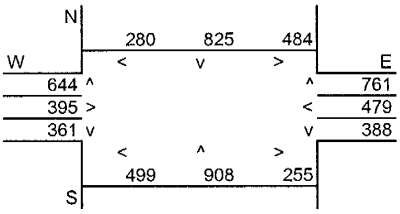
Nearest Air Monitoring Station measuring CO:	Airport Road Monitoring Station
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	3.5
Persistence Factor:	0.7
Analysis Year:	2025

Roadway Data

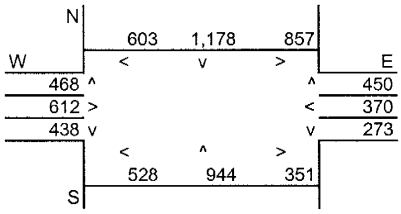
Intersection: Truxel/San Juan
Analysis Condition: Future Plus Project w/ Ext.

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Truxel	At Grade	6	15	15
East-West Roadway:	San Juan Road	At Grade	6	15	15

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	3,902	N-S Road:	4,500
E-W Road:	2,762	E-W Road:	3,019

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	3,902	1.54	0.37	0.29	0.21
East-West Road	2.3	2.0	1.7	2,762	1.54	0.10	0.09	0.07
P.M. Peak Traffic Hour								
North-South Road	6.1	4.9	3.5	4,500	1.54	0.42	0.34	0.24
East-West Road	2.3	2.0	1.7	3,019	1.54	0.11	0.09	0.08

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.5	0.5	3.9
50 Feet from Roadway Edge	0.4	0.4	3.8
100 Feet from Roadway Edge	0.3	0.3	3.8

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

Appendix D

CNDDB AND USFWS QUERY RESULTS

California Department of Fish and Game
Natural Diversity Database
ParkeBridge EIR
CNDDB query for the Rio Linda, Taylor Monument, Citrus Heights, Sacramento West, Sacramento East, Carmichael, Verona, Pleasant Grove and Roseville USGS 7.5 minute quadrangles

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS/R-E-D
1	***Accipiter cooperii*** Cooper's hawk	ABNKC12040			G5	S3	SC
2	***Agelaius tricolor*** tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3	***Alkali Meadow***	CTT45310CA			G3	S2.1	
4	***Alkali Seep***	CTT45320CA			G3	S2.1	
5	***Andrena subapasta***	IIHYM35050			G1G3	S1S3	
6	***Archoplites interruptus*** Sacramento perch	AFCQB07010			G3	S1	SC
7	***Ardea alba*** great egret	ABNGA05010			G5	S4	
8	***Ardea herodias*** great blue heron	ABNGA04010			G5	S4	
9	***Athene cunicularia*** burrowing owl	ABNSB10010			G4	S2	SC
10	***Balsamorhiza macrolepis var. macrolepis*** big-scale balsamroot	PDAST11061			G3G4T2	S2.2	1B/2-2-3
11	***Branchinecta lynchi*** vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
12	***Branchinecta mesovallensis*** midvalley fairy shrimp	ICBRA03150			G2	S2	
13	***Buteo swainsoni*** Swainson's hawk	ABNKC19070		Threatened	G5	S2	
14	***Cordylanthus mollis ssp. hispidus*** hispid bird's-beak	PDSCR0J0D1			G2T2	S2.1	1B/2-3-3
15	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
16	***Downingia pusilla*** dwarf downingia	PDCAM060C0			G3	S3.1	2/1-2-1
17	***Dumontia oregonensis***	ICBRA23010			G1G3	S1	
18	***Egretta thula*** snowy egret	ABNGA06030			G5	S4	
19	***Elanus leucurus*** white-tailed kite	ABNKC06010			G5	S3	
20	***Elderberry Savanna***	CTT63440CA			G2	S2.1	
21	***Emys (=Clemmys) marmorata*** western pond turtle	ARAAD02030			G3G4	S3	SC
22	***Emys (=Clemmys) marmorata marmorata*** northwestern pond turtle	ARAAD02031			G3G4T3	S3	SC
23	***Gratiola heterosepala*** Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G3	S3.1	1B/1-2-2
24	***Great Valley Cottonwood Riparian Forest***	CTT61410CA			G2	S2.1	
25	***Hibiscus lasiocarpus*** rose-mallow	PDMAL0H0Q0			G4	S2.2	2/2-2-1

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS/R-E-D
26	***Hydrochara rickseckeri*** Ricksecker's water scavenger beetle	IICOL5V010			G1G2	S1S2	
27	***Juncus leiospermus var. ahartii*** Ahart's dwarf rush	PMJUN011L1			G2T1	S1.2	1B/3-2-3
28	***Juncus leiospermus var. leiospermus*** Red Bluff dwarf rush	PMJUN011L2			G2T2	S2.2	1B/2-3-3
29	***Legenere limosa*** legenere	PDCAM0C010			G2	S2.2	1B/2-3-3
30	***Lepidurus packardi*** vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3	
31	***Linderiella occidentalis*** California linderiella	ICBRA06010			G3	S2S3	
32	***Northern Claypan Vernal Pool***	CTT44120CA			G1	S1.1	
33	***Northern Hardpan Vernal Pool***	CTT44110CA			G3	S3.1	
34	***Northern Volcanic Mud Flow Vernal Pool***	CTT44132CA			G1	S1.1	
35	***Nycticorax nycticorax*** black-crowned night heron	ABNGA11010			G5	S3	
36	***Pogonichthys macrolepidotus*** Sacramento splittail	AFCJB34020			G2	S2	SC
37	***Progne subis*** purple martin	ABPAU01010			G5	S3	SC
38	***Riparia riparia*** bank swallow	ABPAU08010		Threatened	G5	S2S3	
39	***Sagittaria sanfordii*** Sanford's arrowhead	PMALI040Q0			G3	S3.2	1B/2-2-3
40	***Spea (=Scaphiopus) hammondii*** western spadefoot	AAABF01030			G3	S3	SC
41	***Taxidea taxus*** American badger	AMAJF04010			G5	S4	SC
42	***Thamnophis gigas*** giant garter snake	ARADB36150	Threatened	Threatened	G2G3	S2S3	

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 050801045612

Database Last Updated: June 20, 2005

Quad Lists

RIO LINDA (512B)

Listed Species

Invertebrates

Branchinecta lynchi - Critical habitat, vernal pool fairy shrimp (X)
Branchinecta lynchi - vernal pool fairy shrimp (T)
Desmocerus californicus dimorphus - valley elderberry longhorn beetle (T)
Lepidurus packardi - vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus - delta smelt (T)
Oncorhynchus mykiss - Central Valley steelhead (T)
Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)
Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Ambystoma californiense - California tiger salamander (T)
Rana aurora draytonii - California red-legged frog (T)

Reptiles

Thamnophis gigas - giant garter snake (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Proposed Species

Fish

Acipenser medirostris - green sturgeon (P)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)

Species of Concern

Invertebrates

Branchinecta mesovallensis - Midvalley fairy shrimp (SC)
Linderiella occidentalis - California linderiella fairy shrimp (SC)

Fish

Lampetra ayresi - river lamprey (SC)
Lampetra tridentata - Pacific lamprey (SC)
Pogonichthys macrolepidotus - Sacramento splittail (SC)
Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Spea hammondii (was Scaphiopus h.) - western spadefoot toad (SC)

Reptiles

Clemmys marmorata marmorata - northwestern pond turtle (SC)
Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)
Athene cunicularia hypugaea - western burrowing owl (SC)
Baeolophus inornatus - oak titmouse (SLC)
Branta canadensis leucopareia - Aleutian Canada goose (D)
Buteo regalis - ferruginous hawk (SC)
Buteo Swainsoni - Swainson's hawk (CA)
Carduelis lawrencei - Lawrence's goldfinch (SC)
Chaetura vauxi - Vaux's swift (SC)
Charadrius montanus - mountain plover (SC)
Elanus leucurus - white-tailed (=black shouldered) kite (SC)
Empidonax traillii brewsteri - little willow flycatcher (CA)
Falco peregrinus anatum - American peregrine falcon (D)
Grus canadensis tabida - greater sandhill crane (CA)
Lanius ludovicianus - loggerhead shrike (SC)
Melanerpes lewis - Lewis' woodpecker (SC)
Numenius americanus - long-billed curlew (SC)
Picoides nuttallii - Nuttall's woodpecker (SLC)
Plegadis chihi - white-faced ibis (SC)
Riparia riparia - bank swallow (CA)
Selasphorus rufus - rufous hummingbird (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)
Myotis ciliolabrum - small-footed myotis bat (SC)
Myotis volans - long-legged myotis bat (SC)
Myotis yumanensis - Yuma myotis bat (SC)
Perognathus inornatus - San Joaquin pocket mouse (SC)

Plants

Legenere limosa - legenere (SC)

County Lists

Sacramento County

Listed Species

Invertebrates

Branchinecta conservatio - Conservancy fairy shrimp (E)
Branchinecta lynchi - vernal pool fairy shrimp (T)
Desmocerus californicus dimorphus - Critical habitat, valley elderberry longhorn beetle (X)
Desmocerus californicus dimorphus - valley elderberry longhorn beetle (T)
Elaphrus viridis - delta green ground beetle (T)
Lepidurus packardi - vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus - Critical habitat, delta smelt (X)
Hypomesus transpacificus - delta smelt (T)
Oncorhynchus mykiss - Central Valley steelhead (T)
Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)
Oncorhynchus tshawytscha - Critical habitat, winter-run chinook salmon (X)
Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Ambystoma californiense - California tiger salamander (T)
Rana aurora draytonii - California red-legged frog (T)

Reptiles

Thamnophis gigas - giant garter snake (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Plants

Oenothera deltoides ssp. howellii - Antioch Dunes evening-primrose (E)
Orcuttia tenuis - slender Orcutt grass (T)
Orcuttia viscida - Sacramento Orcutt grass (E)

Proposed Species

Fish

Acipenser medirostris - green sturgeon (P)
Oncorhynchus mykiss - Critical habitat, Central Valley steelhead (Proposed) (PX)
Oncorhynchus tshawytscha - Critical Habitat, Central Valley spring-run chinook (Proposed) (PX)

Amphibians

Ambystoma californiense - Critical habitat, CA tiger salamander (Proposed) (PX)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)
Oncorhynchus tshawytscha - Critical habitat, Central Valley fall/late fall-run chinook (C)

Birds

Coccyzus americanus occidentalis - Western yellow-billed cuckoo (C)

Species of Concern

Invertebrates

Anthicus antiochensis - Antioch Dunes anthicid beetle (SC)
Anthicus sacramento - Sacramento anthicid beetle (SC)
Branchinecta mesovallensis - Midvalley fairy shrimp (SC)
Coelus gracilis - San Joaquin dune beetle (SC)
Hygrotus curvipes - curved-foot hygrotus diving beetle (SC)
Linderiella occidentalis - California linderiella fairy shrimp (SC)

Fish

Lampetra ayresi - river lamprey (SC)
Lampetra hubbsi - Kern brook lamprey (SC)
Lampetra tridentata - Pacific lamprey (SC)
Pogonichthys macrolepidotus - Sacramento splittail (SC)
Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Rana boylii - foothill yellow-legged frog (SC)
Spea hammondii (was Scaphiopus h.) - western spadefoot toad (SC)

Reptiles

Anniella pulchra pulchra - silvery legless lizard (SC)
Clemmys marmorata marmorata - northwestern pond turtle (SC)
Clemmys marmorata pallida - southwestern pond turtle (SC)
Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)
Athene cunicularia hypugaea - western burrowing owl (SC)
Baeolophus inornatus - oak titmouse (SLC)
Botaurus lentiginosus - American bittern (SC)
Branta canadensis leucopareia - Aleutian Canada goose (D)
Buteo regalis - ferruginous hawk (SC)
Buteo Swainsoni - Swainson's hawk (CA)
Carduelis lawrencei - Lawrence's goldfinch (SC)
Charadrius montanus - mountain plover (SC)
Elanus leucurus - white-tailed (=black shouldered) kite (SC)
Empidonax traillii brewsteri - little willow flycatcher (CA)
Falco peregrinus anatum - American peregrine falcon (D)
Grus canadensis tabida - greater sandhill crane (CA)
Lanius ludovicianus - loggerhead shrike (SC)
Laterallus jamaicensis coturniculus - black rail (CA)
Limosa fedoa - marbled godwit (SC)
Melanerpes lewis - Lewis' woodpecker (SC)
Numenius americanus - long-billed curlew (SC)
Picoides nuttallii - Nuttall's woodpecker (SLC)
Plegadis chihi - white-faced ibis (SC)
Riparia riparia - bank swallow (CA)
Selasphorus rufus - rufous hummingbird (SC)
Sphyrapicus ruber - red-breasted sapsucker (SC)
Toxostoma redivivum - California thrasher (SC)

Mammals

Corynorhinus (=Plecotus) townsendii pallescens - pale Townsend's big-eared bat (SC)
Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)
Eumops perotis californicus - greater western mastiff-bat (SC)
Myotis ciliolabrum - small-footed myotis bat (SC)
Myotis evotis - long-eared myotis bat (SC)
Myotis thysanodes - fringed myotis bat (SC)
Myotis volans - long-legged myotis bat (SC)
Myotis yumanensis - Yuma myotis bat (SC)
Neotoma fuscipes annectens - San Francisco dusky-footed woodrat (SC)
Perognathus inornatus - San Joaquin pocket mouse (SC)

Plants

Aster lentus - Suisun Marsh aster (SC)
Atriplex joaquiniana - San Joaquin spearscale (=saltbush) (SC)
Eryngium pinnatisectum - Tuolumne coyote-thistle (=button-celery) (SC)
Fritillaria agrestis - stinkbells (SLC)
Gratiola heterosepala - Boggs Lake hedge-hyssop (CA)
Helianthemum suffrutescens - Amador (Bisbee Peak) rush-rose (SLC)
Juncus leiospermus var. ahartii - Ahart's (dwarf) rush (SC)
Juncus leiospermus var. leiospermus - Red Bluff (dwarf) rush (SC)
Lathyrus jepsonii var. jepsonii - delta tule-pea (SC)
Legenere limosa - legenere (SC)
Lilaeopsis masonii - Mason's lilaeopsis (SC)
Naverretia myersii spp. myersii - pincushion navarretia (SC)
Sagittaria sanfordii - valley sagittaria (=Sanford's arrowhead) (SC)

Key:

(E) *Endangered* - Listed (in the Federal Register) as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed (in the Federal Register) for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Marine Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(CA) Listed by the State of California but not by the Fish & Wildlife Service.
(D) *Delisted* - Species will be monitored for 5 years.
(SC) *Species of Concern*/(SLC) Species of Local Concern - Other species of concern to the Sacramento Fish & Wildlife Office.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regard-less of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the quad or quads covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the nine surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

State-Listed Species

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. However you should contact the California Department of Fish and Game Wildlife and Habitat Data Analysis Branch for official information about these species.

Your Responsibilities Under the Endangered Species Act

All plants and animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compen-sates for project-

related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our critical habitat page for maps.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

Your list may contain a section called Species of Concern. This is an informal term that refers to those species that the Sacramento Fish and Wildlife Office believes might be in need of concentrated conservation actions. Such conservation actions vary depending on the health of the populations and degree and types of threats. At one extreme, there may only need to be periodic monitoring of populations and threats to the species and its habitat. At the other extreme, a species may need to be listed as a Federal threatened or endangered species. Species of concern receive no legal protection and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be October 30, 2005.

Appendix E

TRANSPORTATION APPENDIX

APPENDIX E1
INTERSECTION OPERATIONS CALCULATIONS
EXISTING CONDITIONS

ParkeBridge
Existing Conditions
AM Peak Hour

Scenario Report

Scenario:	Existing AM
Command:	Existing AM
Volume:	Existing AM
Geometry:	Existing AM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing AM
Trip Distribution:	Baseline
Paths:	Cumulative Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

ParkeBridge
Existing Conditions
PM Peak

Scenario Report

Scenario:	Existing PM
Command:	Existing PM
Volume:	Existing PM
Geometry:	Existing PM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing PM
Trip Distribution:	Baseline
Paths:	Cumulative Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

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ParkeBridge
Existing Conditions
AM Peak Hour

Turning Movement Report
Existing AM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	890	528	0	1275	682	0	0	0	330	0	405	4110
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	890	528	0	1275	682	0	0	0	330	0	405	4110
#2 Truxel Rd / I-80 East Ramps													
Base	0	750	291	0	1128	477	668	0	151	0	0	0	3465
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	750	291	0	1128	477	668	0	151	0	0	0	3465
#3 Truxel Rd / San Juan Rd													
Base	55	645	194	334	727	204	467	301	130	270	229	424	3980
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	55	645	194	334	727	204	467	301	130	270	229	424	3980
#4 Truxel Rd / El Camino Avenue													
Base	147	225	55	213	696	281	178	347	145	120	428	110	2945
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	147	225	55	213	696	281	178	347	145	120	428	110	2945
#5 Fong Ranch Rd / San Juan Rd													
Base	32	44	7	150	0	200	269	389	7	6	530	189	1823
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	32	44	7	150	0	200	269	389	7	6	530	189	1823
#6 Pony Express Dr / San Juan Road													
Base	32	0	16	3	1	69	27	486	19	17	651	8	1329
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	32	0	16	3	1	69	27	486	19	17	651	8	1329
#7 Bridgeford Drive \ San Juan Road													
Base	115	15	96	145	16	116	38	381	92	29	401	42	1486
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	115	15	96	145	16	116	38	381	92	29	401	42	1486
#8 Northgate Bl / San Juan Rd													
Base	163	694	130	118	718	113	240	233	277	214	209	111	3220
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	163	694	130	118	718	113	240	233	277	214	209	111	3220
#9 Northgate / Rosin													
Base	35	934	33	233	707	82	74	17	5	40	2	61	2223
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	35	934	33	233	707	82	74	17	5	40	2	61	2223

ParkeBridge
Existing Conditions
PM Peak

Turning Movement Report
Existing PM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	1379	192	0	1285	679	0	0	0	531	0	727	4793
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1379	192	0	1285	679	0	0	0	531	0	727	4793
#2 Truxel Rd / I-80 East Ramps													
Base	0	733	242	0	1487	329	838	0	367	0	0	0	3996
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	733	242	0	1487	329	838	0	367	0	0	0	3996
#3 Truxel Rd / San Juan Rd													
Base	157	703	281	499	819	469	314	307	109	229	225	300	4412
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	157	703	281	499	819	469	314	307	109	229	225	300	4412
#4 Truxel Rd / El Camino Avenue													
Base	184	529	127	290	361	164	486	688	141	103	406	251	3730
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	184	529	127	290	361	164	486	688	141	103	406	251	3730
#5 Fong Ranch Rd / San Juan Rd													
Base	3	1	2	20	0	38	65	1013	6	19	635	24	1826
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	1	2	20	0	38	65	1013	6	19	635	24	1826
#6 Pony Express Dr / San Juan Road													
Base	14	1	14	13	0	47	86	908	41	14	636	15	1789
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	14	1	14	13	0	47	86	908	41	14	636	15	1789
#7 Bridgeford Drive \ San Juan Road													
Base	72	12	80	78	12	67	116	707	103	91	535	106	1979
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	72	12	80	78	12	67	116	707	103	91	535	106	1979
#8 Northgate Bl / San Juan Rd													
Base	453	951	154	285	854	303	317	439	177	209	278	87	4507
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	453	951	154	285	854	303	317	439	177	209	278	87	4507
#9 Northgate / Rosin													
Base	41	975	28	80	1090	48	41	4	3	89	5	225	2629
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	41	975	28	80	1090	48	41	4	3	89	5	225	2629

ParkeBridge
Existing Conditions
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#10 Northgate Bl / I-80 East Ramps													
Base	0	685	373	0	835	510	666	0	349	0	0	0	3418
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	685	373	0	835	510	666	0	349	0	0	0	3418
#11 Northgate Bl / I-80 West Ramps													
Base	0	1183	168	0	966	395	0	0	0	379	0	785	3876
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1183	168	0	966	395	0	0	0	379	0	785	3876
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

ParkeBridge
Existing Conditions
PM Peak

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#10 Northgate Bl / I-80 East Ramps													
Base	0	878	504	0	1044	940	407	0	354	0	0	0	4127
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	878	504	0	1044	940	407	0	354	0	0	0	4127
#11 Northgate Bl / I-80 West Ramps													
Base	0	936	349	0	1550	823	0	0	0	434	0	473	4565
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	936	349	0	1550	823	0	0	0	434	0	473	4565
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

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ParkeBridge
Existing Conditions
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 Truxel Rd / I-80 West Ramps	B	11.1	0.354	B	11.1	0.354	+ 0.000
# 2 Truxel Rd / I-80 East Ramps	B	13.7	0.408	B	13.7	0.408	+ 0.000
# 3 Truxel Rd / San Juan Rd	C	30.8	0.653	C	30.8	0.653	+ 0.000
# 4 Truxel Rd / El Camino Avenue	C	27.6	0.459	C	27.6	0.459	+ 0.000
# 5 Fong Ranch Rd / San Juan Rd	C	25.2	0.526	C	25.2	0.526	+ 0.000
# 6 Pony Express Dr / San Juan Roa	C	21.5	0.000	C	21.5	0.000	+ 0.000
# 7 Bridgeford Drive \ San Juan Ro	C	23.5	0.394	C	23.5	0.394	+ 0.000
# 8 Northgate Bl / San Juan Rd	C	28.7	0.552	C	28.7	0.552	+ 0.000
# 9 Northgate / Rosin	B	19.1	0.472	B	19.1	0.472	+ 0.000
# 10 Northgate Bl / I-80 East Ramps	B	17.0	0.650	B	17.0	0.650	+ 0.000
# 11 Northgate Bl / I-80 West Ramps	C	30.5	0.923	C	30.5	0.923	+ 0.000

ParkeBridge
Existing Conditions
PM Peak

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 Truxel Rd / I-80 West Ramps	B	15.2	0.469	B	15.2	0.469	+ 0.000
# 2 Truxel Rd / I-80 East Ramps	B	15.7	0.514	B	15.7	0.514	+ 0.000
# 3 Truxel Rd / San Juan Rd	C	27.2	0.556	C	27.2	0.556	+ 0.000
# 4 Truxel Rd / El Camino Avenue	C	30.1	0.546	C	30.1	0.546	+ 0.000
# 5 Fong Ranch Rd / San Juan Rd	B	12.6	0.347	B	12.6	0.347	+ 0.000
# 6 Pony Express Dr / San Juan Roa	E	38.6	0.000	E	38.6	0.000	+ 0.000
# 7 Bridgeford Drive \ San Juan Ro	C	20.6	0.431	C	20.6	0.431	+ 0.000
# 8 Northgate Bl / San Juan Rd	C	33.6	0.757	C	33.6	0.757	+ 0.000
# 9 Northgate / Rosin	C	21.3	0.573	C	21.3	0.573	+ 0.000
# 10 Northgate Bl / I-80 East Ramps	B	17.5	0.863	B	17.5	0.863	+ 0.000
# 11 Northgate Bl / I-80 West Ramps	C	20.2	0.854	C	20.2	0.854	+ 0.000

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.354
Loss Time (sec):	6 (Y+R = 4 sec)	Average Delay (sec/veh):	11.1
Optimal Cycle:	26	Level Of Service:	B

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	2	1 1	0 0	3	1 1	0 0	0	0 0	2 0	0	0 3
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am												
Base Vol:	0	890	528	0	1275	682	0	0	0	330	0	405
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	890	528	0	1275	682	0	0	0	330	0	405
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:	0	890	528	0	1275	682	0	0	0	330	0	405
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	890	528	0	1275	682	0	0	0	330	0	405
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	890	528	0	1275	682	0	0	0	330	0	405
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.86	0.86	1.00	0.86	0.86	1.00	1.00	1.00	0.92	1.00	0.75
Lanes:	0.00	2.51	1.49	0.00	3.26	1.74	0.00	0.00	0.00	2.00	0.00	3.00
Final Sat.:	0	4098	2431	0	5339	2856	0	0	0	3502	0	4264
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.22	0.00	0.24	0.24	0.00	0.00	0.00	0.09	0.00	0.09
Crit Moves:					****					****		
Green/Cycle:	0.00	0.67	0.67	0.00	0.67	0.67	0.00	0.00	0.00	0.27	0.00	0.27
Volume/Cap:	0.00	0.32	0.32	0.00	0.36	0.36	0.00	0.00	0.00	0.35	0.00	0.36
Delay/Veh:	0.0	6.9	6.9	0.0	7.1	7.1	0.0	0.0	0.0	29.8	0.0	29.8
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	6.9	6.9	0.0	7.1	7.1	0.0	0.0	0.0	29.8	0.0	29.8
DesignQueue:	0	17	10	0	25	13	0	0	0	14	0	17

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.469
Loss Time (sec):	6 (Y+R = 4 sec)	Average Delay (sec/veh):	15.2
Optimal Cycle:	26	Level Of Service:	B

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	2	1 1	0 0	3	1 1	0 0	0	0 0	2 0	0	0 3
Volume Module: >> Count Date: 16 Mar 2005 << 5:00pm												
Base Vol:	0	1379	192	0	1285	679	0	0	0	531	0	727
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	1379	192	0	1285	679	0	0	0	531	0	727
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:	0	1379	192	0	1285	679	0	0	0	531	0	727
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1379	192	0	1285	679	0	0	0	531	0	727
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1379	192	0	1285	679	0	0	0	531	0	727
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.89	0.89	1.00	0.86	0.86	1.00	1.00	1.00	0.92	1.00	0.75
Lanes:	0.00	3.00	1.00	0.00	3.27	1.73	0.00	0.00	0.00	2.00	0.00	3.00
Final Sat.:	0	5094	1698	0	5362	2833	0	0	0	3502	0	4264
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.11	0.00	0.24	0.24	0.00	0.00	0.00	0.15	0.00	0.17
Crit Moves:		****										****
Green/Cycle:	0.00	0.58	0.58	0.00	0.58	0.58	0.00	0.00	0.00	0.36	0.00	0.36
Volume/Cap:	0.00	0.47	0.20	0.00	0.42	0.42	0.00	0.00	0.00	0.42	0.00	0.47
Delay/Veh:	0.0	12.4	10.1	0.0	11.8	11.8	0.0	0.0	0.0	24.1	0.0	24.7
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	12.4	10.1	0.0	11.8	11.8	0.0	0.0	0.0	24.1	0.0	24.7
DesignQueue:	0	35	5	0	32	17	0	0	0	20	0	27

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.408
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 13.7
Optimal Cycle: 26 Level Of Service: B

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	10	10		0	10	10		10	0	10		0	0	0	
Lanes:	0	0	3	1 1	0	0	2	1 1	2	0	1!	0 1	0	0	0	0 0
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am																
Base Vol:	0	750	291		0	1128	477		668	0	151		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	750	291		0	1128	477		668	0	151		0	0	0	
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:	0	750	291		0	1128	477		668	0	151		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	750	291		0	1128	477		668	0	151		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		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	750	291		0	1128	477		668	0	151		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.87	0.87		1.00	0.87	0.87		0.91	1.00	0.93		1.00	1.00	1.00	
Lanes:	0.00	3.60	1.40		0.00	2.81	1.19		2.75	0.00	1.25		0.00	0.00	0.00	
Final Sat.:	0	5967	2315		0	4642	1963		4739	0	2214		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.13	0.13		0.00	0.24	0.24		0.14	0.00	0.07		0.00	0.00	0.00	
Crit Moves:						****			****							
Green/Cycle:	0.00	0.59	0.59		0.00	0.59	0.59		0.35	0.00	0.35		0.00	0.00	0.00	
Volume/Cap:	0.00	0.21	0.21		0.00	0.41	0.41		0.41	0.00	0.20		0.00	0.00	0.00	
Delay/Veh:	0.0	9.4	9.4		0.0	10.9	10.9		25.1	0.0	23.0		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	9.4	9.4		0.0	10.9	10.9		25.1	0.0	23.0		0.0	0.0	0.0	
DesignQueue:	0	17	7		0	27	11		25	0	6		0	0	0	

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.514
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 15.7
Optimal Cycle: 28 Level Of Service: B

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	10	10		0	10	10		10	0	10		0	0	0	
Lanes:	0	0	3	1 1	0	0	2	1 1	2	0	1!	0 1	0	0	0	0 0
Volume Module: >> Count Date: 16 Mar 2005 << 5:00pm																
Base Vol:	0	733	242		0	1487	329		838	0	367		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	733	242		0	1487	329		838	0	367		0	0	0	
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:	0	733	242		0	1487	329		838	0	367		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	733	242		0	1487	329		838	0	367		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		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	733	242		0	1487	329		838	0	367		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.88	0.88		1.00	0.89	0.89		0.89	1.00	0.92		1.00	1.00	1.00	
Lanes:	0.00	3.76	1.24		0.00	3.00	1.00		2.61	0.00	1.39		0.00	0.00	0.00	
Final Sat.:	0	6259	2066		0	5047	1682		4434	0	2432		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.12	0.12		0.00	0.29	0.20		0.19	0.00	0.15		0.00	0.00	0.00	
Crit Moves:						****			****							
Green/Cycle:	0.00	0.57	0.57		0.00	0.57	0.57		0.37	0.00	0.37		0.00	0.00	0.00	
Volume/Cap:	0.00	0.20	0.20		0.00	0.51	0.34		0.51	0.00	0.41		0.00	0.00	0.00	
Delay/Veh:	0.0	10.4	10.4		0.0	13.1	11.4		24.9	0.0	23.7		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	10.4	10.4		0.0	13.1	11.4		24.9	0.0	23.7		0.0	0.0	0.0	
DesignQueue:	0	18	6		0	38	8		31	0	13		0	0	0	

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.653
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	30.8
Optimal Cycle:	54	Level Of Service:	C

Street Name:	Truxel Rd						San Juan Rd					
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:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0 2	0	1	2 0 2	0	1	2 0 2	0	1	2 0 2	0	1
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	55	645	194	334	727	204	467	301	130	270	229	424
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	645	194	334	727	204	467	301	130	270	229	424
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:	55	645	194	334	727	204	467	301	130	270	229	424
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	645	194	334	727	204	467	301	130	270	229	424
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	55	645	194	334	727	204	467	301	130	270	229	424
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.18	0.12	0.10	0.20	0.13	0.13	0.08	0.08	0.08	0.06	0.26
Crit Moves:		****		****			****					****
Green/Cycle:	0.08	0.27	0.47	0.15	0.34	0.54	0.20	0.26	0.34	0.20	0.26	0.40
Volume/Cap:	0.19	0.65	0.25	0.65	0.60	0.23	0.65	0.32	0.23	0.38	0.25	0.65
Delay/Veh:	43.0	33.7	15.9	43.3	28.4	12.2	38.7	30.1	23.7	35.0	29.7	26.6
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:	43.0	33.7	15.9	43.3	28.4	12.2	38.7	30.1	23.7	35.0	29.7	26.6
DesignQueue:	3	27	6	16	28	5	21	13	5	12	10	15

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.556
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	27.2
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Truxel Rd						San Juan Rd					
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:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0 2	0	1	2 0 2	0	1	2 0 2	0	1	2 0 2	0	1
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	157	703	281	499	819	469	314	307	109	229	225	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:	157	703	281	499	819	469	314	307	109	229	225	300
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:	157	703	281	499	819	469	314	307	109	229	225	300
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	703	281	499	819	469	314	307	109	229	225	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	157	703	281	499	819	469	314	307	109	229	225	300
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.19	0.17	0.14	0.23	0.29	0.09	0.09	0.07	0.07	0.06	0.19
Crit Moves:		****		****			****				****	
Green/Cycle:	0.11	0.35	0.46	0.26	0.50	0.66	0.16	0.17	0.27	0.11	0.11	0.37
Volume/Cap:	0.41	0.56	0.38	0.56	0.46	0.44	0.56	0.51	0.25	0.60	0.56	0.50
Delay/Veh:	42.2	26.8	18.1	33.0	16.5	8.5	39.9	38.8	28.5	45.3	43.7	25.2
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:	42.2	26.8	18.1	33.0	16.5	8.5	39.9	38.8	28.5	45.3	43.7	25.2
DesignQueue:	8	27	9	21	24	10	15	15	4	12	11	11

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec):	100	Critical Vol./Cap. (X):	0.459
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	27.6
Optimal Cycle:	42	Level Of Service:	C

Street Name:	Truxel Road						El Camino Avenue					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module: >> Count Date: 17 Mar 2005 << 7:30am												
Base Vol:	147	225	55	213	696	281	178	347	145	120	428	110
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:	147	225	55	213	696	281	178	347	145	120	428	110
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:	147	225	55	213	696	281	178	347	145	120	428	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	225	55	213	696	281	178	347	145	120	428	110
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	147	225	55	213	696	281	178	347	145	120	428	110
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.03	0.06	0.19	0.17	0.05	0.10	0.09	0.03	0.12	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.09	0.32	0.44	0.19	0.42	0.53	0.11	0.25	0.34	0.12	0.26	0.45
Volume/Cap:	0.46	0.20	0.08	0.31	0.46	0.33	0.46	0.39	0.27	0.28	0.46	0.15
Delay/Veh:	44.1	24.9	16.2	34.9	21.1	13.6	42.5	31.7	24.4	40.2	31.6	16.2
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:	44.1	24.9	16.2	34.9	21.1	13.6	42.5	31.7	24.4	40.2	31.6	16.2
DesignQueue:	7	9	2	10	24	8	9	15	5	6	18	3

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec):	100	Critical Vol./Cap. (X):	0.546
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	30.1
Optimal Cycle:	44	Level Of Service:	C

Street Name:	Truxel Road						El Camino Avenue					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module: >> Count Date: 17 Mar 2005 << 4:30pm												
Base Vol:	184	529	127	290	361	164	486	688	141	103	406	251
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	529	127	290	361	164	486	688	141	103	406	251
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:	184	529	127	290	361	164	486	688	141	103	406	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	529	127	290	361	164	486	688	141	103	406	251
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	184	529	127	290	361	164	486	688	141	103	406	251
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.15	0.08	0.08	0.10	0.10	0.14	0.19	0.09	0.03	0.11	0.16
Crit Moves:		****		****			****				****	
Green/Cycle:	0.14	0.27	0.36	0.15	0.28	0.53	0.25	0.36	0.51	0.10	0.21	0.36
Volume/Cap:	0.36	0.55	0.22	0.55	0.36	0.19	0.55	0.52	0.17	0.31	0.55	0.43
Delay/Veh:	39.1	32.0	22.1	40.4	29.4	12.4	33.0	25.3	13.3	42.7	36.4	25.0
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:	39.1	32.0	22.1	40.4	29.4	12.4	33.0	25.3	13.3	42.7	36.4	25.0
DesignQueue:	9	22	5	14	15	4	21	26	4	5	18	9

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.526
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	25.2
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Fong Ranch Road						San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0 0	1! 0	0	1 0	1! 0	1	1 0	1	1 0	1 0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	32	44	7	150	0	200	269	389	7	6	530	189
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:	32	44	7	150	0	200	269	389	7	6	530	189
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:	32	44	7	150	0	200	269	389	7	6	530	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	44	7	150	0	200	269	389	7	6	530	189
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	32	44	7	150	0	200	269	389	7	6	530	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.97	0.89	1.00	0.89	0.95	0.95	0.95	0.95	0.91	0.91
Lanes:	0.39	0.53	0.08	1.43	0.00	1.57	1.00	1.96	0.04	1.00	1.47	0.53
Final Sat.:	711	977	155	2429	0	2672	1805	3536	64	1805	2557	912
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.06	0.00	0.07	0.15	0.11	0.11	0.00	0.21	0.21
Crit Moves:		****		****			****				****	
Green/Cycle:	0.10	0.10	0.10	0.12	0.00	0.39	0.28	0.49	0.49	0.18	0.39	0.39
Volume/Cap:	0.45	0.45	0.45	0.54	0.00	0.19	0.54	0.23	0.23	0.02	0.54	0.54
Delay/Veh:	44.2	44.2	44.2	42.6	0.0	19.9	31.8	14.8	14.8	34.0	24.2	24.2
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:	44.2	44.2	44.2	42.6	0.0	19.9	31.8	14.8	14.8	34.0	24.2	24.2
DesignQueue:	2	2	0	7	0	7	11	11	0	0	19	7

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.347
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	12.6
Optimal Cycle:	46	Level Of Service:	B

Street Name:	Fong Ranch Road						San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0 0	1! 0	0	1 0	1! 0	1	1 0	1	1 0	1 0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	3	1	2	20	0	38	65	1013	6	19	635	24
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:	3	1	2	20	0	38	65	1013	6	19	635	24
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:	3	1	2	20	0	38	65	1013	6	19	635	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	1	2	20	0	38	65	1013	6	19	635	24
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	3	1	2	20	0	38	65	1013	6	19	635	24
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.89	1.00	0.89	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.50	0.17	0.33	1.34	0.00	1.66	1.00	1.99	0.01	1.00	1.93	0.07
Final Sat.:	885	295	590	2266	0	2788	1805	3585	21	1805	3461	131
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.04	0.28	0.28	0.01	0.18	0.18
Crit Moves:	****			****				****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.00	0.22	0.12	0.64	0.64	0.04	0.56	0.56
Volume/Cap:	0.03	0.03	0.03	0.09	0.00	0.06	0.30	0.44	0.44	0.26	0.33	0.33
Delay/Veh:	40.7	40.7	40.7	40.9	0.0	30.7	40.8	9.2	9.2	48.5	12.0	12.0
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:	40.7	40.7	40.7	40.9	0.0	30.7	40.8	9.2	9.2	48.5	12.0	12.0
DesignQueue:	0	0	0	1	0	2	3	22	0	1	16	1

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: C[21.5]

Street Name:	Pony Express Dr						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			1 0 1 1 0			1 0 1 1 0		
Volume Module: >> Count Date: 17 Mar 2005 << 7:00am												
Base Vol:	32	0	16	3	1	69	27	486	19	17	651	8
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:	32	0	16	3	1	69	27	486	19	17	651	8
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:	32	0	16	3	1	69	27	486	19	17	651	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	32	0	16	3	1	69	27	486	19	17	651	8
Critical Gap Module:												
Critical Gp:	7.5	xxxx	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	910	xxxx	253	986	1248	330	659	xxxx	xxxxx	505	xxxx	xxxxx
Potent Cap.:	233	xxxx	753	205	175	672	939	xxxx	xxxxx	1070	xxxx	xxxxx
Move Cap.:	201	xxxx	753	194	167	672	939	xxxx	xxxxx	1070	xxxx	xxxxx
Volume/Cap:	0.16	xxxx	0.02	0.02	0.01	0.10	0.03	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.9	xxxx	xxxxx	8.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	266	xxxxx	xxxx	588	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.6	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	21.5	xxxxx	xxxxx	12.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	B	*	*	*	*	*	*	*
ApproachDel:		21.5			12.0			xxxxxx			xxxxxx	
ApproachLOS:		C			B			*			*	

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: E[38.6]

Street Name:	Pony Express Dr						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			1 0 1 1 0			1 0 1 1 0		
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	14	1	14	13	0	47	86	908	41	14	636	15
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:	14	1	14	13	0	47	86	908	41	14	636	15
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:	14	1	14	13	0	47	86	908	41	14	636	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	14	1	14	13	0	47	86	908	41	14	636	15
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	xxxx	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1447	1780	475	1298	xxxx	326	651	xxxx	xxxxx	949	xxxx	xxxxx
Potent Cap.:	94	83	542	121	xxxx	676	945	xxxx	xxxxx	732	xxxx	xxxxx
Move Cap.:	80	74	542	107	xxxx	676	945	xxxx	xxxxx	732	xxxx	xxxxx
Volume/Cap:	0.17	0.01	0.03	0.12	xxxx	0.07	0.09	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	0.1	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx	10.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	B	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	136	xxxxx	xxxx	314	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.8	xxxxx	xxxxx	0.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	38.6	xxxxx	xxxxx	19.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	E	*	*	C	*	*	*	*	*	*	*
ApproachDel:		38.6			19.1			xxxxxx			xxxxxx	
ApproachLOS:		E			C			*			*	

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec):	100	Critical Vol./Cap. (X):	0.394
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	23.5
Optimal Cycle:	33	Level Of Service:	C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	115	15	96	145	16	116	38	381	92	29	401	42
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:	115	15	96	145	16	116	38	381	92	29	401	42
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:	115	15	96	145	16	116	38	381	92	29	401	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	15	96	145	16	116	38	381	92	29	401	42
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	115	15	96	145	16	116	38	381	92	29	401	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.70	0.70	0.70	0.70	0.70	0.70	0.95	0.92	0.92	0.95	0.94	0.94
Lanes:	0.51	0.07	0.42	0.52	0.06	0.42	1.00	1.61	0.39	1.00	1.81	0.19
Final Sat.:	676	88	564	700	77	560	1805	2824	682	1805	3222	337
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.21	0.21	0.21	0.02	0.13	0.13	0.02	0.12	0.12
Crit Moves:					****			****		****		
Green/Cycle:	0.53	0.53	0.53	0.53	0.53	0.53	0.09	0.34	0.34	0.04	0.29	0.29
Volume/Cap:	0.32	0.32	0.32	0.39	0.39	0.39	0.23	0.39	0.39	0.39	0.43	0.43
Delay/Veh:	13.8	13.8	13.8	14.5	14.5	14.5	42.7	25.2	25.2	50.2	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:	13.8	13.8	13.8	14.5	14.5	14.5	42.7	25.2	25.2	50.2	29.1	29.1
DesignQueue:	3	0	3	4	0	3	2	14	3	2	16	2

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec):	100	Critical Vol./Cap. (X):	0.431
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	20.6
Optimal Cycle:	33	Level Of Service:	C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	72	12	80	78	12	67	116	707	103	91	535	106
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:	72	12	80	78	12	67	116	707	103	91	535	106
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:	72	12	80	78	12	67	116	707	103	91	535	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	12	80	78	12	67	116	707	103	91	535	106
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	72	12	80	78	12	67	116	707	103	91	535	106
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.76	0.76	0.74	0.74	0.74	0.95	0.93	0.93	0.95	0.93	0.93
Lanes:	0.44	0.07	0.49	0.50	0.07	0.43	1.00	1.75	0.25	1.00	1.67	0.33
Final Sat.:	636	106	706	694	107	597	1805	3091	450	1805	2938	582
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.11	0.11	0.11	0.06	0.23	0.23	0.05	0.18	0.18
Crit Moves:		****						****		****		
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.17	0.53	0.53	0.12	0.48	0.48
Volume/Cap:	0.43	0.43	0.43	0.43	0.43	0.43	0.38	0.43	0.43	0.43	0.38	0.38
Delay/Veh:	31.4	31.4	31.4	31.4	31.4	31.4	37.7	14.5	14.5	42.5	16.8	16.8
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:	31.4	31.4	31.4	31.4	31.4	31.4	37.7	14.5	14.5	42.5	16.8	16.8
DesignQueue:	3	1	3	3	1	3	5	20	3	5	16	3

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.552
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 28.7
Optimal Cycle: 44 Level Of Service: C

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 7:30am												
Base Vol:	163	694	130	118	718	113	240	233	277	214	209	111
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:	163	694	130	118	718	113	240	233	277	214	209	111
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:	163	694	130	118	718	113	240	233	277	214	209	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	163	694	130	118	718	113	240	233	277	214	209	111
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	163	694	130	118	718	113	240	233	277	214	209	111
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.93	0.93	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.90	0.90
Lanes:	2.00	1.68	0.32	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.31	0.69
Final Sat.:	3502	2967	556	1805	3610	1615	3502	3610	1615	3502	2235	1187
Capacity Analysis Module:												
Vol/Sat:	0.05	0.23	0.23	0.07	0.20	0.07	0.07	0.06	0.17	0.06	0.09	0.09
Crit Moves:		****		****					****	****		
Green/Cycle:	0.11	0.42	0.42	0.12	0.43	0.57	0.13	0.22	0.33	0.11	0.20	0.20
Volume/Cap:	0.43	0.55	0.55	0.55	0.46	0.12	0.51	0.29	0.52	0.55	0.48	0.48
Delay/Veh:	42.4	22.1	22.1	44.6	20.2	10.1	41.1	32.7	28.1	43.8	36.1	36.1
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:	42.4	22.1	22.1	44.6	20.2	10.1	41.1	32.7	28.1	43.8	36.1	36.1
DesignQueue:	8	24	4	6	24	3	12	10	11	11	10	5

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.757
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 33.6
Optimal Cycle: 68 Level Of Service: C

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	453	951	154	285	854	303	317	439	177	209	278	87
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:	453	951	154	285	854	303	317	439	177	209	278	87
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:	453	951	154	285	854	303	317	439	177	209	278	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	453	951	154	285	854	303	317	439	177	209	278	87
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	453	951	154	285	854	303	317	439	177	209	278	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.93	0.93	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.92	0.92
Lanes:	2.00	1.72	0.28	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.52	0.48
Final Sat.:	3502	3042	493	1805	3610	1615	3502	3610	1615	3502	2651	829
Capacity Analysis Module:												
Vol/Sat:	0.13	0.31	0.31	0.16	0.24	0.19	0.09	0.12	0.11	0.06	0.10	0.10
Crit Moves:		****		****			****				****	
Green/Cycle:	0.22	0.41	0.41	0.21	0.40	0.52	0.12	0.17	0.39	0.09	0.14	0.14
Volume/Cap:	0.59	0.76	0.76	0.76	0.59	0.36	0.76	0.70	0.28	0.70	0.76	0.76
Delay/Veh:	36.2	27.4	27.4	45.7	24.1	14.4	50.3	42.5	20.9	51.9	48.2	48.2
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:	36.2	27.4	27.4	45.7	24.1	14.4	50.3	42.5	20.9	51.9	48.2	48.2
DesignQueue:	20	34	5	13	30	8	16	21	6	11	14	4

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.472
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 19.1
Optimal Cycle: 42 Level Of Service: B

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1 0	1	1 0	2 0	1	1 0	1 0	1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	35	934	33	233	707	82	74	17	5	40	2	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:	35	934	33	233	707	82	74	17	5	40	2	61
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:	35	934	33	233	707	82	74	17	5	40	2	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	934	33	233	707	82	74	17	5	40	2	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	35	934	33	233	707	82	74	17	5	40	2	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.93	0.93	0.95	1.00	0.85	0.95	0.86	0.86
Lanes:	1.00	1.93	0.07	2.00	1.79	0.21	1.00	1.00	1.00	1.00	0.03	0.97
Final Sat.:	1805	3469	123	3502	3183	369	1805	1900	1615	1805	52	1573
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.27	0.07	0.22	0.22	0.04	0.01	0.00	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.13	0.56	0.56	0.14	0.57	0.57	0.08	0.12	0.25	0.06	0.10	0.10
Volume/Cap:	0.15	0.48	0.48	0.48	0.39	0.39	0.48	0.07	0.01	0.36	0.39	0.39
Delay/Veh:	39.1	13.6	13.6	40.6	12.2	12.2	46.1	38.9	28.2	47.0	43.7	43.7
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:	39.1	13.6	13.6	40.6	12.2	12.2	46.1	38.9	28.2	47.0	43.7	43.7
DesignQueue:	2	25	1	11	18	2	4	1	0	2	0	3

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.573
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.3
Optimal Cycle: 46 Level Of Service: C

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1 0	1	1 0	2 0	1	1 0	1 0	1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	41	975	28	80	1090	48	41	4	3	89	5	225
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:	41	975	28	80	1090	48	41	4	3	89	5	225
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:	41	975	28	80	1090	48	41	4	3	89	5	225
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	975	28	80	1090	48	41	4	3	89	5	225
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	41	975	28	80	1090	48	41	4	3	89	5	225
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.94	0.94	0.95	1.00	0.85	0.95	0.85	0.85
Lanes:	1.00	1.94	0.06	2.00	1.92	0.08	1.00	1.00	1.00	1.00	0.02	0.98
Final Sat.:	1805	3495	100	3502	3437	151	1805	1900	1615	1805	35	1585
Capacity Analysis Module:												
Vol/Sat:	0.02	0.28	0.28	0.02	0.32	0.32	0.02	0.00	0.00	0.05	0.14	0.14
Crit Moves:	****				****		****				****	
Green/Cycle:	0.05	0.50	0.50	0.09	0.54	0.54	0.05	0.19	0.24	0.10	0.24	0.24
Volume/Cap:	0.45	0.56	0.56	0.26	0.59	0.59	0.45	0.01	0.01	0.51	0.59	0.59
Delay/Veh:	49.8	17.8	17.8	42.9	16.1	16.1	49.8	32.6	28.6	45.3	35.9	35.9
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:	49.8	17.8	17.8	42.9	16.1	16.1	49.8	32.6	28.6	45.3	35.9	35.9
DesignQueue:	2	29	1	4	30	1	2	0	0	5	0	10

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.650
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.0
Optimal Cycle: 37 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2	0 1	0 0	1	1 0	2	0 0	0 1	0 0	0	0 0
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am												
Base Vol:	0	685	373	0	835	510	666	0	349	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	685	373	0	835	510	666	0	349	0	0	0
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:	0	685	373	0	835	510	666	0	349	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	685	373	0	835	510	666	0	349	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	685	373	0	835	510	666	0	349	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.90	0.90	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.24	0.76	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	2113	1291	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.19	0.23	0.00	0.40	0.40	0.19	0.00	0.22	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.61	0.61	0.00	0.61	0.61	0.33	0.00	0.33	0.00	0.00	0.00
Volume/Cap:	0.00	0.31	0.38	0.00	0.65	0.65	0.57	0.00	0.65	0.00	0.00	0.00
Delay/Veh:	0.0	9.6	10.3	0.0	13.5	13.5	28.2	0.0	31.3	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	9.6	10.3	0.0	13.5	13.5	28.2	0.0	31.3	0.0	0.0	0.0
DesignQueue:	0	16	9	0	20	12	26	0	14	0	0	0

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.863
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.5
Optimal Cycle: 76 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2	0 1	0 0	1	1 0	2	0 0	0 1	0 0	0	0 0
Volume Module: >> Count Date: 16 Mar 2005 << 4:15pm												
Base Vol:	0	878	504	0	1044	940	407	0	354	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	878	504	0	1044	940	407	0	354	0	0	0
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:	0	878	504	0	1044	940	407	0	354	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	878	504	0	1044	940	407	0	354	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	878	504	0	1044	940	407	0	354	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.88	0.88	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.05	0.95	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	1765	1589	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.31	0.00	0.59	0.59	0.12	0.00	0.22	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.69	0.69	0.00	0.69	0.69	0.25	0.00	0.25	0.00	0.00	0.00
Volume/Cap:	0.00	0.35	0.46	0.00	0.86	0.86	0.46	0.00	0.86	0.00	0.00	0.00
Delay/Veh:	0.0	6.6	7.5	0.0	15.7	15.7	31.8	0.0	52.5	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	6.6	7.5	0.0	15.7	15.7	31.8	0.0	52.5	0.0	0.0	0.0
DesignQueue:	0	16	9	0	21	19	17	0	15	0	0	0

ParkeBridge
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.923
Loss Time (sec):	6 (Y+R = 4 sec)	Average Delay (sec/veh):	30.5
Optimal Cycle:	109	Level Of Service:	C

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1	1 0	0 0	2	0 1	0 0	0	0 0	2	0 0	0 1
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am												
Base Vol:	0	1183	168	0	966	395	0	0	0	379	0	785
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	1183	168	0	966	395	0	0	0	379	0	785
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:	0	1183	168	0	966	395	0	0	0	379	0	785
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1183	168	0	966	395	0	0	0	379	0	785
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1183	168	0	966	395	0	0	0	379	0	785
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.93	0.93	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.75	0.25	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3101	440	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.38	0.00	0.27	0.24	0.00	0.00	0.00	0.11	0.00	0.49
Crit Moves:		****										****
Green/Cycle:	0.00	0.41	0.41	0.00	0.41	0.41	0.00	0.00	0.00	0.53	0.00	0.53
Volume/Cap:	0.00	0.92	0.92	0.00	0.65	0.59	0.00	0.00	0.00	0.21	0.00	0.92
Delay/Veh:	0.0	37.8	37.8	0.0	24.5	24.2	0.0	0.0	0.0	12.6	0.0	37.2
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	37.8	37.8	0.0	24.5	24.2	0.0	0.0	0.0	12.6	0.0	37.2
DesignQueue:	0	43	6	0	34	14	0	0	0	10	0	23

ParkeBridge
Existing Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec):	100	Critical Vol./Cap. (X):	0.854
Loss Time (sec):	6 (Y+R = 4 sec)	Average Delay (sec/veh):	20.2
Optimal Cycle:	73	Level Of Service:	C

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1	1 0	0 0	2	0 1	0 0	0	0 0	2	0 0	0 1
Volume Module: >> Count Date: 16 Mar 2005 << 4:15pm												
Base Vol:	0	936	349	0	1550	823	0	0	0	434	0	473
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	936	349	0	1550	823	0	0	0	434	0	473
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:	0	936	349	0	1550	823	0	0	0	434	0	473
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	936	349	0	1550	823	0	0	0	434	0	473
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	936	349	0	1550	823	0	0	0	434	0	473
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.91	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.46	0.54	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2522	940	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.37	0.00	0.43	0.51	0.00	0.00	0.00	0.12	0.00	0.29
Crit Moves:						****						****
Green/Cycle:	0.00	0.60	0.60	0.00	0.60	0.60	0.00	0.00	0.00	0.34	0.00	0.34
Volume/Cap:	0.00	0.62	0.62	0.00	0.72	0.85	0.00	0.00	0.00	0.36	0.00	0.85
Delay/Veh:	0.0	13.5	13.5	0.0	15.4	24.1	0.0	0.0	0.0	24.8	0.0	42.8
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	13.5	13.5	0.0	15.4	24.1	0.0	0.0	0.0	24.8	0.0	42.8
DesignQueue:	0	23	9	0	39	21	0	0	0	16	0	18

APPENDIX E2
MAINLINE OPERATIONS CALCULATIONS
ALL CONDITIONS

Capacity Analysis of Freeway Mainline Segments

2000 Highway Capacity Manual

Capacity based on 2200 vphpl for freeway lanes, 1600 vphpl for auxiliary lanes

Mainline Segment	Frwy Lanes	Aux Lanes	Exising		Baseline Conditions		Baseline+Proposed Project		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Traffic Volume														
I-80 EB -- I-5 to Truxel	3	1	5,057	6,405	5,170	6,727	5,184	6,831	7,247	8,270	7,256	8,299	7,256	8,298
I-80 EB -- Truxel to Northgate	3	1	5,006	5,771	5,058	5,930	5,085	5,948	6,784	7,813	6,819	7,837	6,797	7,822
I-80 EB -- Northgate to Norwood	3	0	4,874	6,454	4,951	6,754	4,983	6,775	6,791	8,568	6,826	8,592	6,826	8,592
I-80 WB -- Norwood to Northgate	3	0	6,781	5,423	6,830	5,688	6,841	5,724	9,397	7,628	9,409	7,666	9,408	7,666
I-80 WB -- Northgate to Truxel	3	1	6,180	5,688	6,190	5,823	6,199	5,853	9,139	7,637	9,151	7,675	9,143	7,651
I-80 WB -- Truxel to I-5	3	2	6,655	5,301	6,719	5,668	6,759	5,695	8,660	7,611	8,687	7,629	8,687	7,629
Volume to Capacity (V/C)														
I-80 EB -- I-5 to Truxel			0.62	0.78	0.63	0.82	0.63	0.83	0.88	1.01	0.88	1.01	0.88	1.01
I-80 EB -- Truxel to Northgate			0.61	0.70	0.62	0.72	0.62	0.73	0.83	0.95	0.83	0.96	0.83	0.95
I-80 EB -- Northgate to Norwood			0.74	0.98	0.75	1.02	0.76	1.03	1.03	1.30	1.03	1.30	1.03	1.30
I-80 WB -- Norwood to Northgate			1.03	0.82	1.03	0.86	1.04	0.87	1.42	1.16	1.43	1.16	1.43	1.16
I-80 WB -- Northgate to Truxel			0.75	0.69	0.75	0.71	0.76	0.71	1.11	0.93	1.12	0.94	1.12	0.93
I-80 WB -- Truxel to I-5			0.68	0.54	0.69	0.58	0.69	0.58	0.88	0.78	0.89	0.78	0.89	0.78
Level of Service:														
I-80 EB -- I-5 to Truxel			C	D	C	D	C	D	D	F	D	F	D	F
I-80 EB -- Truxel to Northgate			C	C	C	C	C	C	D	E	D	E	D	E
I-80 EB -- Northgate to Norwood			C	E	D	F	D	F	F	F	F	F	F	F
I-80 WB -- Norwood to Northgate			F	D	F	D	F	D	F	F	F	F	F	F
I-80 WB -- Northgate to Truxel			D	C	D	C	D	C	F	E	F	E	F	E
I-80 WB -- Truxel to I-5			C	C	C	C	C	C	D	D	D	D	D	D

APPENDIX E3
RAMP JUNCTION OPERATIONS CALCULATIONS
ALL CONDITIONS

I-80 EB off-ramp to Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Major Diverge, 2 Lane Off-Ramp

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	3

	Exising		Baseline Conditions		Baseline+Proposed Project		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	5,057	6,405	5,170	6,727	5,184	6,831	7,247	8,270	7,256	8,299	7,256	8,298
Ramp Volume:	819	1,205	932	1,527	946	1,631	2,103	1,959	2,112	1,988	2,112	1,987
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Freeway Volume (Upstream):	5,517	6,988	5,640	7,339	5,656	7,453	7,906	9,022	7,915	9,054	7,915	9,053
Adjusted Ramp Volume:	893	1,315	1,017	1,666	1,032	1,779	2,294	2,137	2,304	2,169	2,304	2,168
Adjusted Freeway Volume (Downstream):	4,624	5,673	4,623	5,673	4,624	5,674	5,612	6,885	5,611	6,885	5,611	6,885
Upstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Upstream Freeway V/C:	0.57	0.73	0.59	0.76	0.59	0.78	0.82	0.94	0.82	0.94	0.82	0.94
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.64	0.79	0.64	0.79	0.64	0.79	0.78	0.96	0.78	0.96	0.78	0.96
Ramp Capacity:	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800
Ramp V/C:	0.24	0.35	0.27	0.44	0.27	0.47	0.60	0.56	0.61	0.57	0.61	0.57
Density (pc/mi/ln):	15.03	19.04	15.37	20.00	15.41	20.31	21.54	24.58	21.57	24.67	21.57	24.67
Level of Service:	B	B	B	B	B	C	C	C	C	C	C	C

I-80 EB on-ramp from NB Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lan	4
Existing Dnstrm Frwy Lanes / Aux. Lan	4

	Exising		Baseline Conditions		Baseline+Proposed Project		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	4,715	5,529	4,740	5,670	4,740	5,670	6,352	7,457	6,352	7,457	6,352	7,457
Ramp Volume:	291	242	318	260	345	278	432	356	467	380	445	365
Acceleration Length (ft.):	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Freeway Volume (Upstream):	5,144	6,032	5,171	6,186	5,171	6,186	6,929	8,135	6,929	8,135	6,929	8,135
Adjusted Ramp Volume:	317	264	347	284	376	303	471	388	509	415	485	398
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	0.57	0.66	0.57	0.67	0.58	0.68	0.77	0.89	0.77	0.89	0.77	0.89
Proportion in lanes 1,2 (Pfm):	0.457	0.464	0.453	0.461	0.450	0.459	0.438	0.448	0.433	0.445	0.436	0.447
V12 (upstream two-lane volume):	2,350	2,796	2,343	2,852	2,325	2,837	3,033	3,645	3,000	3,617	3,021	3,635
VR12 (downstream two-lane volume):	2,667	3,060	2,690	3,136	2,701	3,140	3,504	4,033	3,509	4,032	3,506	4,033
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.58	0.67	0.58	0.68	0.59	0.68	0.76	0.88	0.76	0.88	0.76	0.88
Density (pc/mi/ln):	19.86	22.95	20.03	23.54	20.10	23.56	26.32	30.48	26.34	30.46	26.33	30.48
Level of Service:	B	C	C	C	C	C	C	D	C	D	C	D

I-80 EB on-ramp from NB Northgate Boulevard

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 6 lane freeway, Single Lane On-Ramp (Equation 1)

Existing Upstrm Frwy Lanes / Aux. Lane	3
Existing Dnstrm Frwy Lanes / Aux. Lane	3

	Exising		Baseline Conditions									
			Baseline Conditions		Baseline+Proposed Project		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	4,501	5,950	4,578	6,250	4,605	6,268	6,243	7,963	6,278	7,987	6,256	7,972
Ramp Volume:	373	504	373	504	378	507	548	605	548	605	570	620
Acceleration Length (ft.):	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Adjusted Freeway Volume (Upstream):	4,911	6,491	4,995	6,819	5,024	6,838	6,810	8,687	6,848	8,713	6,824	8,697
Adjusted Ramp Volume:	407	550	407	550	412	553	598	660	598	660	622	676
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.74	0.98	0.75	1.02	0.76	1.03	1.03	1.30	1.03	1.30	1.03	1.30
Proportion in lanes 1,2 (Pfm):	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606
V12 (upstream two-lane volume):	2,974	3,930	3,024	4,129	3,042	4,140	4,123	5,260	4,146	5,276	4,132	5,266
VR12 (downstream two-lane volume):	3,381	4,480	3,431	4,679	3,454	4,693	4,721	5,920	4,744	5,936	4,754	5,942
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.74	0.97	0.75	1.02	0.75	1.02	1.03	1.29	1.03	1.29	1.03	1.29
Density (pc/mi/ln):	25.39	33.90	25.78	35.45	25.96	35.56	35.75	45.08	35.93	45.20	36.00	45.24
Level of Service:	C	D	C	F	C	F	F	F	F	F	F	F

I-80 WB off-ramp to Northgate Boulevard

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 6 lane freeway, Single Lane Off-Ramp (Equation 5)

Existing Upstrm Frwy Lanes / Aux. Lanes 3
Existing Dnstrm Frwy Lanes / Aux. Lanes 3

	Exising		Baseline Conditions		Baseline+Proposed Project		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	6,781	5,423	6,830	5,688	6,841	5,724	9,397	7,628	9,409	7,666	9,408	7,666
Ramp Volume:	1,164	907	1,203	1,037	1,205	1,043	1,258	1,238	1,258	1,238	1,265	1,262
Deceleration Length (ft):	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Adjusted Freeway Volume (Upstream):	7,397	5,916	7,451	6,205	7,463	6,244	10,251	8,321	10,264	8,363	10,263	8,363
Adjusted Ramp Volume:	1,270	989	1,312	1,131	1,315	1,138	1,372	1,351	1,372	1,351	1,380	1,377
Upstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Upstream Freeway V/C:	1.03	0.82	1.03	0.86	1.04	0.87	1.42	1.16	1.43	1.16	1.43	1.16
Proportion in lanes 1,2 (Pfd):	0.517	0.567	0.513	0.553	0.513	0.552	0.441	0.490	0.440	0.489	0.440	0.488
V12 (upstream two-lane volume):	4,436	3,781	4,464	3,936	4,468	3,954	5,284	4,765	5,287	4,778	5,288	4,783
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	1.01	0.86	1.01	0.89	1.02	0.90	1.20	1.08	1.20	1.09	1.20	1.09
Density (pc/mi/ln):	33.40	27.77	33.64	29.10	33.68	29.26	40.70	36.23	40.72	36.34	40.73	36.39
Level of Service:	F	C	F	D	F	D	F	F	F	F	F	F

I-80 WB off-ramp to Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Major Diverge, 2 Lane Off-Ramp

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	3

	Exising		Baseline Conditions		Baseline+Proposed Project		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	6,180	5,688	6,190	5,823	6,199	5,853	9,139	7,637	9,151	7,675	9,143	7,651
Ramp Volume:	735	1,258	783	1,418	792	1,448	2,525	2,263	2,537	2,301	2,529	2,277
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Freeway Volume (Upstream):	6,742	6,205	6,753	6,352	6,763	6,385	9,970	8,331	9,983	8,373	9,974	8,347
Adjusted Ramp Volume:	802	1,372	854	1,547	864	1,580	2,755	2,469	2,768	2,510	2,759	2,484
Adjusted Freeway Volume (Downstream):	5,940	4,833	5,899	4,805	5,899	4,805	7,215	5,862	7,215	5,863	7,215	5,863
Upstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Upstream Freeway V/C:	0.70	0.65	0.70	0.66	0.70	0.67	1.04	0.87	1.04	0.87	1.04	0.87
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.83	0.67	0.82	0.67	0.82	0.67	1.00	0.81	1.00	0.81	1.00	0.81
Ramp Capacity:	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Ramp V/C:	0.40	0.69	0.43	0.77	0.43	0.79	1.38	1.23	1.38	1.26	1.38	1.24
Density (pc/mi/ln):	18.37	16.91	18.40	17.31	18.43	17.40	27.17	22.70	27.20	22.82	27.18	22.75
Level of Service:	B	B	B	B	B	B	F	F	F	F	F	F

I-80 WB on-ramp from NB Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Single Lane On-Ramp, Enters Own Lane

Existing Upstrm Frwy Lanes / A 3
Existing Dnstrm Frwy Lanes / A 4

	Exising		Baseline Conditions		Baseline+Proposed Project		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Ramp Volume:	528	192	566	217	606	244	635	235	662	253	662	253
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Ramp Volume:	576	209	617	237	661	266	693	256	722	276	722	276
Service Flow Rate @ LOS "A"	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "B"	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "C"	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Service Flow Rate @ LOS "D"	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
Service Flow Rate @ LOS "E"	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Level of Service:	C	C	C	C	C	C	C	C	C	C	C	C

APPENDIX E4
INTERSECTION OPERATIONS CALCULATIONS
BASELINE CONDITIONS

ParkeBridge
Baseline Conditions
AM Peak Hour

Scenario Report

Scenario:	Baseline AM
Command:	Baseline AM
Volume:	Baseline AM
Geometry:	Baseline AM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing AM
Trip Distribution:	Baseline
Paths:	No Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

ParkeBridge
Baseline Conditions
PM Peak

Scenario Report

Scenario:	Baseline PM
Command:	Baseline PM
Volume:	Baseline PM
Geometry:	Baseline PM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing PM
Trip Distribution:	Baseline
Paths:	No Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

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ParkeBridge
Baseline Conditions
AM Peak Hour

Turning Movement Report
Existing AM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	890	528	0	1275	682	0	0	0	330	0	405	4110
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	161	38	0	63	64	0	0	0	9	0	39	374
Total	0	890	528	0	1275	682	0	0	0	330	0	405	4110
#2 Truxel Rd / I-80 East Ramps													
Base	0	750	291	0	1128	477	668	0	151	0	0	0	3465
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	99	27	0	47	25	100	0	13	0	0	0	311
Total	0	750	291	0	1128	477	668	0	151	0	0	0	3465
#3 Truxel Rd / San Juan Rd													
Base	55	645	194	334	727	204	467	301	130	270	229	424	3980
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	7	19	0	68	29	7	42	5	5	0	6	27	215
Total	55	645	194	334	727	204	467	301	130	270	229	424	3980
#4 Truxel Rd / El Camino Avenue													
Base	147	225	55	213	696	281	178	347	145	120	428	110	2945
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	26	0	0	34	0	0	0	0	0	0	0	60
Total	147	225	55	213	696	281	178	347	145	120	428	110	2945
#5 Fong Ranch Rd / San Juan Rd													
Base	32	44	7	150	0	200	269	389	7	6	530	189	1823
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	0	0	0	0	0	0	36	0	0	33	0	69
Total	32	44	7	150	0	200	269	389	7	6	530	189	1823
#6 Pony Express Dr / San Juan Road													
Base	32	0	16	3	1	69	27	486	19	17	651	8	1329
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	0	0	0	0	0	0	36	0	0	33	0	69
Total	32	0	16	3	1	69	27	486	19	17	651	8	1329
#7 Bridgeford Drive \ San Juan Road													
Base	115	15	96	145	16	116	38	381	92	29	401	42	1486
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	0	0	0	0	0	0	23	0	0	14	0	37
Total	115	15	96	145	16	116	38	381	92	29	401	42	1486

ParkeBridge
Baseline Conditions
PM Peak

Turning Movement Report
Existing PM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	1379	192	0	1285	679	0	0	0	531	0	727	4793
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	536	25	0	357	367	0	0	0	30	0	130	1445
Total	0	1379	192	0	1285	679	0	0	0	531	0	727	4793
#2 Truxel Rd / I-80 East Ramps													
Base	0	733	242	0	1487	329	838	0	367	0	0	0	3996
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	223	18	0	246	141	339	0	43	0	0	0	1010
Total	0	733	242	0	1487	329	838	0	367	0	0	0	3996
#3 Truxel Rd / San Juan Rd													
Base	157	703	281	499	819	469	314	307	109	229	225	300	4412
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	24	65	0	132	81	42	59	4	4	0	21	91	523
Total	157	703	281	499	819	469	314	307	109	229	225	300	4412
#4 Truxel Rd / El Camino Avenue													
Base	184	529	127	290	361	164	486	688	141	103	406	251	3730
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	89	0	0	85	0	0	0	0	0	0	0	174
Total	184	529	127	290	361	164	486	688	141	103	406	251	3730
#5 Fong Ranch Rd / San Juan Rd													
Base	3	1	2	20	0	38	65	1013	6	19	635	24	1826
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	0	0	0	0	0	0	111	0	0	112	0	223
Total	3	1	2	20	0	38	65	1013	6	19	635	24	1826
#6 Pony Express Dr / San Juan Road													
Base	14	1	14	13	0	47	86	908	41	14	636	15	1789
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	0	0	0	0	0	0	111	0	0	112	0	223
Total	14	1	14	13	0	47	86	908	41	14	636	15	1789
#7 Bridgeford Drive \ San Juan Road													
Base	72	12	80	78	12	67	116	707	103	91	535	106	1979
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	0	0	0	0	0	0	40	0	0	47	0	87
Total	72	12	80	78	12	67	116	707	103	91	535	106	1979

ParkeBridge
Baseline Conditions
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#8 Northgate Bl / San Juan Rd													
Base	163	694	130	118	718	113	240	233	277	214	209	111	3220
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	9	0	0	0	0	1	2	2	19	0	4	0	37
Total	163	694	130	118	718	113	240	233	277	214	209	111	3220
#9 Northgate / Rosin													
Base	35	934	33	233	707	82	74	17	5	40	2	61	2223
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	35	934	33	233	707	82	74	17	5	40	2	61	2223
#10 Northgate Bl / I-80 East Ramps													
Base	0	685	373	0	835	510	666	0	349	0	0	0	3418
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	2	0	0	1	25	0	0	0	0	0	0	28
Total	0	685	373	0	835	510	666	0	349	0	0	0	3418
#11 Northgate Bl / I-80 West Ramps													
Base	0	1183	168	0	966	395	0	0	0	379	0	785	3876
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	2	0	0	25	0	0	0	0	0	0	39	66
Total	0	1183	168	0	966	395	0	0	0	379	0	785	3876
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

ParkeBridge
Baseline Conditions
PM Peak

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#8 Northgate Bl / San Juan Rd													
Base	453	951	154	285	854	303	317	439	177	209	278	87	4507
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	31	0	0	0	0	2	1	14	25	0	13	0	86
Total	453	951	154	285	854	303	317	439	177	209	278	87	4507
#9 Northgate / Rosin													
Base	41	975	28	80	1090	48	41	4	3	89	5	225	2629
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	41	975	28	80	1090	48	41	4	3	89	5	225	2629
#10 Northgate Bl / I-80 East Ramps													
Base	0	878	504	0	1044	940	407	0	354	0	0	0	4127
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	1	0	0	2	141	0	0	0	0	0	0	144
Total	0	878	504	0	1044	940	407	0	354	0	0	0	4127
#11 Northgate Bl / I-80 West Ramps													
Base	0	936	349	0	1550	823	0	0	0	434	0	473	4565
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Approv	0	1	0	0	144	0	0	0	0	0	0	130	275
Total	0	936	349	0	1550	823	0	0	0	434	0	473	4565
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

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ParkeBridge
Baseline Conditions
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 Truxel Rd / I-80 West Ramps	B	11.1	0.354	B	11.3	0.382	+ 0.228 D/V
# 2 Truxel Rd / I-80 East Ramps	B	13.7	0.408	B	14.5	0.442	+ 0.818 D/V
# 3 Truxel Rd / San Juan Rd	C	30.8	0.653	C	31.5	0.692	+ 0.667 D/V
# 4 Truxel Rd / El Camino Avenue	C	27.6	0.459	C	27.5	0.470	-0.094 D/V
# 5 Fong Ranch Rd / San Juan Rd	C	25.2	0.526	C	25.0	0.537	-0.295 D/V
# 6 Pony Express Dr / San Juan Roa	C	21.5	0.000	C	23.3	0.000	+ 1.800 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	23.5	0.394	C	23.4	0.401	-0.109 D/V
# 8 Northgate Bl / San Juan Rd	C	28.7	0.552	C	28.8	0.562	+ 0.118 D/V
# 9 Northgate / Rosin	B	19.1	0.472	B	19.1	0.472	+ 0.000 D/V
# 10 Northgate Bl / I-80 East Ramps	B	17.0	0.650	B	17.0	0.659	+ 0.019 D/V
# 11 Northgate Bl / I-80 West Ramps	C	30.5	0.923	C	33.4	0.949	+ 2.872 D/V

ParkeBridge
Baseline Conditions
PM Peak

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 Truxel Rd / I-80 West Ramps	B	15.2	0.469	B	15.4	0.613	+ 0.201 D/V
# 2 Truxel Rd / I-80 East Ramps	B	15.7	0.514	B	17.8	0.643	+ 2.116 D/V
# 3 Truxel Rd / San Juan Rd	C	27.2	0.556	C	28.3	0.645	+ 1.140 D/V
# 4 Truxel Rd / El Camino Avenue	C	30.1	0.546	C	30.4	0.574	+ 0.323 D/V
# 5 Fong Ranch Rd / San Juan Rd	B	12.6	0.347	B	12.6	0.382	-0.032 D/V
# 6 Pony Express Dr / San Juan Roa	E	38.6	0.000	F	53.4	0.000	+14.764 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	20.6	0.431	C	20.2	0.444	-0.410 D/V
# 8 Northgate Bl / San Juan Rd	C	33.6	0.757	C	33.9	0.761	+ 0.315 D/V
# 9 Northgate / Rosin	C	21.3	0.573	C	21.3	0.573	+ 0.000 D/V
# 10 Northgate Bl / I-80 East Ramps	B	17.5	0.863	B	19.5	0.923	+ 2.026 D/V
# 11 Northgate Bl / I-80 West Ramps	C	20.2	0.854	C	27.9	0.939	+ 7.743 D/V

ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.382
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 11.3
Optimal Cycle: 26 Level Of Service: B

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0		10	10	0		10	10	0		0	0	10		0	10
Lanes:	0	0	2	1 1	0	0	3	1 1	0	0	0	0 0	2	0	0	0 3
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am																
Base Vol:	0	890	528		0	1275	682		0	0	0		330	0	405	
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	890	528		0	1275	682		0	0	0		330	0	405	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Approved Tr:	0	161	38		0	63	64		0	0	0		9	0	39	
Initial Fut:	0	1051	566		0	1338	746		0	0	0		339	0	444	
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:	0	1051	566		0	1338	746		0	0	0		339	0	444	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1051	566		0	1338	746		0	0	0		339	0	444	
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	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	1051	566		0	1338	746		0	0	0		339	0	444	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.86	0.86		1.00	0.86	0.86		1.00	1.00	1.00		0.92	1.00	0.75	
Lanes:	0.00	2.60	1.40		0.00	3.21	1.79		0.00	0.00	0.00		2.00	0.00	3.00	
Final Sat.:	0	4261	2295		0	5251	2928		0	0	0		3502	0	4264	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.25	0.25		0.00	0.25	0.25		0.00	0.00	0.00		0.10	0.00	0.10	
Crit Moves:						****									****	
Green/Cycle:	0.00	0.67	0.67		0.00	0.67	0.67		0.00	0.00	0.00		0.27	0.00	0.27	
Volume/Cap:	0.00	0.37	0.37		0.00	0.38	0.38		0.00	0.00	0.00		0.36	0.00	0.38	
Delay/Veh:	0.0	7.4	7.4		0.0	7.5	7.5		0.0	0.0	0.0		29.5	0.0	29.7	
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	7.4	7.4		0.0	7.5	7.5		0.0	0.0	0.0		29.5	0.0	29.7	
DesignQueue:	0	21	11		0	26	15		0	0	0		14	0	18	

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.613
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 15.4
Optimal Cycle: 34 Level Of Service: B

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0		10	10	0		10	10	0		0	0	10		0	10
Lanes:	0	0	2	1 1	0	0	3	1 1	0	0	0	0 0	2	0	0	0 3
Volume Module: >> Count Date: 16 Mar 2005 << 5:00pm																
Base Vol:	0	1379	192		0	1285	679		0	0	0		531	0	727	
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	1379	192		0	1285	679		0	0	0		531	0	727	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Approved Tr:	0	536	25		0	357	367		0	0	0		30	0	130	
Initial Fut:	0	1915	217		0	1642	1046		0	0	0		561	0	857	
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:	0	1915	217		0	1642	1046		0	0	0		561	0	857	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1915	217		0	1642	1046		0	0	0		561	0	857	
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	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	1915	217		0	1642	1046		0	0	0		561	0	857	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.90	0.90		1.00	0.86	0.86		1.00	1.00	1.00		0.92	1.00	0.75	
Lanes:	0.00	3.00	1.00		0.00	3.05	1.95		0.00	0.00	0.00		2.00	0.00	3.00	
Final Sat.:	0	5109	1703		0	4975	3169		0	0	0		3502	0	4264	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.37	0.13		0.00	0.33	0.33		0.00	0.00	0.00		0.16	0.00	0.20	
Crit Moves:		****													****	
Green/Cycle:	0.00	0.61	0.61		0.00	0.61	0.61		0.00	0.00	0.00		0.33	0.00	0.33	
Volume/Cap:	0.00	0.61	0.21		0.00	0.54	0.54		0.00	0.00	0.00		0.49	0.00	0.61	
Delay/Veh:	0.0	12.4	8.6		0.0	11.4	11.4		0.0	0.0	0.0		27.2	0.0	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:	0.0	12.4	8.6		0.0	11.4	11.4		0.0	0.0	0.0		27.2	0.0	29.1	
DesignQueue:	0	45	5		0	38	24		0	0	0		22	0	33	

ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.442
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 14.5
Optimal Cycle: 26 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	3	1 1	0 0	2	1 1	2 0	1!	0 1	0 0	0	0 0
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am												
Base Vol:	0	750	291	0	1128	477	668	0	151	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	750	291	0	1128	477	668	0	151	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	99	27	0	47	25	100	0	13	0	0	0
Initial Fut:	0	849	318	0	1175	502	768	0	164	0	0	0
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:	0	849	318	0	1175	502	768	0	164	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	849	318	0	1175	502	768	0	164	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	849	318	0	1175	502	768	0	164	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.87	0.87	1.00	0.87	0.87	0.91	1.00	0.94	1.00	1.00	1.00
Lanes:	0.00	3.64	1.36	0.00	2.80	1.20	2.76	0.00	1.24	0.00	0.00	0.00
Final Sat.:	0	6031	2259	0	4628	1977	4761	0	2198	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.14	0.14	0.00	0.25	0.25	0.16	0.00	0.07	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.00	0.57	0.57	0.00	0.57	0.57	0.37	0.00	0.37	0.00	0.00	0.00
Volume/Cap:	0.00	0.24	0.24	0.00	0.44	0.44	0.44	0.00	0.20	0.00	0.00	0.00
Delay/Veh:	0.0	10.5	10.5	0.0	12.2	12.2	24.2	0.0	21.8	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	10.5	10.5	0.0	12.2	12.2	24.2	0.0	21.8	0.0	0.0	0.0
DesignQueue:	0	21	8	0	29	13	28	0	6	0	0	0

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.643
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.8
Optimal Cycle: 36 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	3	1 1	0 0	2	1 1	2 0	1!	0 1	0 0	0	0 0
Volume Module: >> Count Date: 16 Mar 2005 << 5:00pm												
Base Vol:	0	733	242	0	1487	329	838	0	367	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	733	242	0	1487	329	838	0	367	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	223	18	0	246	141	339	0	43	0	0	0
Initial Fut:	0	956	260	0	1733	470	1177	0	410	0	0	0
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:	0	956	260	0	1733	470	1177	0	410	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	956	260	0	1733	470	1177	0	410	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	956	260	0	1733	470	1177	0	410	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.88	0.88	1.00	0.88	0.88	0.90	1.00	0.93	1.00	1.00	1.00
Lanes:	0.00	3.93	1.07	0.00	3.00	1.00	2.66	0.00	1.34	0.00	0.00	0.00
Final Sat.:	0	6579	1789	0	5021	1674	4548	0	2352	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.15	0.00	0.35	0.28	0.26	0.00	0.17	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.00	0.54	0.54	0.00	0.54	0.54	0.40	0.00	0.40	0.00	0.00	0.00
Volume/Cap:	0.00	0.27	0.27	0.00	0.64	0.52	0.64	0.00	0.43	0.00	0.00	0.00
Delay/Veh:	0.0	12.6	12.6	0.0	16.8	15.0	24.6	0.0	21.7	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	12.6	12.6	0.0	16.8	15.0	24.6	0.0	21.7	0.0	0.0	0.0
DesignQueue:	0	25	7	0	48	13	42	0	14	0	0	0

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ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.692
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	31.5
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Truxel Rd						San Juan Rd					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	55	645	194	334	727	204	467	301	130	270	229	424
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	645	194	334	727	204	467	301	130	270	229	424
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	7	19	0	68	29	7	42	5	5	0	6	27
Initial Fut:	62	664	194	402	756	211	509	306	135	270	235	451
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:	62	664	194	402	756	211	509	306	135	270	235	451
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	62	664	194	402	756	211	509	306	135	270	235	451
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	62	664	194	402	756	211	509	306	135	270	235	451
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.18	0.12	0.11	0.21	0.13	0.15	0.08	0.08	0.08	0.07	0.28
Crit Moves:		****			****			****				****
Green/Cycle:	0.08	0.27	0.46	0.17	0.35	0.56	0.21	0.25	0.34	0.20	0.24	0.40
Volume/Cap:	0.21	0.69	0.26	0.69	0.60	0.23	0.69	0.34	0.25	0.40	0.27	0.69
Delay/Veh:	43.1	35.2	16.7	42.9	27.6	11.3	39.3	30.7	24.3	35.5	31.2	27.8
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:	43.1	35.2	16.7	42.9	27.6	11.3	39.3	30.7	24.3	35.5	31.2	27.8
DesignQueue:	3	28	6	19	29	5	23	13	5	12	10	16

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.645
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	28.3
Optimal Cycle:	53	Level Of Service:	C

Street Name:	Truxel Rd						San Juan Rd					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	157	703	281	499	819	469	314	307	109	229	225	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:	157	703	281	499	819	469	314	307	109	229	225	300
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	24	65	0	132	81	42	59	4	4	0	21	91
Initial Fut:	181	768	281	631	900	511	373	311	113	229	246	391
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:	181	768	281	631	900	511	373	311	113	229	246	391
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	181	768	281	631	900	511	373	311	113	229	246	391
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	181	768	281	631	900	511	373	311	113	229	246	391
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.21	0.17	0.18	0.25	0.32	0.11	0.09	0.07	0.07	0.07	0.24
Crit Moves:		****			****			****			****	
Green/Cycle:	0.10	0.33	0.44	0.28	0.50	0.67	0.17	0.16	0.27	0.11	0.11	0.39
Volume/Cap:	0.49	0.65	0.40	0.65	0.49	0.47	0.65	0.53	0.26	0.61	0.65	0.63
Delay/Veh:	43.3	29.8	19.6	33.2	16.6	8.3	41.5	39.1	29.1	45.6	46.7	27.0
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:	43.3	29.8	19.6	33.2	16.6	8.3	41.5	39.1	29.1	45.6	46.7	27.0
DesignQueue:	9	30	9	26	26	10	18	15	5	12	12	14

ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.470
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.5
Optimal Cycle: 42 Level Of Service: C

Street Name:	Truxel Road						El Camino Avenue					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module: >> Count Date: 17 Mar 2005 << 7:30am												
Base Vol:	147	225	55	213	696	281	178	347	145	120	428	110
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:	147	225	55	213	696	281	178	347	145	120	428	110
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	26	0	0	34	0	0	0	0	0	0	0
Initial Fut:	147	251	55	213	730	281	178	347	145	120	428	110
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:	147	251	55	213	730	281	178	347	145	120	428	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	251	55	213	730	281	178	347	145	120	428	110
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	147	251	55	213	730	281	178	347	145	120	428	110
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.07	0.03	0.06	0.20	0.17	0.05	0.10	0.09	0.03	0.12	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.09	0.32	0.44	0.20	0.43	0.54	0.11	0.24	0.33	0.12	0.25	0.45
Volume/Cap:	0.47	0.22	0.08	0.31	0.47	0.32	0.47	0.40	0.27	0.29	0.47	0.15
Delay/Veh:	44.4	24.7	16.1	34.6	20.6	13.1	42.8	32.2	25.0	40.5	32.1	16.4
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:	44.4	24.7	16.1	34.6	20.6	13.1	42.8	32.2	25.0	40.5	32.1	16.4
DesignQueue:	8	10	2	10	24	7	9	15	6	6	18	3

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.574
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 30.4
Optimal Cycle: 46 Level Of Service: C

Street Name:	Truxel Road						El Camino Avenue					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module: >> Count Date: 17 Mar 2005 << 4:30pm												
Base Vol:	184	529	127	290	361	164	486	688	141	103	406	251
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	529	127	290	361	164	486	688	141	103	406	251
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	89	0	0	85	0	0	0	0	0	0	0
Initial Fut:	184	618	127	290	446	164	486	688	141	103	406	251
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:	184	618	127	290	446	164	486	688	141	103	406	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	618	127	290	446	164	486	688	141	103	406	251
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	184	618	127	290	446	164	486	688	141	103	406	251
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.17	0.08	0.08	0.12	0.10	0.14	0.19	0.09	0.03	0.11	0.16
Crit Moves:		****		****			****				****	
Green/Cycle:	0.13	0.30	0.39	0.14	0.31	0.55	0.24	0.35	0.48	0.09	0.20	0.34
Volume/Cap:	0.40	0.57	0.20	0.57	0.40	0.18	0.57	0.55	0.18	0.32	0.57	0.46
Delay/Veh:	40.3	30.5	20.4	41.5	27.4	11.3	34.3	26.9	15.0	43.2	37.6	26.4
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:	40.3	30.5	20.4	41.5	27.4	11.3	34.3	26.9	15.0	43.2	37.6	26.4
DesignQueue:	9	25	4	14	18	4	21	26	4	5	19	10

ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.537
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 25.0
Optimal Cycle: 46 Level Of Service: C

Street Name:	Fong Ranch Road						San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0 0	1! 0	0	1 0	1! 0	1	1 0	1	1 0	1 0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	32	44	7	150	0	200	269	389	7	6	530	189
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:	32	44	7	150	0	200	269	389	7	6	530	189
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	0	0	0	0	0	0	36	0	0	33	0
Initial Fut:	32	44	7	150	0	200	269	425	7	6	563	189
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:	32	44	7	150	0	200	269	425	7	6	563	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	44	7	150	0	200	269	425	7	6	563	189
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	32	44	7	150	0	200	269	425	7	6	563	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.97	0.89	1.00	0.89	0.95	0.95	0.95	0.95	0.91	0.91
Lanes:	0.39	0.53	0.08	1.43	0.00	1.57	1.00	1.97	0.03	1.00	1.50	0.50
Final Sat.:	711	977	155	2429	0	2672	1805	3544	58	1805	2600	873
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.06	0.00	0.07	0.15	0.12	0.12	0.00	0.22	0.22
Crit Moves:		****		****			****				****	
Green/Cycle:	0.10	0.10	0.10	0.11	0.00	0.38	0.27	0.50	0.50	0.17	0.40	0.40
Volume/Cap:	0.45	0.45	0.45	0.55	0.00	0.19	0.55	0.24	0.24	0.02	0.55	0.55
Delay/Veh:	44.2	44.2	44.2	43.0	0.0	20.5	32.4	14.3	14.3	34.8	23.8	23.8
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:	44.2	44.2	44.2	43.0	0.0	20.5	32.4	14.3	14.3	34.8	23.8	23.8
DesignQueue:	2	2	0	8	0	7	11	12	0	0	20	7

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.382
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 12.6
Optimal Cycle: 46 Level Of Service: B

Street Name:	Fong Ranch Road						San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0 0	1! 0	0	1 0	1! 0	1	1 0	1	1 0	1 0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	3	1	2	20	0	38	65	1013	6	19	635	24
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:	3	1	2	20	0	38	65	1013	6	19	635	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	0	0	0	0	0	0	111	0	0	112	0
Initial Fut:	3	1	2	20	0	38	65	1124	6	19	747	24
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:	3	1	2	20	0	38	65	1124	6	19	747	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	1	2	20	0	38	65	1124	6	19	747	24
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	3	1	2	20	0	38	65	1124	6	19	747	24
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.89	1.00	0.89	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.50	0.17	0.33	1.34	0.00	1.66	1.00	1.99	0.01	1.00	1.94	0.06
Final Sat.:	885	295	590	2266	0	2788	1805	3587	19	1805	3480	112
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.04	0.31	0.31	0.01	0.21	0.21
Crit Moves:	****			****				****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.00	0.21	0.11	0.64	0.64	0.04	0.57	0.57
Volume/Cap:	0.03	0.03	0.03	0.09	0.00	0.07	0.34	0.49	0.49	0.26	0.37	0.37
Delay/Veh:	40.7	40.7	40.7	40.9	0.0	31.9	42.4	9.6	9.6	48.5	11.7	11.7
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:	40.7	40.7	40.7	40.9	0.0	31.9	42.4	9.6	9.6	48.5	11.7	11.7
DesignQueue:	0	0	0	1	0	2	3	24	0	1	19	1

ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: C[23.3]

Street Name:	Pony Express Dr									San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	1	0 1	1 0	1	0 1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 7:00am												
Base Vol:	32	0	16	3	1	69	27	486	19	17	651	8
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:	32	0	16	3	1	69	27	486	19	17	651	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	0	0	0	0	0	0	36	0	0	33	0
Initial Fut:	32	0	16	3	1	69	27	522	19	17	684	8
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:	32	0	16	3	1	69	27	522	19	17	684	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	32	0	16	3	1	69	27	522	19	17	684	8
Critical Gap Module:												
Critical Gp:	7.5	xxxx	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	962	xxxx	271	1037	1317	346	692	xxxx	xxxxx	541	xxxx	xxxxx
Potent Cap.:	213	xxxx	733	188	159	656	912	xxxx	xxxxx	1038	xxxx	xxxxx
Move Cap.:	183	xxxx	733	178	152	656	912	xxxx	xxxxx	1038	xxxx	xxxxx
Volume/Cap:	0.17	xxxx	0.02	0.02	0.01	0.11	0.03	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.1	xxxx	xxxxx	8.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	245	xxxxx	xxxx	567	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.7	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	23.3	xxxxx	xxxxx	12.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	B	*	*	*	*	*	*	*
ApproachDel:		23.3			12.3			xxxxxx			xxxxxx	
ApproachLOS:		C			B			*			*	

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: F[53.4]

Street Name:	Pony Express Dr									San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	1	0 1	1 0	1	0 1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	14	1	14	13	0	47	86	908	41	14	636	15
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:	14	1	14	13	0	47	86	908	41	14	636	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	0	0	0	0	0	0	111	0	0	112	0
Initial Fut:	14	1	14	13	0	47	86	1019	41	14	748	15
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:	14	1	14	13	0	47	86	1019	41	14	748	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	14	1	14	13	0	47	86	1019	41	14	748	15
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	xxxx	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1614	2003	530	1466	xxxx	382	763	xxxx	xxxxx	1060	xxxx	xxxxx
Potent Cap.:	71	60	499	91	xxxx	622	859	xxxx	xxxxx	665	xxxx	xxxxx
Move Cap.:	59	53	499	79	xxxx	622	859	xxxx	xxxxx	665	xxxx	xxxxx
Volume/Cap:	0.24	0.02	0.03	0.16	xxxx	0.08	0.10	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	0.1	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.7	xxxx	xxxxx	10.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	B	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	103	xxxxx	xxxx	251	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.1	xxxxx	xxxxx	0.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	53.4	xxxxx	xxxxx	23.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	C	*	*	*	*	*	*	*
ApproachDel:		53.4			23.8			xxxxxx			xxxxxx	
ApproachLOS:		F			C			*			*	

ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec):	100	Critical Vol./Cap. (X):	0.401
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	23.4
Optimal Cycle:	33	Level Of Service:	C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	115	15	96	145	16	116	38	381	92	29	401	42
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:	115	15	96	145	16	116	38	381	92	29	401	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	0	0	0	0	0	0	23	0	0	14	0
Initial Fut:	115	15	96	145	16	116	38	404	92	29	415	42
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:	115	15	96	145	16	116	38	404	92	29	415	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	15	96	145	16	116	38	404	92	29	415	42
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	115	15	96	145	16	116	38	404	92	29	415	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.70	0.70	0.70	0.70	0.70	0.70	0.95	0.92	0.92	0.95	0.94	0.94
Lanes:	0.51	0.07	0.42	0.52	0.06	0.42	1.00	1.63	0.37	1.00	1.82	0.18
Final Sat.:	676	88	564	700	77	560	1805	2858	651	1805	3232	327
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.21	0.21	0.21	0.02	0.14	0.14	0.02	0.13	0.13
Crit Moves:					****			****		****		
Green/Cycle:	0.52	0.52	0.52	0.52	0.52	0.52	0.09	0.35	0.35	0.04	0.30	0.30
Volume/Cap:	0.33	0.33	0.33	0.40	0.40	0.40	0.23	0.40	0.40	0.40	0.43	0.43
Delay/Veh:	14.3	14.3	14.3	15.1	15.1	15.1	42.7	24.6	24.6	50.4	28.4	28.4
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:	14.3	14.3	14.3	15.1	15.1	15.1	42.7	24.6	24.6	50.4	28.4	28.4
DesignQueue:	3	0	3	4	0	3	2	15	3	2	17	2

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec):	100	Critical Vol./Cap. (X):	0.444
Loss Time (sec):	9 (Y+R = 4 sec)	Average Delay (sec/veh):	20.2
Optimal Cycle:	33	Level Of Service:	C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	72	12	80	78	12	67	116	707	103	91	535	106
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:	72	12	80	78	12	67	116	707	103	91	535	106
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	0	0	0	0	0	0	40	0	0	47	0
Initial Fut:	72	12	80	78	12	67	116	747	103	91	582	106
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:	72	12	80	78	12	67	116	747	103	91	582	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	12	80	78	12	67	116	747	103	91	582	106
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	72	12	80	78	12	67	116	747	103	91	582	106
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.76	0.76	0.73	0.73	0.73	0.95	0.93	0.93	0.95	0.93	0.93
Lanes:	0.44	0.07	0.49	0.50	0.07	0.43	1.00	1.76	0.24	1.00	1.69	0.31
Final Sat.:	634	106	705	691	106	593	1805	3115	430	1805	2984	543
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.11	0.11	0.11	0.06	0.24	0.24	0.05	0.20	0.20
Crit Moves:		****						****		****		
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.16	0.54	0.54	0.11	0.49	0.49
Volume/Cap:	0.44	0.44	0.44	0.44	0.44	0.44	0.40	0.44	0.44	0.44	0.40	0.40
Delay/Veh:	32.1	32.1	32.1	32.1	32.1	32.1	38.4	14.1	14.1	42.9	16.2	16.2
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:	32.1	32.1	32.1	32.1	32.1	32.1	38.4	14.1	14.1	42.9	16.2	16.2
DesignQueue:	3	1	3	3	1	3	5	20	3	5	17	3

ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.562
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 28.8
Optimal Cycle: 45 Level Of Service: C

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				Ovl				Ovl				Include		
Min. Green:	5	10		10	5	10		10	5	10		10	5	10		10
Lanes:	2	0	1	1 0	1	0	2	0 1	2	0	2	0 1	2	0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 7:30am																
Base Vol:	163	694		130	118	718		113	240	233		277	214	209		111
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:	163	694		130	118	718		113	240	233		277	214	209		111
Added Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Approved Tr:	9	0		0	0	0		1	2	2		19	0	4		0
Initial Fut:	172	694		130	118	718		114	242	235		296	214	213		111
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:	172	694		130	118	718		114	242	235		296	214	213		111
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	172	694		130	118	718		114	242	235		296	214	213		111
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	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Final Vol.:	172	694		130	118	718		114	242	235		296	214	213		111
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900
Adjustment:	0.92	0.93		0.93	0.95	0.95		0.85	0.92	0.95		0.85	0.92	0.90		0.90
Lanes:	2.00	1.68		0.32	1.00	2.00		1.00	2.00	2.00		1.00	2.00	1.31		0.69
Final Sat.:	3502	2967		556	1805	3610		1615	3502	3610		1615	3502	2252		1174
Capacity Analysis Module:																
Vol/Sat:	0.05	0.23		0.23	0.07	0.20		0.07	0.07	0.07		0.18	0.06	0.09		0.09
Crit Moves:		****			****							****	****			
Green/Cycle:	0.11	0.42		0.42	0.12	0.43		0.57	0.14	0.24		0.34	0.11	0.20		0.20
Volume/Cap:	0.46	0.56		0.56	0.56	0.47		0.12	0.49	0.27		0.53	0.56	0.46		0.46
Delay/Veh:	42.8	22.7		22.7	45.2	20.8		10.2	40.4	31.3		27.3	44.2	35.4		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:	42.8	22.7		22.7	45.2	20.8		10.2	40.4	31.3		27.3	44.2	35.4		35.4
DesignQueue:	9	24		4	6	24		3	12	10		11	11	10		5

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ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.761
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 33.9
Optimal Cycle: 69 Level Of Service: C

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				Ovl				Ovl				Include		
Min. Green:	5	10		10	5	10		10	5	10		10	5	10		10
Lanes:	2	0	1	1 0	1	0	2	0 1	2	0	2	0 1	2	0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm																
Base Vol:	453	951		154	285	854		303	317	439		177	209	278		87
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:	453	951		154	285	854		303	317	439		177	209	278		87
Added Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Approved Tr:	31	0		0	0	0		2	1	14		25	0	13		0
Initial Fut:	484	951		154	285	854		305	318	453		202	209	291		87
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:	484	951		154	285	854		305	318	453		202	209	291		87
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	484	951		154	285	854		305	318	453		202	209	291		87
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	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Final Vol.:	484	951		154	285	854		305	318	453		202	209	291		87
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900
Adjustment:	0.92	0.93		0.93	0.95	0.95		0.85	0.92	0.95		0.85	0.92	0.92		0.92
Lanes:	2.00	1.72		0.28	1.00	2.00		1.00	2.00	2.00		1.00	2.00	1.54		0.46
Final Sat.:	3502	3042		493	1805	3610		1615	3502	3610		1615	3502	2685		803
Capacity Analysis Module:																
Vol/Sat:	0.14	0.31		0.31	0.16	0.24		0.19	0.09	0.13		0.13	0.06	0.11		0.11
Crit Moves:		****			****				****					****		
Green/Cycle:	0.23	0.41		0.41	0.21	0.39		0.51	0.12	0.18		0.41	0.08	0.14		0.14
Volume/Cap:	0.61	0.76		0.76	0.76	0.61		0.37	0.76	0.71		0.31	0.71	0.76		0.76
Delay/Veh:	35.9	27.7		27.7	46.1	25.1		15.1	50.6	42.3		20.5	52.2	48.0		48.0
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:	35.9	27.7		27.7	46.1	25.1		15.1	50.6	42.3		20.5	52.2	48.0		48.0
DesignQueue:	21	34		5	13	31		9	16	21		7	11	14		4

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ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.472
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 19.1
Optimal Cycle: 42 Level Of Service: B

Approach:	North Bound			South Bound			East Bound				West Bound			
Movement:	L	T	T	R	L	T	T	R	L	T	T	R	L	T	T	R
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Ovl				Include			
Min. Green:	5	10	10		5	10	10		5	10	10		5	10	10	
Lanes:	1	0	1	1	0	2	0	1	1	0	1	0	1	1	0	1	0	1	0	1	0
Volume Module:																					
Base Vol:	35	934	33		233	707	82		74	17	5	40	2	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:	35	934	33		233	707	82		74	17	5	40	2	61							
Added Vol:	0	0	0		0	0	0		0	0	0	0	0	0							
PasserByVol:	0	0	0		0	0	0		0	0	0	0	0	0							
Initial Fut:	35	934	33		233	707	82		74	17	5	40	2	61							
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:	35	934	33		233	707	82		74	17	5	40	2	61							
Reduct Vol:	0	0	0		0	0	0		0	0	0	0	0	0							
Reduced Vol:	35	934	33		233	707	82		74	17	5	40	2	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	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00							
Final Vol.:	35	934	33		233	707	82		74	17	5	40	2	61							
Saturation Flow Module:																					
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900	1900	1900	1900							
Adjustment:	0.95	0.95	0.95		0.92	0.93	0.93		0.95	1.00	0.85	0.95	0.86	0.86							
Lanes:	1.00	1.93	0.07		2.00	1.79	0.21		1.00	1.00	1.00	1.00	0.03	0.97							
Final Sat.:	1805	3469	123		3502	3183	369		1805	1900	1615	1805	52	1573							
Capacity Analysis Module:																					
Vol/Sat:	0.02	0.27	0.27		0.07	0.22	0.22		0.04	0.01	0.00	0.02	0.04	0.04							
Crit Moves:		****			****				****				****								
Green/Cycle:	0.13	0.56	0.56		0.14	0.57	0.57		0.08	0.12	0.25	0.06	0.10	0.10							
Volume/Cap:	0.15	0.48	0.48		0.48	0.39	0.39		0.48	0.07	0.01	0.36	0.39	0.39							
Delay/Veh:	39.1	13.6	13.6		40.6	12.2	12.2		46.1	38.9	28.2	47.0	43.7	43.7							
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:	39.1	13.6	13.6		40.6	12.2	12.2		46.1	38.9	28.2	47.0	43.7	43.7							
DesignQueue:	2	25	1		11	18	2		4	1	0	2	0	3							

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.573
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.3
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound			South Bound			East Bound				West Bound			
Movement:	L	T	T	R	L	T	T	R	L	T	T	R	L	T	T	R
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	5	10	10		5	10	10		5	10	10		5	10	10	
Lanes:	1	0	1	1	0	2	0	1	1	0	1	0	1	1	0	1	0	1	0	1	0
Volume Module:																					
Base Vol:	41	975	28		80	1090	48		41	4	3	89	5	225							
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:	41	975	28		80	1090	48		41	4	3	89	5	225							
Added Vol:	0	0	0		0	0	0		0	0	0	0	0	0							
PasserByVol:	0	0	0		0	0	0		0	0	0	0	0	0							
Initial Fut:	41	975	28		80	1090	48		41	4	3	89	5	225							
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:	41	975	28		80	1090	48		41	4	3	89	5	225							
Reduct Vol:	0	0	0		0	0	0		0	0	0	0	0	0							
Reduced Vol:	41	975	28		80	1090	48		41	4	3	89	5	225							
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	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00							
Final Vol.:	41	975	28		80	1090	48		41	4	3	89	5	225							
Saturation Flow Module:																					
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900	1900	1900	1900							
Adjustment:	0.95	0.95	0.95		0.92	0.94	0.94		0.95	1.00	0.85	0.95	0.85	0.85							
Lanes:	1.00	1.94	0.06		2.00	1.92	0.08		1.00	1.00	1.00	1.00	0.02	0.98							
Final Sat.:	1805	3495	100		3502	3437	151		1805	1900	1615	1805	35	1585							
Capacity Analysis Module:																					
Vol/Sat:	0.02	0.28	0.28		0.02	0.32	0.32		0.02	0.00	0.00	0.05	0.14	0.14							
Crit Moves:	****					****			****				****								
Green/Cycle:	0.05	0.50	0.50		0.09	0.54	0.54		0.05	0.19	0.19	0.10	0.24	0.24							
Volume/Cap:	0.45	0.56	0.56		0.26	0.59	0.59		0.45	0.01	0.01	0.51	0.59	0.59							
Delay/Veh:	49.8	17.8	17.8		42.9	16.1	16.1		49.8	32.6	32.5	45.3	35.9	35.9							
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:	49.8	17.8	17.8		42.9	16.1	16.1		49.8	32.6	32.5	45.3	35.9	35.9							
DesignQueue:	2	29	1		4	30	1		2	0	0	5	0	10							

ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.659
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.0
Optimal Cycle: 38 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2	0 1	0 0	1	1 0	2	0 0	0 1	0 0	0	0 0
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am												
Base Vol:	0	685	373	0	835	510	666	0	349	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	685	373	0	835	510	666	0	349	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	2	0	0	1	25	0	0	0	0	0	0
Initial Fut:	0	687	373	0	836	535	666	0	349	0	0	0
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:	0	687	373	0	836	535	666	0	349	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	687	373	0	836	535	666	0	349	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	687	373	0	836	535	666	0	349	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.89	0.89	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.22	0.78	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	2074	1327	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.19	0.23	0.00	0.40	0.40	0.19	0.00	0.22	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.61	0.61	0.00	0.61	0.61	0.33	0.00	0.33	0.00	0.00	0.00
Volume/Cap:	0.00	0.31	0.38	0.00	0.66	0.66	0.58	0.00	0.66	0.00	0.00	0.00
Delay/Veh:	0.0	9.4	10.0	0.0	13.4	13.4	28.6	0.0	31.9	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	9.4	10.0	0.0	13.4	13.4	28.6	0.0	31.9	0.0	0.0	0.0
DesignQueue:	0	16	8	0	20	13	26	0	14	0	0	0

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.923
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 19.5
Optimal Cycle: 109 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2	0 1	0 0	1	1 0	2	0 0	0 1	0 0	0	0 0
Volume Module: >> Count Date: 16 Mar 2005 << 4:15pm												
Base Vol:	0	878	504	0	1044	940	407	0	354	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	878	504	0	1044	940	407	0	354	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	1	0	0	2	141	0	0	0	0	0	0
Initial Fut:	0	879	504	0	1046	1081	407	0	354	0	0	0
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:	0	879	504	0	1046	1081	407	0	354	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	879	504	0	1046	1081	407	0	354	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	879	504	0	1046	1081	407	0	354	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.88	0.88	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	1668	1668	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.31	0.00	0.63	0.65	0.12	0.00	0.22	0.00	0.00	0.00
Crit Moves:						****			****			
Green/Cycle:	0.00	0.70	0.70	0.00	0.70	0.70	0.24	0.00	0.24	0.00	0.00	0.00
Volume/Cap:	0.00	0.35	0.44	0.00	0.89	0.92	0.49	0.00	0.92	0.00	0.00	0.00
Delay/Veh:	0.0	5.9	6.7	0.0	16.6	19.4	33.3	0.0	64.7	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	5.9	6.7	0.0	16.6	19.4	33.3	0.0	64.7	0.0	0.0	0.0
DesignQueue:	0	15	9	0	20	21	18	0	16	0	0	0

ParkeBridge
Baseline Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.949
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 33.4
Optimal Cycle: 134 Level Of Service: C

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1	1 0	0 0	2	0 1	0 0	0	0 0	2	0	0 0 1
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am												
Base Vol:	0	1183	168	0	966	395	0	0	0	379	0	785
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	1183	168	0	966	395	0	0	0	379	0	785
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	2	0	0	25	0	0	0	0	0	0	39
Initial Fut:	0	1185	168	0	991	395	0	0	0	379	0	824
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:	0	1185	168	0	991	395	0	0	0	379	0	824
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1185	168	0	991	395	0	0	0	379	0	824
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1185	168	0	991	395	0	0	0	379	0	824
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.93	0.93	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.75	0.25	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3102	440	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.38	0.00	0.27	0.24	0.00	0.00	0.00	0.11	0.00	0.51
Crit Moves:		****										****
Green/Cycle:	0.00	0.40	0.40	0.00	0.40	0.40	0.00	0.00	0.00	0.54	0.00	0.54
Volume/Cap:	0.00	0.95	0.95	0.00	0.68	0.61	0.00	0.00	0.00	0.20	0.00	0.95
Delay/Veh:	0.0	42.5	42.5	0.0	26.0	25.3	0.0	0.0	0.0	12.0	0.0	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:	0.0	42.5	42.5	0.0	26.0	25.3	0.0	0.0	0.0	12.0	0.0	41.1
DesignQueue:	0	43	6	0	35	14	0	0	0	10	0	24

ParkeBridge
Baseline Conditions
PM Peak

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.939
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 27.9
Optimal Cycle: 123 Level Of Service: C

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1	1 0	0 0	2	0 1	0 0	0	0 0	2	0	0 0 1
Volume Module: >> Count Date: 16 Mar 2005 << 4:15pm												
Base Vol:	0	936	349	0	1550	823	0	0	0	434	0	473
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	936	349	0	1550	823	0	0	0	434	0	473
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Approved Tr:	0	1	0	0	144	0	0	0	0	0	0	130
Initial Fut:	0	937	349	0	1694	823	0	0	0	434	0	603
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:	0	937	349	0	1694	823	0	0	0	434	0	603
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	937	349	0	1694	823	0	0	0	434	0	603
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	937	349	0	1694	823	0	0	0	434	0	603
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.91	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.46	0.54	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2522	940	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.37	0.00	0.47	0.51	0.00	0.00	0.00	0.12	0.00	0.37
Crit Moves:						****						****
Green/Cycle:	0.00	0.54	0.54	0.00	0.54	0.54	0.00	0.00	0.00	0.40	0.00	0.40
Volume/Cap:	0.00	0.68	0.68	0.00	0.86	0.94	0.00	0.00	0.00	0.31	0.00	0.94
Delay/Veh:	0.0	17.7	17.7	0.0	24.0	38.8	0.0	0.0	0.0	20.8	0.0	50.8
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	17.7	17.7	0.0	24.0	38.8	0.0	0.0	0.0	20.8	0.0	50.8
DesignQueue:	0	26	10	0	49	24	0	0	0	15	0	22

APPENDIX E5
INTERSECTION OPERATIONS CALCULATIONS
CUMULATIVE CONDITIONS

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Scenario Report

Scenario:	Cumulative Base + Project wo FR Ext AM
Command:	Cumulative + Project wo FR Ext AM
Volume:	Cumulative + Project wo FR Ext AM
Geometry:	Cumulative Base AM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing AM
Trip Distribution:	Cumulative w/o Fong Ranch
Paths:	Cumulative No Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Scenario Report

Scenario:	Cumulative Base + Project wo FR Ext PM
Command:	Cumulative + Project wo FR Ext PM
Volume:	Cumulative + Project wo FR Ext PM
Geometry:	Cumulative Base PM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing PM
Trip Distribution:	Cumulative w/o Fong Ranch
Paths:	Cumulative No Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

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ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Turning Movement Report
Existing AM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	2587	635	0	2280	1411	0	0	0	396	0	2129	9438
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2587	635	0	2280	1411	0	0	0	396	0	2129	9438
#2 Truxel Rd / I-80 East Ramps													
Base	0	1300	432	0	1468	1208	1922	0	181	0	0	0	6511
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1300	432	0	1468	1208	1922	0	181	0	0	0	6511
#3 Truxel Rd / San Juan Rd													
Base	499	908	233	455	825	280	644	390	361	324	466	675	6060
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	499	908	233	455	825	280	644	390	361	324	466	675	6060
#4 Truxel Rd / El Camino Avenue													
Base	251	525	66	220	982	281	236	453	204	217	518	245	4198
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	251	525	66	220	982	281	236	453	204	217	518	245	4198
#5 Fong Ranch Rd / San Juan Rd													
Base	38	53	8	180	0	240	323	760	8	7	1202	227	3046
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	38	53	8	180	0	240	323	760	8	7	1202	227	3046
#6 Pony Express Dr / San Juan Road													
Base	38	0	19	4	1	83	32	878	23	20	1306	10	2414
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	38	0	19	4	1	83	32	878	23	20	1306	10	2414
#7 Bridgeford Drive \ San Juan Road													
Base	131	18	112	174	19	139	67	678	110	37	1012	68	2565
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	131	18	112	174	19	139	67	678	110	37	1012	68	2565
#8 Northgate Bl / San Juan Rd													
Base	293	872	174	142	876	241	272	365	338	258	553	158	4542
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	293	872	174	142	876	241	272	365	338	258	553	158	4542
#9 Northgate / Rosin													
Base	93	1432	40	280	1018	120	106	20	30	48	2	73	3262
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	93	1432	40	280	1018	120	106	20	30	48	2	73	3262

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Turning Movement Report
Existing PM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	2564	235	0	2670	2002	0	0	0	579	0	1684	9734
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2564	235	0	2670	2002	0	0	0	579	0	1684	9734
#2 Truxel Rd / I-80 East Ramps													
Base	0	1280	356	0	2103	1146	1519	0	440	0	0	0	6844
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1280	356	0	2103	1146	1519	0	440	0	0	0	6844
#3 Truxel Rd / San Juan Rd													
Base	528	944	281	763	1178	603	468	597	438	229	361	392	6782
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	528	944	281	763	1178	603	468	597	438	229	361	392	6782
#4 Truxel Rd / El Camino Avenue													
Base	306	942	198	431	746	197	535	858	480	153	412	255	5513
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	306	942	198	431	746	197	535	858	480	153	412	255	5513
#5 Fong Ranch Rd / San Juan Rd													
Base	4	1	2	27	0	46	78	1557	7	23	934	29	2708
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	1	2	27	0	46	78	1557	7	23	934	29	2708
#6 Pony Express Dr / San Juan Road													
Base	17	1	16	16	0	56	103	1430	49	17	903	18	2626
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	17	1	16	16	0	56	103	1430	49	17	903	18	2626
#7 Bridgeford Drive \ San Juan Road													
Base	113	14	96	94	14	80	139	1159	121	125	783	159	2897
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	113	14	96	94	14	80	139	1159	121	125	783	159	2897
#8 Northgate Bl / San Juan Rd													
Base	484	1026	238	324	938	329	357	633	244	251	334	104	5262
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	484	1026	238	324	938	329	357	633	244	251	334	104	5262
#9 Northgate / Rosin													
Base	81	1289	34	96	1295	60	741	5	19	107	6	270	4003
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	81	1289	34	96	1295	60	741	5	19	107	6	270	4003

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#10 Northgate Bl / I-80 East Ramps													
Base	0	919	548	0	906	545	701	0	385	0	0	0	4004
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	919	548	0	906	545	701	0	385	0	0	0	4004
#11 Northgate Bl / I-80 West Ramps													
Base	0	1404	215	0	996	785	0	0	0	455	0	803	4658
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1404	215	0	996	785	0	0	0	455	0	803	4658
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#10 Northgate Bl / I-80 East Ramps													
Base	0	994	605	0	1156	995	450	0	395	0	0	0	4595
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	994	605	0	1156	995	450	0	395	0	0	0	4595
#11 Northgate Bl / I-80 West Ramps													
Base	0	987	458	0	1630	789	0	0	0	521	0	717	5102
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	987	458	0	1630	789	0	0	0	521	0	717	5102
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

ParkeBridge
Cumulative Conditions w/o Fong Extension
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 Truxel Rd / I-80 West Ramps	E	71.5	1.152	E	71.5	1.152	+ 0.000 D/V
# 2 Truxel Rd / I-80 East Ramps	C	27.4	0.908	C	27.4	0.908	+ 0.000 D/V
# 3 Truxel Rd / San Juan Rd	E	63.8	1.041	E	63.8	1.041	+ 0.000 D/V
# 4 Truxel Rd / El Camino Avenue	C	31.9	0.676	C	31.9	0.676	+ 0.000 D/V
# 5 Fong Ranch Rd / San Juan Rd	C	28.7	0.809	C	28.7	0.809	+ 0.000 D/V
# 6 Pony Express Dr / San Juan Roa	F	157.8	0.000	F	157.8	0.000	+ 0.000 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	24.1	0.663	C	24.1	0.663	+ 0.000 D/V
# 8 Northgate Bl / San Juan Rd	C	33.0	0.747	C	33.0	0.747	+ 0.000 D/V
# 9 Northgate / Rosin	C	21.0	0.675	C	21.0	0.675	+ 0.000 D/V
# 10 Northgate Bl / I-80 East Ramps	B	17.7	0.707	B	17.7	0.707	+ 0.000 D/V
# 11 Northgate Bl / I-80 West Ramps	D	46.1	1.046	D	46.1	1.046	+ 0.000 D/V

ParkeBridge
Cumulative Conditions w/o Fong Extension
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 Truxel Rd / I-80 West Ramps	E	59.3	1.152	E	59.3	1.152	+ 0.000 D/V
# 2 Truxel Rd / I-80 East Ramps	C	27.0	0.936	C	27.0	0.936	+ 0.000 D/V
# 3 Truxel Rd / San Juan Rd	D	41.4	0.866	D	41.4	0.866	+ 0.000 D/V
# 4 Truxel Rd / El Camino Avenue	D	36.8	0.811	D	36.8	0.811	+ 0.000 D/V
# 5 Fong Ranch Rd / San Juan Rd	B	14.1	0.525	B	14.1	0.525	+ 0.000 D/V
# 6 Pony Express Dr / San Juan Roa	F	259.3	0.000	F	259.3	0.000	+ 0.000 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	22.3	0.657	C	22.3	0.657	+ 0.000 D/V
# 8 Northgate Bl / San Juan Rd	D	40.3	0.894	D	40.3	0.894	+ 0.000 D/V
# 9 Northgate / Rosin	F	106.5	1.141	F	106.5	1.141	+ 0.000 D/V
# 10 Northgate Bl / I-80 East Ramps	C	22.2	0.941	C	22.2	0.941	+ 0.000 D/V
# 11 Northgate Bl / I-80 West Ramps	D	36.2	0.992	D	36.2	0.992	+ 0.000 D/V

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ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 1.152
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 71.5
Optimal Cycle: 180 Level Of Service: E

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						Split Phase						Split Phase					
Rights:	Include						Include						Include						Include					
Min. Green:	0		10		10		0		10		10		0		0		0		10		0		10	
Lanes:	0	0	2	1	1		0	0	3	1	1		0	0	0	0	0		2	0	0	0	3	
Volume Module:																								
Base Vol:	0	2587	635				0	2280	1411				0	0	0	396	0	2129						
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	2587	635				0	2280	1411				0	0	0	396	0	2129						
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:	0	2587	635				0	2280	1411				0	0	0	396	0	2129						
Reduct Vol:	0	0	0				0	0	0				0	0	0	0	0	0						
Reduced Vol:	0	2587	635				0	2280	1411				0	0	0	396	0	2129						
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	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00						
Final Vol.:	0	2587	635				0	2280	1411				0	0	0	396	0	2129						
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900	1900				1900	1900	1900	1900	1900	1900						
Adjustment:	1.00	0.88	0.88				1.00	0.86	0.86				1.00	1.00	1.00	0.92	1.00	0.75						
Lanes:	0.00	3.00	1.00				0.00	3.09	1.91				0.00	0.00	0.00	2.00	0.00	3.00						
Final Sat.:	0	5031	1677				0	5036	3116				0	0	0	3502	0	4264						
Capacity Analysis Module:																								
Vol/Sat:	0.00	0.51	0.38				0.00	0.45	0.45				0.00	0.00	0.00	0.11	0.00	0.50						
Crit Moves:		****																****						
Green/Cycle:	0.00	0.45	0.45				0.00	0.45	0.45				0.00	0.00	0.00	0.43	0.00	0.43						
Volume/Cap:	0.00	1.15	0.85				0.00	1.01	1.01				0.00	0.00	0.00	0.26	0.00	1.15						
Delay/Veh:	0.0	101	26.6				0.0	46.2	46.2				0.0	0.0	0.0	18.2	0.0	103.3						
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:	0.0	101	26.6				0.0	46.2	46.2				0.0	0.0	0.0	18.2	0.0	103.3						
DesignQueue:	0	90	21				0	78	48				0	0	0	13	0	74						

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 1.152
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 59.3
Optimal Cycle: 180 Level Of Service: E

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						Split Phase						Split Phase					
Rights:	Include						Include						Include						Include					
Min. Green:	0		10		10		0		10		10		0		0		0		10		0		10	
Lanes:	0	0	2	1	1		0	0	3	1	1		0	0	0	0	0		2	0	0	0	3	
Volume Module:																								
Base Vol:	0	2564	235				0	2670	2002				0	0	0	579	0	1684						
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	2564	235				0	2670	2002				0	0	0	579	0	1684						
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:	0	2564	235				0	2670	2002				0	0	0	579	0	1684						
Reduct Vol:	0	0	0				0	0	0				0	0	0	0	0	0						
Reduced Vol:	0	2564	235				0	2670	2002				0	0	0	579	0	1684						
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	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00						
Final Vol.:	0	2564	235				0	2670	2002				0	0	0	579	0	1684						
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900	1900				1900	1900	1900	1900	1900	1900						
Adjustment:	1.00	0.90	0.90				1.00	0.85	0.85				1.00	1.00	1.00	0.92	1.00	0.75						
Lanes:	0.00	3.00	1.00				0.00	3.00	2.00				0.00	0.00	0.00	2.00	0.00	3.00						
Final Sat.:	0	5120	1707				0	4855	3237				0	0	0	3502	0	4264						
Capacity Analysis Module:																								
Vol/Sat:	0.00	0.50	0.14				0.00	0.55	0.62				0.00	0.00	0.00	0.17	0.00	0.39						
Crit Moves:									****									****						
Green/Cycle:	0.00	0.54	0.54				0.00	0.54	0.54				0.00	0.00	0.00	0.34	0.00	0.34						
Volume/Cap:	0.00	0.93	0.26				0.00	1.02	1.15				0.00	0.00	0.00	0.48	0.00	1.15						
Delay/Veh:	0.0	27.6	12.4				0.0	43.1	94.6				0.0	0.0	0.0	26.2	0.0	109.5						
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:	0.0	27.6	12.4				0.0	43.1	94.6				0.0	0.0	0.0	26.2	0.0	109.5						
DesignQueue:	0	75	6				0	78	60				0	0	0	22	0	67						

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.908
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.4
Optimal Cycle: 113 Level Of Service: C

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	3	1 1	0 0	2	1 1	2 0	1!	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	1300	432	0	1468	1208	1922	0	181	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	1300	432	0	1468	1208	1922	0	181	0	0	0
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:	0	1300	432	0	1468	1208	1922	0	181	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1300	432	0	1468	1208	1922	0	181	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1300	432	0	1468	1208	1922	0	181	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.88	0.88	1.00	0.85	0.85	0.92	1.00	0.94	1.00	1.00	1.00
Lanes:	0.00	3.75	1.25	0.00	2.19	1.81	2.88	0.00	1.12	0.00	0.00	0.00
Final Sat.:	0	6249	2076	0	3536	2910	5007	0	2009	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.21	0.21	0.00	0.42	0.42	0.38	0.00	0.09	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.00	0.46	0.46	0.00	0.46	0.46	0.42	0.00	0.42	0.00	0.00	0.00
Volume/Cap:	0.00	0.45	0.45	0.00	0.91	0.91	0.91	0.00	0.21	0.00	0.00	0.00
Delay/Veh:	0.0	18.7	18.7	0.0	29.8	29.8	32.8	0.0	18.3	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	18.7	18.7	0.0	29.8	29.8	32.8	0.0	18.3	0.0	0.0	0.0
DesignQueue:	0	41	14	0	49	40	68	0	6	0	0	0

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.936
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.0
Optimal Cycle: 129 Level Of Service: C

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	3	1 1	0 0	2	1 1	2 0	1!	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	1280	356	0	2103	1146	1519	0	440	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	1280	356	0	2103	1146	1519	0	440	0	0	0
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:	0	1280	356	0	2103	1146	1519	0	440	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1280	356	0	2103	1146	1519	0	440	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1280	356	0	2103	1146	1519	0	440	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.88	0.88	1.00	0.86	0.86	0.90	1.00	0.93	1.00	1.00	1.00
Lanes:	0.00	3.91	1.09	0.00	2.59	1.41	2.70	0.00	1.30	0.00	0.00	0.00
Final Sat.:	0	6541	1819	0	4239	2310	4635	0	2292	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.20	0.20	0.00	0.50	0.50	0.33	0.00	0.19	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.00	0.53	0.53	0.00	0.53	0.53	0.35	0.00	0.35	0.00	0.00	0.00
Volume/Cap:	0.00	0.37	0.37	0.00	0.94	0.94	0.94	0.00	0.55	0.00	0.00	0.00
Delay/Veh:	0.0	13.8	13.8	0.0	27.6	27.6	40.1	0.0	26.3	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	13.8	13.8	0.0	27.6	27.6	40.1	0.0	26.3	0.0	0.0	0.0
DesignQueue:	0	35	10	0	62	34	59	0	17	0	0	0

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	1.041
Loss Time (sec):	18 (Y+R = 4 sec)	Average Delay (sec/veh):	63.8
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Truxel Rd						San Juan Rd					
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:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2	0 1	2 0	2	0 1	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	499	908	233	455	825	280	644	390	361	324	466	675
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:	499	908	233	455	825	280	644	390	361	324	466	675
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:	499	908	233	455	825	280	644	390	361	324	466	675
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	499	908	233	455	825	280	644	390	361	324	466	675
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	499	908	233	455	825	280	644	390	361	324	466	675
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.14	0.25	0.14	0.13	0.23	0.17	0.18	0.11	0.22	0.09	0.13	0.42
Crit Moves:		****		****			****					****
Green/Cycle:	0.14	0.24	0.45	0.12	0.23	0.40	0.18	0.24	0.39	0.21	0.28	0.40
Volume/Cap:	1.01	1.04	0.32	1.04	1.01	0.43	1.04	0.44	0.58	0.44	0.47	1.04
Delay/Veh:	86.6	79.5	17.9	97.8	73.3	22.1	88.4	32.4	25.7	34.9	30.4	76.3
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:	86.6	79.5	17.9	97.8	73.3	22.1	88.4	32.4	25.7	34.9	30.4	76.3
DesignQueue:	25	41	7	23	38	10	31	17	13	15	19	25

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.866
Loss Time (sec):	18 (Y+R = 4 sec)	Average Delay (sec/veh):	41.4
Optimal Cycle:	108	Level Of Service:	D

Street Name:	Truxel Rd						San Juan Rd					
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:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2	0 1	2 0	2	0 1	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	528	944	281	763	1178	603	468	597	438	229	361	392
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:	528	944	281	763	1178	603	468	597	438	229	361	392
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:	528	944	281	763	1178	603	468	597	438	229	361	392
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	528	944	281	763	1178	603	468	597	438	229	361	392
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	528	944	281	763	1178	603	468	597	438	229	361	392
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.15	0.26	0.17	0.22	0.33	0.37	0.13	0.17	0.27	0.07	0.10	0.24
Crit Moves:		****		****				****		****		
Green/Cycle:	0.17	0.30	0.38	0.25	0.38	0.53	0.15	0.19	0.37	0.08	0.11	0.37
Volume/Cap:	0.86	0.87	0.46	0.87	0.86	0.70	0.88	0.87	0.74	0.87	0.88	0.66
Delay/Veh:	52.1	40.5	24.0	44.8	34.5	20.2	56.6	50.4	32.6	70.3	62.3	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:	52.1	40.5	24.0	44.8	34.5	20.2	56.6	50.4	32.6	70.3	62.3	29.4
DesignQueue:	25	39	10	33	44	17	23	28	16	12	18	15

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.676
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 31.9
Optimal Cycle: 70 Level Of Service: C

Street Name:	Truxel Road						El Camino Avenue					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	251	525	66	220	982	281	236	453	204	217	518	245
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:	251	525	66	220	982	281	236	453	204	217	518	245
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:	251	525	66	220	982	281	236	453	204	217	518	245
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	525	66	220	982	281	236	453	204	217	518	245
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	251	525	66	220	982	281	236	453	204	217	518	245
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.15	0.04	0.06	0.27	0.17	0.07	0.13	0.13	0.06	0.14	0.15
Crit Moves:	****				****		****				****	
Green/Cycle:	0.11	0.35	0.46	0.15	0.40	0.50	0.10	0.21	0.31	0.10	0.21	0.37
Volume/Cap:	0.68	0.41	0.09	0.41	0.68	0.35	0.68	0.60	0.40	0.60	0.68	0.42
Delay/Veh:	48.0	24.6	15.4	38.8	25.8	15.3	48.7	37.2	27.4	45.7	38.7	24.2
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:	48.0	24.6	15.4	38.8	25.8	15.3	48.7	37.2	27.4	45.7	38.7	24.2
DesignQueue:	13	20	2	11	35	8	12	21	8	11	24	9

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.811
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 36.8
Optimal Cycle: 93 Level Of Service: D

Street Name:	Truxel Road						El Camino Avenue					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	306	942	198	431	746	197	535	858	480	153	412	255
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:	306	942	198	431	746	197	535	858	480	153	412	255
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:	306	942	198	431	746	197	535	858	480	153	412	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	306	942	198	431	746	197	535	858	480	153	412	255
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	306	942	198	431	746	197	535	858	480	153	412	255
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.26	0.12	0.12	0.21	0.12	0.15	0.24	0.30	0.04	0.11	0.16
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.32	0.38	0.15	0.33	0.53	0.20	0.29	0.43	0.05	0.15	0.30
Volume/Cap:	0.62	0.81	0.33	0.81	0.62	0.23	0.77	0.81	0.69	0.81	0.77	0.53
Delay/Veh:	42.9	35.6	22.5	50.2	29.1	12.7	43.2	37.6	25.7	69.5	47.7	30.2
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:	42.9	35.6	22.5	50.2	29.1	12.7	43.2	37.6	25.7	69.5	47.7	30.2
DesignQueue:	15	38	7	21	29	5	25	36	16	8	20	10

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.809
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	28.7
Optimal Cycle:	79	Level Of Service:	C

Street Name:	Fong Ranch Road						San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0 0	1! 0	0	1 0	1! 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	38	53	8	180	0	240	323	760	8	7	1202	227
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:	38	53	8	180	0	240	323	760	8	7	1202	227
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:	38	53	8	180	0	240	323	760	8	7	1202	227
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	53	8	180	0	240	323	760	8	7	1202	227
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	53	8	180	0	240	323	760	8	7	1202	227
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.97	0.89	1.00	0.89	0.95	0.95	0.95	0.95	0.93	0.93
Lanes:	0.38	0.54	0.08	1.43	0.00	1.57	1.00	1.98	0.02	1.00	1.68	0.32
Final Sat.:	708	987	149	2429	0	2672	1805	3569	38	1805	2964	560
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.07	0.00	0.09	0.18	0.21	0.21	0.00	0.41	0.41
Crit Moves:	****			****			****				****	
Green/Cycle:	0.10	0.10	0.10	0.10	0.00	0.31	0.21	0.57	0.57	0.11	0.47	0.47
Volume/Cap:	0.54	0.54	0.54	0.74	0.00	0.29	0.86	0.37	0.37	0.04	0.86	0.86
Delay/Veh:	45.9	45.9	45.9	48.9	0.0	26.4	55.9	11.7	11.7	40.1	28.2	28.2
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:	45.9	45.9	45.9	48.9	0.0	26.4	55.9	11.7	11.7	40.1	28.2	28.2
DesignQueue:	2	3	0	9	0	9	15	19	0	0	39	7

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.525
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	14.1
Optimal Cycle:	46	Level Of Service:	B

Street Name:	Fong Ranch Road						San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0 0	1! 0	0	1 0	1! 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	4	1	2	27	0	46	78	1557	7	23	934	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:	4	1	2	27	0	46	78	1557	7	23	934	29
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:	4	1	2	27	0	46	78	1557	7	23	934	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	1	2	27	0	46	78	1557	7	23	934	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	4	1	2	27	0	46	78	1557	7	23	934	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.89	1.00	0.89	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.57	0.14	0.29	1.37	0.00	1.63	1.00	1.99	0.01	1.00	1.94	0.06
Final Sat.:	1014	254	507	2316	0	2756	1805	3590	16	1805	3487	108
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.02	0.04	0.43	0.43	0.01	0.27	0.27
Crit Moves:	****			****				****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.00	0.19	0.09	0.64	0.64	0.04	0.59	0.59
Volume/Cap:	0.04	0.04	0.04	0.12	0.00	0.09	0.46	0.68	0.68	0.32	0.46	0.46
Delay/Veh:	40.8	40.8	40.8	41.1	0.0	33.0	44.8	12.3	12.3	49.2	11.9	11.9
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:	40.8	40.8	40.8	41.1	0.0	33.0	44.8	12.3	12.3	49.2	11.9	11.9
DesignQueue:	0	0	0	1	0	2	4	35	0	1	23	1

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #6 Pony Express Dr / San Juan Road

****

Average Delay (sec/veh): 4.9 Worst Case Level Of Service: F[157.8]

****

Street Name:	Pony Express Dr						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			1 0 1 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	38	0	19	4	1	83	32	878	23	20	1306	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:	38	0	19	4	1	83	32	878	23	20	1306	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:	38	0	19	4	1	83	32	878	23	20	1306	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	38	0	19	4	1	83	32	878	23	20	1306	10
Critical Gap Module:												
Critical Gp:	7.5	xxxx	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1647	xxxx	451	1854	2316	658	1316	xxxx	xxxxx	901	xxxx	xxxxx
Potent Cap.:	67	xxxx	562	47	38	412	532	xxxx	xxxxx	763	xxxx	xxxxx
Move Cap.:	49	xxxx	562	42	35	412	532	xxxx	xxxxx	763	xxxx	xxxxx
Volume/Cap:	0.78	xxxx	0.03	0.09	0.03	0.20	0.06	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	0.1	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	12.2	xxxx	xxxxx	9.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	70	xxxxx	xxxx	271	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	3.9	xxxxx	xxxxx	1.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	158	xxxxx	xxxxx	24.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	C	*	*	*	*	*	*	*
ApproachDel:	157.8			24.6			xxxxxx			xxxxxx		
ApproachLOS:	F			C			*			*		

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #6 Pony Express Dr / San Juan Road

****

Average Delay (sec/veh): 5.5 Worst Case Level Of Service: F[259.3]

****

Street Name:	Pony Express Dr						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			1 0 1 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	17	1	16	16	0	56	103	1430	49	17	903	18
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:	17	1	16	16	0	56	103	1430	49	17	903	18
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:	17	1	16	16	0	56	103	1430	49	17	903	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	17	1	16	16	0	56	103	1430	49	17	903	18
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	xxxx	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2146	2616	740	1868	xxxx	461	921	xxxx	xxxxx	1479	xxxx	xxxxx
Potent Cap.:	28	25	364	46	xxxx	553	750	xxxx	xxxxx	461	xxxx	xxxxx
Move Cap.:	22	20	364	37	xxxx	553	750	xxxx	xxxxx	461	xxxx	xxxxx
Volume/Cap:	0.78	0.05	0.04	0.44	xxxx	0.10	0.14	xxxx	xxxx	0.04	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	0.1	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.6	xxxx	xxxxx	13.1	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	B	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	39	xxxxx	xxxx	134	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	3.3	xxxxx	xxxxx	2.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	259	xxxxx	xxxxx	59.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	F	*	*	*	*	*	*	*
ApproachDel:	259.3			59.8			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec): 100 Critical Vol./Cap. (X): 0.663
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 24.1
Optimal Cycle: 47 Level Of Service: C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module:												
Base Vol:	131	18	112	174	19	139	67	678	110	37	1012	68
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	18	112	174	19	139	67	678	110	37	1012	68
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:	131	18	112	174	19	139	67	678	110	37	1012	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	18	112	174	19	139	67	678	110	37	1012	68
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	131	18	112	174	19	139	67	678	110	37	1012	68
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.66	0.66	0.66	0.66	0.66	0.66	0.95	0.93	0.93	0.95	0.94	0.94
Lanes:	0.50	0.07	0.43	0.52	0.06	0.42	1.00	1.72	0.28	1.00	1.87	0.13
Final Sat.:	630	87	538	657	72	525	1805	3041	493	1805	3352	225
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.21	0.26	0.26	0.26	0.04	0.22	0.22	0.02	0.30	0.30
Crit Moves:					****		****				****	
Green/Cycle:	0.40	0.40	0.40	0.40	0.40	0.40	0.06	0.43	0.43	0.08	0.46	0.46
Volume/Cap:	0.52	0.52	0.52	0.66	0.66	0.66	0.66	0.51	0.51	0.26	0.66	0.66
Delay/Veh:	23.8	23.8	23.8	27.9	27.9	27.9	61.6	21.0	21.0	44.4	22.3	22.3
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:	23.8	23.8	23.8	27.9	27.9	27.9	61.6	21.0	21.0	44.4	22.3	22.3
DesignQueue:	5	1	4	6	1	5	4	23	4	2	33	2

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec): 100 Critical Vol./Cap. (X): 0.657
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 22.3
Optimal Cycle: 46 Level Of Service: C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module:												
Base Vol:	113	14	96	94	14	80	139	1159	121	125	783	159
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:	113	14	96	94	14	80	139	1159	121	125	783	159
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:	113	14	96	94	14	80	139	1159	121	125	783	159
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	14	96	94	14	80	139	1159	121	125	783	159
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	113	14	96	94	14	80	139	1159	121	125	783	159
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.69	0.69	0.69	0.69	0.69	0.69	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	0.51	0.06	0.43	0.50	0.07	0.43	1.00	1.81	0.19	1.00	1.66	0.34
Final Sat.:	668	83	568	660	98	561	1805	3223	336	1805	2926	594
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.14	0.14	0.14	0.08	0.36	0.36	0.07	0.27	0.27
Crit Moves:		****						****		****		
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.15	0.55	0.55	0.11	0.51	0.51
Volume/Cap:	0.66	0.66	0.66	0.55	0.55	0.55	0.53	0.66	0.66	0.66	0.53	0.53
Delay/Veh:	37.8	37.8	37.8	34.2	34.2	34.2	41.5	16.8	16.8	51.1	16.9	16.9
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:	37.8	37.8	37.8	34.2	34.2	34.2	41.5	16.8	16.8	51.1	16.9	16.9
DesignQueue:	5	1	4	4	1	3	7	32	3	6	23	5

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.747
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 33.0
Optimal Cycle: 67 Level Of Service: C

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	293	872	174	142	876	241	272	365	338	258	553	158
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:	293	872	174	142	876	241	272	365	338	258	553	158
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:	293	872	174	142	876	241	272	365	338	258	553	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	293	872	174	142	876	241	272	365	338	258	553	158
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	293	872	174	142	876	241	272	365	338	258	553	158
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.93	0.93	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.92	0.92
Lanes:	2.00	1.67	0.33	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.56	0.44
Final Sat.:	3502	2934	586	1805	3610	1615	3502	3610	1615	3502	2715	776
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.30	0.08	0.24	0.15	0.08	0.10	0.21	0.07	0.20	0.20
Crit Moves:		****		****			****				****	
Green/Cycle:	0.13	0.40	0.40	0.11	0.37	0.48	0.10	0.24	0.37	0.14	0.27	0.27
Volume/Cap:	0.65	0.75	0.75	0.75	0.65	0.31	0.75	0.43	0.57	0.53	0.75	0.75
Delay/Veh:	44.7	28.0	28.0	58.4	27.0	16.2	51.8	32.7	26.7	41.1	36.5	36.5
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:	44.7	28.0	28.0	58.4	27.0	16.2	51.8	32.7	26.7	41.1	36.5	36.5
DesignQueue:	14	31	6	7	32	7	14	16	12	13	24	7

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.894
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 40.3
Optimal Cycle: 107 Level Of Service: D

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	484	1026	238	324	938	329	357	633	244	251	334	104
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:	484	1026	238	324	938	329	357	633	244	251	334	104
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:	484	1026	238	324	938	329	357	633	244	251	334	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	484	1026	238	324	938	329	357	633	244	251	334	104
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	484	1026	238	324	938	329	357	633	244	251	334	104
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.92	0.92
Lanes:	2.00	1.62	0.38	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.53	0.47
Final Sat.:	3502	2848	661	1805	3610	1615	3502	3610	1615	3502	2654	826
Capacity Analysis Module:												
Vol/Sat:	0.14	0.36	0.36	0.18	0.26	0.20	0.10	0.18	0.15	0.07	0.13	0.13
Crit Moves:		****		****				****		****		
Green/Cycle:	0.21	0.40	0.40	0.20	0.39	0.52	0.12	0.20	0.41	0.08	0.15	0.15
Volume/Cap:	0.66	0.89	0.89	0.89	0.66	0.39	0.82	0.89	0.37	0.89	0.82	0.82
Delay/Veh:	38.5	35.5	35.5	62.3	26.0	14.9	54.9	53.0	21.2	73.8	51.2	51.2
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:	38.5	35.5	35.5	62.3	26.0	14.9	54.9	53.0	21.2	73.8	51.2	51.2
DesignQueue:	22	37	9	15	34	9	18	30	8	13	16	5

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.675
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.0
Optimal Cycle: 56 Level Of Service: C

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1	0 1	1 0	2	0 1	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	93	1432	40	280	1018	120	106	20	30	48	2	73
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:	93	1432	40	280	1018	120	106	20	30	48	2	73
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:	93	1432	40	280	1018	120	106	20	30	48	2	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	1432	40	280	1018	120	106	20	30	48	2	73
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	93	1432	40	280	1018	120	106	20	30	48	2	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.93	0.93	0.95	1.00	0.85	0.95	0.85	0.85
Lanes:	1.00	1.95	0.05	2.00	1.79	0.21	1.00	1.00	1.00	1.00	0.03	0.97
Final Sat.:	1805	3498	98	3502	3178	375	1805	1900	1615	1805	43	1579
Capacity Analysis Module:												
Vol/Sat:	0.05	0.41	0.41	0.08	0.32	0.32	0.06	0.01	0.02	0.03	0.05	0.05
Crit Moves:		****		****			****				****	
Green/Cycle:	0.10	0.58	0.58	0.11	0.60	0.60	0.08	0.12	0.22	0.06	0.10	0.10
Volume/Cap:	0.53	0.70	0.70	0.70	0.53	0.53	0.70	0.09	0.08	0.43	0.46	0.46
Delay/Veh:	46.2	15.8	15.8	48.3	12.0	12.0	58.5	39.1	31.2	48.0	44.5	44.5
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:	46.2	15.8	15.8	48.3	12.0	12.0	58.5	39.1	31.2	48.0	44.5	44.5
DesignQueue:	5	37	1	14	25	3	5	1	1	3	0	4

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 1.141
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 106.5
Optimal Cycle: 180 Level Of Service: F

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1	0 1	1 0	2	0 1	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	81	1289	34	96	1295	60	741	5	19	107	6	270
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:	81	1289	34	96	1295	60	741	5	19	107	6	270
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:	81	1289	34	96	1295	60	741	5	19	107	6	270
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	1289	34	96	1295	60	741	5	19	107	6	270
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	81	1289	34	96	1295	60	741	5	19	107	6	270
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.94	0.94	0.95	1.00	0.85	0.95	0.85	0.85
Lanes:	1.00	1.95	0.05	2.00	1.91	0.09	1.00	1.00	1.00	1.00	0.02	0.98
Final Sat.:	1805	3503	92	3502	3426	159	1805	1900	1615	1805	35	1585
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.03	0.38	0.38	0.41	0.00	0.01	0.06	0.17	0.17
Crit Moves:	****				****		****				****	
Green/Cycle:	0.05	0.33	0.33	0.05	0.33	0.33	0.36	0.32	0.37	0.19	0.15	0.15
Volume/Cap:	0.90	1.11	1.11	0.61	1.16	1.16	1.16	0.01	0.03	0.32	1.16	1.16
Delay/Veh:	109.4	94.3	94.3	53.5	113	113.5	118.9	23.5	20.4	35.7	149	149.2
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:	109.4	94.3	94.3	53.5	113	113.5	118.9	23.5	20.4	35.7	149	149.2
DesignQueue:	4	53	1	5	53	2	30	0	1	5	0	13

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.707
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.7
Optimal Cycle: 43 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2	0 1	0 0	1	1 0	2	0 0	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	919	548	0	906	545	701	0	385	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	919	548	0	906	545	701	0	385	0	0	0
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:	0	919	548	0	906	545	701	0	385	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	919	548	0	906	545	701	0	385	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	919	548	0	906	545	701	0	385	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.90	0.90	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.25	0.75	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	2128	1280	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.25	0.34	0.00	0.43	0.43	0.20	0.00	0.24	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.60	0.60	0.00	0.60	0.60	0.34	0.00	0.34	0.00	0.00	0.00
Volume/Cap:	0.00	0.42	0.56	0.00	0.71	0.71	0.59	0.00	0.71	0.00	0.00	0.00
Delay/Veh:	0.0	10.7	12.7	0.0	14.9	14.9	28.3	0.0	33.1	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	10.7	12.7	0.0	14.9	14.9	28.3	0.0	33.1	0.0	0.0	0.0
DesignQueue:	0	22	13	0	22	13	27	0	15	0	0	0

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.941
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 22.2
Optimal Cycle: 125 Level Of Service: C

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2	0 1	0 0	1	1 0	2	0 0	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	994	605	0	1156	995	450	0	395	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	994	605	0	1156	995	450	0	395	0	0	0
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:	0	994	605	0	1156	995	450	0	395	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	994	605	0	1156	995	450	0	395	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	994	605	0	1156	995	450	0	395	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.88	0.88	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.07	0.93	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	1806	1555	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.37	0.00	0.64	0.64	0.13	0.00	0.24	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.68	0.68	0.00	0.68	0.68	0.26	0.00	0.26	0.00	0.00	0.00
Volume/Cap:	0.00	0.40	0.55	0.00	0.94	0.94	0.49	0.00	0.94	0.00	0.00	0.00
Delay/Veh:	0.0	7.2	8.8	0.0	22.8	22.8	31.9	0.0	65.7	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	7.2	8.8	0.0	22.8	22.8	31.9	0.0	65.7	0.0	0.0	0.0
DesignQueue:	0	19	12	0	24	21	19	0	17	0	0	0

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ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 1.046
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 46.1
Optimal Cycle: 180 Level Of Service: D

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1 1	0	0 0	2 0	1	0 0	0 0	0	2 0	0 0	1
Volume Module:												
Base Vol:	0	1404	215	0	996	785	0	0	0	455	0	803
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	1404	215	0	996	785	0	0	0	455	0	803
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:	0	1404	215	0	996	785	0	0	0	455	0	803
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1404	215	0	996	785	0	0	0	455	0	803
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1404	215	0	996	785	0	0	0	455	0	803
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.93	0.93	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.73	0.27	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3068	470	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.46	0.46	0.00	0.28	0.49	0.00	0.00	0.00	0.13	0.00	0.50
Crit Moves:						****						****
Green/Cycle:	0.00	0.46	0.46	0.00	0.46	0.46	0.00	0.00	0.00	0.48	0.00	0.48
Volume/Cap:	0.00	0.98	0.98	0.00	0.59	1.05	0.00	0.00	0.00	0.27	0.00	1.05
Delay/Veh:	0.0	45.0	45.0	0.0	20.4	72.3	0.0	0.0	0.0	15.9	0.0	71.4
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	45.0	45.0	0.0	20.4	72.3	0.0	0.0	0.0	15.9	0.0	71.4
DesignQueue:	0	47	7	0	32	26	0	0	0	14	0	26

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.992
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 36.2
Optimal Cycle: 180 Level Of Service: D

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1 1	0	0 0	2 0	1	0 0	0 0	0	2 0	0 0	1
Volume Module:												
Base Vol:	0	987	458	0	1630	789	0	0	0	521	0	717
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	987	458	0	1630	789	0	0	0	521	0	717
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:	0	987	458	0	1630	789	0	0	0	521	0	717
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	987	458	0	1630	789	0	0	0	521	0	717
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	987	458	0	1630	789	0	0	0	521	0	717
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.90	0.90	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.37	0.63	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2347	1089	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.42	0.42	0.00	0.45	0.49	0.00	0.00	0.00	0.15	0.00	0.44
Crit Moves:						****						****
Green/Cycle:	0.00	0.49	0.49	0.00	0.49	0.49	0.00	0.00	0.00	0.45	0.00	0.45
Volume/Cap:	0.00	0.85	0.85	0.00	0.92	0.99	0.00	0.00	0.00	0.33	0.00	0.99
Delay/Veh:	0.0	26.7	26.7	0.0	31.5	55.0	0.0	0.0	0.0	18.1	0.0	58.8
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	26.7	26.7	0.0	31.5	55.0	0.0	0.0	0.0	18.1	0.0	58.8
DesignQueue:	0	31	14	0	52	25	0	0	0	17	0	24

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APPENDIX E6
INTERSECTION OPERATIONS CALCULATIONS
BASELINE PLUS PROJECT CONDITIONS

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Scenario Report

Scenario:	Baseline + Project AM
Command:	Baseline + Project AM
Volume:	Baseline + Project AM
Geometry:	Baseline AM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing AM
Trip Distribution:	Baseline
Paths:	No Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Scenario Report

Scenario:	Baseline + Project PM
Command:	Baseline + Project PM
Volume:	Baseline + Project PM
Geometry:	Baseline PM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing PM
Trip Distribution:	Baseline
Paths:	No Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

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ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Trip Generation Report

Forecast for Existing AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	PARKEBRIDGE	1.00	Apartment	19.00	56.00	19	56	75	20.9
1	PARKEBRIDGE	1.00	Single Family	71.00	212.00	71	212	283	79.1
	Zone 1 Subtotal					90	268	358	100.0
TOTAL						90	268	358	100.0

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Trip Generation Report

Forecast for Existing PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	PARKEBRIDGE	1.00	Apartment	64.00	47.00	64	47	111	23.4
1	PARKEBRIDGE	1.00	Single Family	229.00	135.00	229	135	364	76.6
	Zone 1 Subtotal					293	182	475	100.0
TOTAL						293	182	475	100.0

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ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Trip Distribution Report

Percent Of Trips Baseline

Zone	To Gates 4	5	7	14	16	20	22	23	24	25	26
1	17.0	12.0	15.0	3.0	5.0	12.0	11.0	14.0	5.0	5.0	1.0

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Trip Distribution Report

Percent Of Trips Baseline

Zone	To Gates 4	5	7	14	16	20	22	23	24	25	26
1	17.0	12.0	15.0	3.0	5.0	12.0	11.0	14.0	5.0	5.0	1.0

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ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Turning Movement Report
Existing AM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	890	528	0	1275	682	0	0	0	330	0	405	4110
Added	0	32	40	0	11	0	0	0	0	9	0	0	92
Approv	0	161	38	0	63	64	0	0	0	9	0	39	374
Total	0	1083	606	0	1349	746	0	0	0	348	0	444	4576
#2 Truxel Rd / I-80 East Ramps													
Base	0	750	291	0	1128	477	668	0	151	0	0	0	3465
Added	0	72	27	0	20	0	0	0	14	0	0	0	133
Approv	0	99	27	0	47	25	100	0	13	0	0	0	311
Total	0	921	345	0	1195	502	768	0	178	0	0	0	3909
#3 Truxel Rd / San Juan Rd													
Base	55	645	194	334	727	204	467	301	130	270	229	424	3980
Added	0	0	27	33	0	0	0	5	0	80	13	99	257
Approv	7	19	0	68	29	7	42	5	5	0	6	27	215
Total	62	664	221	435	756	211	509	311	135	350	248	550	4452
#4 Truxel Rd / El Camino Avenue													
Base	147	225	55	213	696	281	178	347	145	120	428	110	2945
Added	0	10	0	13	29	38	13	0	0	0	0	5	108
Approv	0	26	0	0	34	0	0	0	0	0	0	0	60
Total	147	261	55	226	759	319	191	347	145	120	428	115	3113
#5 Fong Ranch Rd / San Juan Rd													
Base	32	44	7	150	0	200	269	389	7	6	530	189	1823
Added	0	0	0	27	0	121	41	24	0	0	72	9	294
Approv	0	0	0	0	0	0	0	36	0	0	33	0	69
Total	32	44	7	177	0	321	310	449	7	6	635	198	2186
#6 Pony Express Dr / San Juan Road													
Base	32	0	16	3	1	69	27	486	19	17	651	8	1329
Added	0	0	0	0	0	27	9	42	0	0	54	0	132
Approv	0	0	0	0	0	0	0	36	0	0	33	0	69
Total	32	0	16	3	1	96	36	564	19	17	738	8	1530
#7 Bridgeford Drive \ San Juan Road													
Base	115	15	96	145	16	116	38	381	92	29	401	42	1486
Added	0	1	0	45	3	45	15	27	0	0	9	15	160
Approv	0	0	0	0	0	0	0	23	0	0	14	0	37
Total	115	16	96	190	19	161	53	431	92	29	424	57	1683

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Turning Movement Report
Existing PM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	1379	192	0	1285	679	0	0	0	531	0	727	4793
Added	0	22	27	0	35	0	0	0	0	30	0	0	114
Approv	0	536	25	0	357	367	0	0	0	30	0	130	1445
Total	0	1937	244	0	1677	1046	0	0	0	591	0	857	6352
#2 Truxel Rd / I-80 East Ramps													
Base	0	733	242	0	1487	329	838	0	367	0	0	0	3996
Added	0	49	18	0	65	0	0	0	44	0	0	0	176
Approv	0	223	18	0	246	141	339	0	43	0	0	0	1010
Total	0	1005	278	0	1798	470	1177	0	454	0	0	0	5182
#3 Truxel Rd / San Juan Rd													
Base	157	703	281	499	819	469	314	307	109	229	225	300	4412
Added	0	0	88	109	0	0	0	15	0	55	9	67	343
Approv	24	65	0	132	81	42	59	4	4	0	21	91	523
Total	181	768	369	740	900	511	373	326	113	284	255	458	5278
#4 Truxel Rd / El Camino Avenue													
Base	184	529	127	290	361	164	486	688	141	103	406	251	3730
Added	0	32	0	9	20	25	41	0	0	0	0	15	142
Approv	0	89	0	0	85	0	0	0	0	0	0	0	174
Total	184	650	127	299	466	189	527	688	141	103	406	266	4046
#5 Fong Ranch Rd / San Juan Rd													
Base	3	1	2	20	0	38	65	1013	6	19	635	24	1826
Added	0	0	0	18	0	82	132	79	0	0	49	29	389
Approv	0	0	0	0	0	0	0	111	0	0	112	0	223
Total	3	1	2	38	0	120	197	1203	6	19	796	53	2438
#6 Pony Express Dr / San Juan Road													
Base	14	1	14	13	0	47	86	908	41	14	636	15	1789
Added	0	0	0	0	0	18	29	68	0	0	60	0	175
Approv	0	0	0	0	0	0	0	111	0	0	112	0	223
Total	14	1	14	13	0	65	115	1087	41	14	808	15	2187
#7 Bridgeford Drive \ San Juan Road													
Base	72	12	80	78	12	67	116	707	103	91	535	106	1979
Added	0	3	0	31	2	31	50	18	0	0	29	50	214
Approv	0	0	0	0	0	0	0	40	0	0	47	0	87
Total	72	15	80	109	14	98	166	765	103	91	611	156	2280

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#8 Northgate Bl / San Juan Rd													
Base	163	694	130	118	718	113	240	233	277	214	209	111	3220
Added	15	0	0	0	0	6	19	8	46	0	3	0	97
Approv	9	0	0	0	0	1	2	2	19	0	4	0	37
Total	187	694	130	118	718	120	261	243	342	214	216	111	3354
#9 Northgate / Rosin													
Base	35	934	33	233	707	82	74	17	5	40	2	61	2223
Added	0	19	0	0	6	0	0	0	0	0	0	0	25
Total	35	953	33	233	713	82	74	17	5	40	2	61	2248
#10 Northgate Bl / I-80 East Ramps													
Base	0	685	373	0	835	510	666	0	349	0	0	0	3418
Added	0	13	5	0	6	0	0	0	0	0	0	0	24
Approv	0	2	0	0	1	25	0	0	0	0	0	0	28
Total	0	700	378	0	842	535	666	0	349	0	0	0	3470
#11 Northgate Bl / I-80 West Ramps													
Base	0	1183	168	0	966	395	0	0	0	379	0	785	3876
Added	0	13	0	0	5	0	0	0	0	2	0	0	20
Approv	0	2	0	0	25	0	0	0	0	0	0	39	66
Total	0	1198	168	0	996	395	0	0	0	381	0	824	3962
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	118	0	0	40	0	158
Total	0	0	0	0	0	0	0	118	0	0	40	0	158
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	118	0	148	50	0	0	0	0	40	356
Total	0	0	0	118	0	148	50	0	0	0	0	40	356
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	3	0	0	0	118	0	0	40	1	162
Total	0	0	0	3	0	0	0	118	0	0	40	1	162

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#8 Northgate Bl / San Juan Rd													
Base	453	951	154	285	854	303	317	439	177	209	278	87	4507
Added	50	0	0	0	0	20	13	5	31	0	9	0	128
Approv	31	0	0	0	0	2	1	14	25	0	13	0	86
Total	534	951	154	285	854	325	331	458	233	209	300	87	4721
#9 Northgate / Rosin													
Base	41	975	28	80	1090	48	41	4	3	89	5	225	2629
Added	0	13	0	0	20	0	0	0	0	0	0	0	33
Total	41	988	28	80	1110	48	41	4	3	89	5	225	2662
#10 Northgate Bl / I-80 East Ramps													
Base	0	878	504	0	1044	940	407	0	354	0	0	0	4127
Added	0	9	3	0	20	0	0	0	0	0	0	0	32
Approv	0	1	0	0	2	141	0	0	0	0	0	0	144
Total	0	888	507	0	1066	1081	407	0	354	0	0	0	4303
#11 Northgate Bl / I-80 West Ramps													
Base	0	936	349	0	1550	823	0	0	0	434	0	473	4565
Added	0	9	0	0	15	0	0	0	0	6	0	0	30
Approv	0	1	0	0	144	0	0	0	0	0	0	130	275
Total	0	946	349	0	1709	823	0	0	0	440	0	603	4870
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	80	0	0	129	0	209
Total	0	0	0	0	0	0	0	80	0	0	129	0	209
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	80	0	100	161	0	0	0	0	129	470
Total	0	0	0	80	0	100	161	0	0	0	0	129	470
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	2	0	0	0	80	0	0	129	3	214
Total	0	0	0	2	0	0	0	80	0	0	129	3	214

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ParkeBridge
Baseline + Project w/o Fong Ranch Extension
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 Truxel Rd / I-80 West Ramps	B	11.1	0.354	B	11.3	0.385	+ 0.191 D/V
# 2 Truxel Rd / I-80 East Ramps	B	13.7	0.408	B	14.5	0.446	+ 0.790 D/V
# 3 Truxel Rd / San Juan Rd	C	30.8	0.653	C	33.0	0.761	+ 2.197 D/V
# 4 Truxel Rd / El Camino Avenue	C	27.6	0.459	C	27.4	0.483	-0.183 D/V
# 5 Fong Ranch Rd / San Juan Rd	C	25.2	0.526	C	26.1	0.606	+ 0.859 D/V
# 6 Pony Express Dr / San Juan Roa	C	21.5	0.000	D	28.3	0.000	+ 6.835 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	23.5	0.394	C	25.0	0.490	+ 1.407 D/V
# 8 Northgate Bl / San Juan Rd	C	28.7	0.552	C	29.3	0.589	+ 0.662 D/V
# 9 Northgate / Rosin	B	19.1	0.472	B	19.0	0.478	-0.095 D/V
# 10 Northgate Bl / I-80 East Ramps	B	17.0	0.650	B	17.0	0.661	-0.001 D/V
# 11 Northgate Bl / I-80 West Ramps	C	30.5	0.923	C	33.7	0.953	+ 3.173 D/V

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
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 Truxel Rd / I-80 West Ramps	B	15.2	0.469	B	15.5	0.618	+ 0.231 D/V
# 2 Truxel Rd / I-80 East Ramps	B	15.7	0.514	B	17.9	0.659	+ 2.195 D/V
# 3 Truxel Rd / San Juan Rd	C	27.2	0.556	C	29.3	0.683	+ 2.134 D/V
# 4 Truxel Rd / El Camino Avenue	C	30.1	0.546	C	30.6	0.600	+ 0.520 D/V
# 5 Fong Ranch Rd / San Juan Rd	B	12.6	0.347	B	16.8	0.418	+ 4.134 D/V
# 6 Pony Express Dr / San Juan Roa	E	38.6	0.000	F	80.7	0.000	+42.059 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	20.6	0.431	C	23.2	0.519	+ 2.618 D/V
# 8 Northgate Bl / San Juan Rd	C	33.6	0.757	C	34.2	0.768	+ 0.648 D/V
# 9 Northgate / Rosin	C	21.3	0.573	C	21.3	0.580	-0.081 D/V
# 10 Northgate Bl / I-80 East Ramps	B	17.5	0.863	B	19.8	0.922	+ 2.273 D/V
# 11 Northgate Bl / I-80 West Ramps	C	20.2	0.854	C	28.1	0.939	+ 7.902 D/V

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ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.385
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 11.3
Optimal Cycle: 26 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0	0 2	1 1	0	0 3	1 1	0	0 0	0 0	2	0 0	0 3
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am												
Base Vol:	0	890	528	0	1275	682	0	0	0	330	0	405
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	890	528	0	1275	682	0	0	0	330	0	405
Added Vol:	0	32	40	0	11	0	0	0	0	9	0	0
Approved Tr:	0	161	38	0	63	64	0	0	0	9	0	39
Initial Fut:	0	1083	606	0	1349	746	0	0	0	348	0	444
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:	0	1083	606	0	1349	746	0	0	0	348	0	444
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1083	606	0	1349	746	0	0	0	348	0	444
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1083	606	0	1349	746	0	0	0	348	0	444
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.86	0.86	1.00	0.86	0.86	1.00	1.00	1.00	0.92	1.00	0.75
Lanes:	0.00	2.56	1.44	0.00	3.22	1.78	0.00	0.00	0.00	2.00	0.00	3.00
Final Sat.:	0	4195	2347	0	5272	2915	0	0	0	3502	0	4264
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.00	0.26	0.26	0.00	0.00	0.00	0.10	0.00	0.10
Crit Moves:		****										****
Green/Cycle:	0.00	0.67	0.67	0.00	0.67	0.67	0.00	0.00	0.00	0.27	0.00	0.27
Volume/Cap:	0.00	0.39	0.39	0.00	0.38	0.38	0.00	0.00	0.00	0.37	0.00	0.39
Delay/Veh:	0.0	7.4	7.4	0.0	7.4	7.4	0.0	0.0	0.0	29.8	0.0	29.9
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:	0.0	7.4	7.4	0.0	7.4	7.4	0.0	0.0	0.0	29.8	0.0	29.9
DesignQueue:	0	21	12	0	26	15	0	0	0	14	0	18

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.618
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 15.5
Optimal Cycle: 34 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0	0 2	1 1	0	0 3	1 1	0	0 0	0 0	2	0 0	0 3
Volume Module: >> Count Date: 16 Mar 2005 << 5:00pm												
Base Vol:	0	1379	192	0	1285	679	0	0	0	531	0	727
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	1379	192	0	1285	679	0	0	0	531	0	727
Added Vol:	0	22	27	0	35	0	0	0	0	30	0	0
Approved Tr:	0	536	25	0	357	367	0	0	0	30	0	130
Initial Fut:	0	1937	244	0	1677	1046	0	0	0	591	0	857
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:	0	1937	244	0	1677	1046	0	0	0	591	0	857
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1937	244	0	1677	1046	0	0	0	591	0	857
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1937	244	0	1677	1046	0	0	0	591	0	857
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.89	0.89	1.00	0.86	0.86	1.00	1.00	1.00	0.92	1.00	0.75
Lanes:	0.00	3.00	1.00	0.00	3.08	1.92	0.00	0.00	0.00	2.00	0.00	3.00
Final Sat.:	0	5099	1700	0	5015	3128	0	0	0	3502	0	4264
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.14	0.00	0.33	0.33	0.00	0.00	0.00	0.17	0.00	0.20
Crit Moves:		****										****
Green/Cycle:	0.00	0.61	0.61	0.00	0.61	0.61	0.00	0.00	0.00	0.33	0.00	0.33
Volume/Cap:	0.00	0.62	0.23	0.00	0.54	0.54	0.00	0.00	0.00	0.52	0.00	0.62
Delay/Veh:	0.0	12.3	8.7	0.0	11.3	11.3	0.0	0.0	0.0	27.8	0.0	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:	0.0	12.3	8.7	0.0	11.3	11.3	0.0	0.0	0.0	27.8	0.0	29.3
DesignQueue:	0	46	5	0	39	24	0	0	0	23	0	33

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.446
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 14.5
Optimal Cycle: 26 Level Of Service: B

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	10	10		0	10	10		10	0	10		0	0	0	
Lanes:	0 0	3	1	1	0 0	2	1	1	2	0	1! 0	1	0 0	0	0	0
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am																
Base Vol:	0	750	291		0	1128	477		668	0	151		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	750	291		0	1128	477		668	0	151		0	0	0	
Added Vol:	0	72	27		0	20	0		0	0	14		0	0	0	
Approved Tr:	0	99	27		0	47	25		100	0	13		0	0	0	
Initial Fut:	0	921	345		0	1195	502		768	0	178		0	0	0	
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:	0	921	345		0	1195	502		768	0	178		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	921	345		0	1195	502		768	0	178		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		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	921	345		0	1195	502		768	0	178		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.87	0.87		1.00	0.87	0.87		0.91	1.00	0.93		1.00	1.00	1.00	
Lanes:	0.00	3.64	1.36		0.00	2.82	1.18		2.75	0.00	1.25		0.00	0.00	0.00	
Final Sat.:	0	6031	2259		0	4656	1956		4730	0	2222		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.15	0.15		0.00	0.26	0.26		0.16	0.00	0.08		0.00	0.00	0.00	
Crit Moves:						****			****							
Green/Cycle:	0.00	0.58	0.58		0.00	0.58	0.58		0.36	0.00	0.36		0.00	0.00	0.00	
Volume/Cap:	0.00	0.27	0.27		0.00	0.45	0.45		0.45	0.00	0.22		0.00	0.00	0.00	
Delay/Veh:	0.0	10.6	10.6		0.0	12.2	12.2		24.3	0.0	22.0		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	10.6	10.6		0.0	12.2	12.2		24.3	0.0	22.0		0.0	0.0	0.0	
DesignQueue:	0	22	8		0	30	13		28	0	6		0	0	0	

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.659
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.9
Optimal Cycle: 38 Level Of Service: B

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	10	10		0	10	10		10	0	10		0	0	0	
Lanes:	0 0	3	1	1	0 0	2	1	1	2	0	1! 0	1	0 0	0	0	0
Volume Module: >> Count Date: 16 Mar 2005 << 5:00pm																
Base Vol:	0	733	242		0	1487	329		838	0	367		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	733	242		0	1487	329		838	0	367		0	0	0	
Added Vol:	0	49	18		0	65	0		0	0	44		0	0	0	
Approved Tr:	0	223	18		0	246	141		339	0	43		0	0	0	
Initial Fut:	0	1005	278		0	1798	470		1177	0	454		0	0	0	
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:	0	1005	278		0	1798	470		1177	0	454		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1005	278		0	1798	470		1177	0	454		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		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	1005	278		0	1798	470		1177	0	454		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.88	0.88		1.00	0.88	0.88		0.90	1.00	0.92		1.00	1.00	1.00	
Lanes:	0.00	3.92	1.08		0.00	3.00	1.00		2.64	0.00	1.36		0.00	0.00	0.00	
Final Sat.:	0	6548	1811		0	5026	1675		4499	0	2388		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.15	0.15		0.00	0.36	0.28		0.26	0.00	0.19		0.00	0.00	0.00	
Crit Moves:						****			****							
Green/Cycle:	0.00	0.54	0.54		0.00	0.54	0.54		0.40	0.00	0.40		0.00	0.00	0.00	
Volume/Cap:	0.00	0.28	0.28		0.00	0.66	0.52		0.66	0.00	0.48		0.00	0.00	0.00	
Delay/Veh:	0.0	12.4	12.4		0.0	16.7	14.6		25.3	0.0	22.6		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	12.4	12.4		0.0	16.7	14.6		25.3	0.0	22.6		0.0	0.0	0.0	
DesignQueue:	0	26	7		0	50	13		42	0	16		0	0	0	

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.761
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	33.0
Optimal Cycle:	69	Level Of Service:	C

Street Name:	Truxel Rd						San Juan Rd					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	55	645	194	334	727	204	467	301	130	270	229	424
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	645	194	334	727	204	467	301	130	270	229	424
Added Vol:	0	0	27	33	0	0	0	5	0	80	13	99
Approved Tr:	7	19	0	68	29	7	42	5	5	0	6	27
Initial Fut:	62	664	221	435	756	211	509	311	135	350	248	550
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:	62	664	221	435	756	211	509	311	135	350	248	550
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	62	664	221	435	756	211	509	311	135	350	248	550
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	62	664	221	435	756	211	509	311	135	350	248	550
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.18	0.14	0.12	0.21	0.13	0.15	0.09	0.08	0.10	0.07	0.34
Crit Moves:		****		****			****					****
Green/Cycle:	0.08	0.24	0.48	0.16	0.33	0.52	0.19	0.24	0.32	0.24	0.28	0.45
Volume/Cap:	0.23	0.76	0.29	0.76	0.64	0.25	0.76	0.36	0.26	0.42	0.24	0.76
Delay/Veh:	43.7	39.2	15.9	45.9	29.9	13.5	43.4	32.1	25.8	32.6	27.6	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:	43.7	39.2	15.9	45.9	29.9	13.5	43.4	32.1	25.8	32.6	27.6	27.9
DesignQueue:	3	29	7	21	30	6	24	13	5	15	10	18

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.683
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	29.3
Optimal Cycle:	57	Level Of Service:	C

Street Name:	Truxel Rd						San Juan Rd					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	157	703	281	499	819	469	314	307	109	229	225	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:	157	703	281	499	819	469	314	307	109	229	225	300
Added Vol:	0	0	88	109	0	0	0	15	0	55	9	67
Approved Tr:	24	65	0	132	81	42	59	4	4	0	21	91
Initial Fut:	181	768	369	740	900	511	373	326	113	284	255	458
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:	181	768	369	740	900	511	373	326	113	284	255	458
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	181	768	369	740	900	511	373	326	113	284	255	458
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	181	768	369	740	900	511	373	326	113	284	255	458
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.21	0.23	0.21	0.25	0.32	0.11	0.09	0.07	0.08	0.07	0.28
Crit Moves:		****		****			****				****	
Green/Cycle:	0.11	0.31	0.43	0.31	0.51	0.67	0.16	0.14	0.25	0.12	0.10	0.41
Volume/Cap:	0.48	0.68	0.53	0.68	0.48	0.47	0.68	0.63	0.28	0.70	0.68	0.69
Delay/Veh:	43.1	31.9	22.1	32.1	15.9	8.3	43.4	42.9	30.6	47.8	48.4	27.1
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:	43.1	31.9	22.1	32.1	15.9	8.3	43.4	42.9	30.6	47.8	48.4	27.1
DesignQueue:	9	31	12	30	26	10	18	16	5	14	13	16

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.483
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.4
Optimal Cycle: 42 Level Of Service: C

Street Name:	Truxel Road						El Camino Avenue					
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:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 2	0 1	2	0 2	0 1
Volume Module: >> Count Date: 17 Mar 2005 << 7:30am												
Base Vol:	147	225	55	213	696	281	178	347	145	120	428	110
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:	147	225	55	213	696	281	178	347	145	120	428	110
Added Vol:	0	10	0	13	29	38	13	0	0	0	0	5
Approved Tr:	0	26	0	0	34	0	0	0	0	0	0	0
Initial Fut:	147	261	55	226	759	319	191	347	145	120	428	115
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:	147	261	55	226	759	319	191	347	145	120	428	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	261	55	226	759	319	191	347	145	120	428	115
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	147	261	55	226	759	319	191	347	145	120	428	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.07	0.03	0.06	0.21	0.20	0.05	0.10	0.09	0.03	0.12	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.09	0.32	0.44	0.20	0.43	0.55	0.11	0.24	0.33	0.12	0.25	0.45
Volume/Cap:	0.48	0.23	0.08	0.32	0.48	0.36	0.48	0.40	0.28	0.29	0.48	0.16
Delay/Veh:	44.7	25.2	16.5	34.1	20.4	13.0	42.6	32.4	25.3	40.5	32.7	16.4
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:	44.7	25.2	16.5	34.1	20.4	13.0	42.6	32.4	25.3	40.5	32.7	16.4
DesignQueue:	8	10	2	10	25	8	10	15	6	6	18	4

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.600
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 30.6
Optimal Cycle: 48 Level Of Service: C

Street Name:	Truxel Road						El Camino Avenue					
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:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 2	0 1	2	0 2	0 1
Volume Module: >> Count Date: 17 Mar 2005 << 4:30pm												
Base Vol:	184	529	127	290	361	164	486	688	141	103	406	251
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	529	127	290	361	164	486	688	141	103	406	251
Added Vol:	0	32	0	9	20	25	41	0	0	0	0	15
Approved Tr:	0	89	0	0	85	0	0	0	0	0	0	0
Initial Fut:	184	650	127	299	466	189	527	688	141	103	406	266
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:	184	650	127	299	466	189	527	688	141	103	406	266
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	184	650	127	299	466	189	527	688	141	103	406	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	184	650	127	299	466	189	527	688	141	103	406	266
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.18	0.08	0.09	0.13	0.12	0.15	0.19	0.09	0.03	0.11	0.16
Crit Moves:		****		****			****				****	
Green/Cycle:	0.13	0.30	0.39	0.14	0.31	0.56	0.25	0.35	0.47	0.09	0.19	0.33
Volume/Cap:	0.41	0.60	0.20	0.60	0.41	0.21	0.60	0.55	0.18	0.32	0.60	0.50
Delay/Veh:	40.8	30.8	20.3	42.3	27.2	10.8	34.2	26.9	15.2	43.2	38.7	27.7
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:	40.8	30.8	20.3	42.3	27.2	10.8	34.2	26.9	15.2	43.2	38.7	27.7
DesignQueue:	9	26	4	15	18	5	23	26	4	5	19	10

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ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.606
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 26.1
Optimal Cycle: 49 Level Of Service: C

Street Name:	Fong Ranch Road						San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	1	0	1! 0	1	1	0	1	0
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	32	44	7	150	0	200	269	389	7	6	530	189
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:	32	44	7	150	0	200	269	389	7	6	530	189
Added Vol:	0	0	0	27	0	121	41	24	0	0	72	9
Approved Tr:	0	0	0	0	0	0	0	36	0	0	33	0
Initial Fut:	32	44	7	177	0	321	310	449	7	6	635	198
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:	32	44	7	177	0	321	310	449	7	6	635	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	44	7	177	0	321	310	449	7	6	635	198
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	32	44	7	177	0	321	310	449	7	6	635	198
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.97	0.89	1.00	0.89	0.95	0.95	0.95	0.95	0.92	0.92
Lanes:	0.39	0.53	0.08	1.36	0.00	1.64	1.00	1.97	0.03	1.00	1.52	0.48
Final Sat.:	711	977	155	2286	0	2774	1805	3547	55	1805	2653	827
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.08	0.00	0.12	0.17	0.13	0.13	0.00	0.24	0.24
Crit Moves:		****		****			****				****	
Green/Cycle:	0.10	0.10	0.10	0.12	0.00	0.40	0.27	0.50	0.50	0.16	0.38	0.38
Volume/Cap:	0.45	0.45	0.45	0.63	0.00	0.29	0.63	0.25	0.25	0.02	0.63	0.63
Delay/Veh:	44.2	44.2	44.2	43.2	0.0	20.6	34.3	14.5	14.5	35.6	26.0	26.0
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:	44.2	44.2	44.2	43.2	0.0	20.6	34.3	14.5	14.5	35.6	26.0	26.0
DesignQueue:	2	2	0	9	0	11	13	13	0	0	23	7

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.418
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 16.8
Optimal Cycle: 46 Level Of Service: B

Street Name:	Fong Ranch Road						San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	1	0	1! 0	1	1	0	1	0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	3	1	2	20	0	38	65	1013	6	19	635	24
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:	3	1	2	20	0	38	65	1013	6	19	635	24
Added Vol:	0	0	0	18	0	82	132	79	0	0	49	29
Approved Tr:	0	0	0	0	0	0	0	111	0	0	112	0
Initial Fut:	3	1	2	38	0	120	197	1203	6	19	796	53
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:	3	1	2	38	0	120	197	1203	6	19	796	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	1	2	38	0	120	197	1203	6	19	796	53
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	3	1	2	38	0	120	197	1203	6	19	796	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.88	1.00	0.88	0.95	0.95	0.95	0.95	0.94	0.94
Lanes:	0.50	0.17	0.33	1.24	0.00	1.76	1.00	1.99	0.01	1.00	1.88	0.12
Final Sat.:	885	295	590	2063	0	2926	1805	3588	18	1805	3354	223
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.04	0.11	0.34	0.34	0.01	0.24	0.24
Crit Moves:	****			****				****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.00	0.31	0.21	0.64	0.64	0.04	0.47	0.47
Volume/Cap:	0.03	0.03	0.03	0.18	0.00	0.13	0.51	0.52	0.52	0.26	0.51	0.51
Delay/Veh:	40.7	40.7	40.7	41.4	0.0	24.6	35.8	10.0	10.0	48.5	19.0	19.0
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:	40.7	40.7	40.7	41.4	0.0	24.6	35.8	10.0	10.0	48.5	19.0	19.0
DesignQueue:	0	0	0	2	0	5	9	26	0	1	25	2

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: D[28.3]

Street Name:	Pony Express Dr						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module: >> Count Date: 17 Mar 2005 << 7:00am												
Base Vol:	32	0	16	3	1	69	27	486	19	17	651	8
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:	32	0	16	3	1	69	27	486	19	17	651	8
Added Vol:	0	0	0	0	0	27	9	42	0	0	54	0
Approved Tr:	0	0	0	0	0	0	0	36	0	0	33	0
Initial Fut:	32	0	16	3	1	96	36	564	19	17	738	8
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:	32	0	16	3	1	96	36	564	19	17	738	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	32	0	16	3	1	96	36	564	19	17	738	8
Critical Gap Module:												
Critical Gp:	7.5	xxxx	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1049	xxxx	292	1130	1431	373	746	xxxx	xxxxx	583	xxxx	xxxxx
Potent Cap.:	184	xxxx	711	161	136	630	871	xxxx	xxxxx	1001	xxxx	xxxxx
Move Cap.:	149	xxxx	711	150	128	630	871	xxxx	xxxxx	1001	xxxx	xxxxx
Volume/Cap:	0.22	xxxx	0.02	0.02	0.01	0.15	0.04	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	0.1	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.3	xxxx	xxxxx	8.7	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	202	xxxxx	xxxx	555	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.9	xxxxx	xxxxx	0.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	28.3	xxxxx	xxxxx	12.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	B	*	*	*	*	*	*	*
ApproachDel:		28.3			12.9			xxxxxx			xxxxxx	
ApproachLOS:		D			B			*			*	

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: F[80.7]

Street Name:	Pony Express Dr						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	14	1	14	13	0	47	86	908	41	14	636	15
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:	14	1	14	13	0	47	86	908	41	14	636	15
Added Vol:	0	0	0	0	0	18	29	68	0	0	60	0
Approved Tr:	0	0	0	0	0	0	0	111	0	0	112	0
Initial Fut:	14	1	14	13	0	65	115	1087	41	14	808	15
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:	14	1	14	13	0	65	115	1087	41	14	808	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	14	1	14	13	0	65	115	1087	41	14	808	15
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	xxxx	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1770	2189	564	1618	xxxx	412	823	xxxx	xxxxx	1128	xxxx	xxxxx
Potent Cap.:	54	46	474	70	xxxx	595	816	xxxx	xxxxx	627	xxxx	xxxxx
Move Cap.:	42	39	474	59	xxxx	595	816	xxxx	xxxxx	627	xxxx	xxxxx
Volume/Cap:	0.33	0.03	0.03	0.22	xxxx	0.11	0.14	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	0.1	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.1	xxxx	xxxxx	10.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	75	xxxxx	xxxx	236	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.5	xxxxx	xxxxx	1.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	80.7	xxxxx	xxxxx	27.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	D	*	*	*	*	*	*	*
ApproachDel:		80.7			27.7			xxxxxx			xxxxxx	
ApproachLOS:		F			D			*			*	

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec): 100 Critical Vol./Cap. (X): 0.490
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 25.0
Optimal Cycle: 34 Level Of Service: C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 7:15am												
Base Vol:	115	15	96	145	16	116	38	381	92	29	401	42
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:	115	15	96	145	16	116	38	381	92	29	401	42
Added Vol:	0	1	0	45	3	45	15	27	0	0	9	15
Approved Tr:	0	0	0	0	0	0	0	23	0	0	14	0
Initial Fut:	115	16	96	190	19	161	53	431	92	29	424	57
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:	115	16	96	190	19	161	53	431	92	29	424	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	16	96	190	19	161	53	431	92	29	424	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	115	16	96	190	19	161	53	431	92	29	424	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.66	0.66	0.66	0.69	0.69	0.69	0.95	0.93	0.93	0.95	0.93	0.93
Lanes:	0.51	0.07	0.42	0.51	0.05	0.44	1.00	1.65	0.35	1.00	1.76	0.24
Final Sat.:	640	89	534	677	68	573	1805	2898	619	1805	3125	420
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.28	0.28	0.28	0.03	0.15	0.15	0.02	0.14	0.14
Crit Moves:					****			****		****		
Green/Cycle:	0.57	0.57	0.57	0.57	0.57	0.57	0.08	0.30	0.30	0.04	0.26	0.26
Volume/Cap:	0.32	0.32	0.32	0.49	0.49	0.49	0.38	0.49	0.49	0.40	0.51	0.51
Delay/Veh:	11.6	11.6	11.6	13.4	13.4	13.4	45.5	29.0	29.0	50.5	31.9	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:	11.6	11.6	11.6	13.4	13.4	13.4	45.5	29.0	29.0	50.5	31.9	31.9
DesignQueue:	3	0	2	5	0	4	3	17	4	2	18	2

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec): 100 Critical Vol./Cap. (X): 0.519
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 23.2
Optimal Cycle: 35 Level Of Service: C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	72	12	80	78	12	67	116	707	103	91	535	106
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:	72	12	80	78	12	67	116	707	103	91	535	106
Added Vol:	0	3	0	31	2	31	50	18	0	0	29	50
Approved Tr:	0	0	0	0	0	0	0	40	0	0	47	0
Initial Fut:	72	15	80	109	14	98	166	765	103	91	611	156
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:	72	15	80	109	14	98	166	765	103	91	611	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	15	80	109	14	98	166	765	103	91	611	156
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	72	15	80	109	14	98	166	765	103	91	611	156
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.75	0.75	0.75	0.72	0.72	0.72	0.95	0.93	0.93	0.95	0.92	0.92
Lanes:	0.43	0.09	0.48	0.50	0.06	0.44	1.00	1.76	0.24	1.00	1.59	0.41
Final Sat.:	611	127	679	677	87	608	1805	3124	421	1805	2789	712
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.16	0.16	0.16	0.09	0.24	0.24	0.05	0.22	0.22
Crit Moves:					****		****				****	
Green/Cycle:	0.31	0.31	0.31	0.31	0.31	0.31	0.18	0.50	0.50	0.10	0.42	0.42
Volume/Cap:	0.38	0.38	0.38	0.52	0.52	0.52	0.52	0.49	0.49	0.49	0.52	0.52
Delay/Veh:	27.5	27.5	27.5	29.5	29.5	29.5	38.8	17.0	17.0	44.5	21.7	21.7
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:	27.5	27.5	27.5	29.5	29.5	29.5	38.8	17.0	17.0	44.5	21.7	21.7
DesignQueue:	3	1	3	4	1	4	8	23	3	5	21	5

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.589
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 29.3
Optimal Cycle: 47 Level Of Service: C

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 7:30am												
Base Vol:	163	694	130	118	718	113	240	233	277	214	209	111
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:	163	694	130	118	718	113	240	233	277	214	209	111
Added Vol:	15	0	0	0	0	6	19	8	46	0	3	0
Approved Tr:	9	0	0	0	0	1	2	2	19	0	4	0
Initial Fut:	187	694	130	118	718	120	261	243	342	214	216	111
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:	187	694	130	118	718	120	261	243	342	214	216	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	187	694	130	118	718	120	261	243	342	214	216	111
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	187	694	130	118	718	120	261	243	342	214	216	111
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.93	0.93	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.90	0.90
Lanes:	2.00	1.68	0.32	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.32	0.68
Final Sat.:	3502	2967	556	1805	3610	1615	3502	3610	1615	3502	2263	1163
Capacity Analysis Module:												
Vol/Sat:	0.05	0.23	0.23	0.07	0.20	0.07	0.07	0.07	0.21	0.06	0.10	0.10
Crit Moves:		****		****					****	****		
Green/Cycle:	0.11	0.40	0.40	0.11	0.40	0.56	0.16	0.27	0.38	0.10	0.21	0.21
Volume/Cap:	0.50	0.59	0.59	0.59	0.50	0.13	0.47	0.25	0.56	0.59	0.45	0.45
Delay/Veh:	43.1	24.4	24.4	46.9	22.7	10.6	38.8	28.8	25.9	45.3	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:	43.1	24.4	24.4	46.9	22.7	10.6	38.8	28.8	25.9	45.3	34.6	34.6
DesignQueue:	9	25	5	6	25	3	12	10	12	11	10	5

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.768
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 34.2
Optimal Cycle: 70 Level Of Service: C

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module: >> Count Date: 17 Mar 2005 << 5:00pm												
Base Vol:	453	951	154	285	854	303	317	439	177	209	278	87
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:	453	951	154	285	854	303	317	439	177	209	278	87
Added Vol:	50	0	0	0	0	20	13	5	31	0	9	0
Approved Tr:	31	0	0	0	0	2	1	14	25	0	13	0
Initial Fut:	534	951	154	285	854	325	331	458	233	209	300	87
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:	534	951	154	285	854	325	331	458	233	209	300	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	534	951	154	285	854	325	331	458	233	209	300	87
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	534	951	154	285	854	325	331	458	233	209	300	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.93	0.93	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.92	0.92
Lanes:	2.00	1.72	0.28	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.55	0.45
Final Sat.:	3502	3042	493	1805	3610	1615	3502	3610	1615	3502	2703	784
Capacity Analysis Module:												
Vol/Sat:	0.15	0.31	0.31	0.16	0.24	0.20	0.09	0.13	0.14	0.06	0.11	0.11
Crit Moves:		****		****			****				****	
Green/Cycle:	0.24	0.41	0.41	0.21	0.37	0.50	0.12	0.18	0.42	0.09	0.14	0.14
Volume/Cap:	0.64	0.77	0.77	0.77	0.64	0.41	0.77	0.70	0.34	0.70	0.77	0.77
Delay/Veh:	35.7	28.2	28.2	46.9	26.8	16.3	50.6	41.6	19.8	51.5	48.2	48.2
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:	35.7	28.2	28.2	46.9	26.8	16.3	50.6	41.6	19.8	51.5	48.2	48.2
DesignQueue:	23	34	5	13	32	10	17	21	8	11	15	4

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.478
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 19.0
Optimal Cycle: 42 Level Of Service: B

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1	0 1	1 0	2	0 1	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	35	934	33	233	707	82	74	17	5	40	2	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:	35	934	33	233	707	82	74	17	5	40	2	61
Added Vol:	0	19	0	0	6	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	953	33	233	713	82	74	17	5	40	2	61
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:	35	953	33	233	713	82	74	17	5	40	2	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	953	33	233	713	82	74	17	5	40	2	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	35	953	33	233	713	82	74	17	5	40	2	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.94	0.94	0.95	1.00	0.85	0.95	0.86	0.86
Lanes:	1.00	1.93	0.07	2.00	1.79	0.21	1.00	1.00	1.00	1.00	0.03	0.97
Final Sat.:	1805	3472	120	3502	3189	367	1805	1900	1615	1805	52	1573
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.27	0.07	0.22	0.22	0.04	0.01	0.00	0.02	0.04	0.04
Crit Moves:		****		****			****				****	
Green/Cycle:	0.13	0.56	0.56	0.14	0.57	0.57	0.08	0.12	0.25	0.06	0.10	0.10
Volume/Cap:	0.15	0.49	0.49	0.49	0.39	0.39	0.49	0.07	0.01	0.36	0.39	0.39
Delay/Veh:	39.1	13.5	13.5	40.8	12.1	12.1	46.3	39.0	28.2	47.1	43.7	43.7
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:	39.1	13.5	13.5	40.8	12.1	12.1	46.3	39.0	28.2	47.1	43.7	43.7
DesignQueue:	2	25	1	11	18	2	4	1	0	2	0	3

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.580
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.3
Optimal Cycle: 47 Level Of Service: C

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:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1	0 1	1 0	2	0 1	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	41	975	28	80	1090	48	41	4	3	89	5	225
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:	41	975	28	80	1090	48	41	4	3	89	5	225
Added Vol:	0	13	0	0	20	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	988	28	80	1110	48	41	4	3	89	5	225
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:	41	988	28	80	1110	48	41	4	3	89	5	225
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	988	28	80	1110	48	41	4	3	89	5	225
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	41	988	28	80	1110	48	41	4	3	89	5	225
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.94	0.94	0.95	1.00	0.85	0.95	0.85	0.85
Lanes:	1.00	1.94	0.06	2.00	1.92	0.08	1.00	1.00	1.00	1.00	0.02	0.98
Final Sat.:	1805	3496	99	3502	3440	149	1805	1900	1615	1805	35	1585
Capacity Analysis Module:												
Vol/Sat:	0.02	0.28	0.28	0.02	0.32	0.32	0.02	0.00	0.00	0.05	0.14	0.14
Crit Moves:	****				****		****				****	
Green/Cycle:	0.05	0.50	0.50	0.09	0.54	0.54	0.05	0.19	0.19	0.10	0.24	0.24
Volume/Cap:	0.45	0.56	0.56	0.26	0.60	0.60	0.45	0.01	0.01	0.51	0.60	0.60
Delay/Veh:	49.8	17.6	17.6	42.9	16.0	16.0	49.8	32.7	32.7	45.6	36.3	36.3
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:	49.8	17.6	17.6	42.9	16.0	16.0	49.8	32.7	32.7	45.6	36.3	36.3
DesignQueue:	2	29	1	4	31	1	2	0	0	5	0	10

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.661
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.0
Optimal Cycle: 38 Level Of Service: B

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				Split Phase				Split Phase			
Rights:	Include				Include				Ovl				Include			
Min. Green:	0	10	10		0	10	10		10	0	10		0	0	0	
Lanes:	0 0	2	0	1	0 0	1	1	0	2	0	0	0	1	0 0	0	0	0
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am																
Base Vol:	0	685	373		0	835	510		666	0	349		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	685	373		0	835	510		666	0	349		0	0	0	
Added Vol:	0	13	5		0	6	0		0	0	0		0	0	0	
Approved Tr:	0	2	0		0	1	25		0	0	0		0	0	0	
Initial Fut:	0	700	378		0	842	535		666	0	349		0	0	0	
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:	0	700	378		0	842	535		666	0	349		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	700	378		0	842	535		666	0	349		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		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	700	378		0	842	535		666	0	349		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	0.85		1.00	0.89	0.89		0.92	1.00	0.85		1.00	1.00	1.00	
Lanes:	0.00	2.00	1.00		0.00	1.22	0.78		2.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	0	3610	1615		0	2079	1321		3502	0	1615		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.19	0.23		0.00	0.40	0.40		0.19	0.00	0.22		0.00	0.00	0.00	
Crit Moves:						****					****					
Green/Cycle:	0.00	0.61	0.61		0.00	0.61	0.61		0.33	0.00	0.33		0.00	0.00	0.00	
Volume/Cap:	0.00	0.32	0.38		0.00	0.66	0.66		0.58	0.00	0.66		0.00	0.00	0.00	
Delay/Veh:	0.0	9.4	10.0		0.0	13.4	13.4		28.7	0.0	32.0		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	9.4	10.0		0.0	13.4	13.4		28.7	0.0	32.0		0.0	0.0	0.0	
DesignQueue:	0	16	9		0	20	13		26	0	14		0	0	0	

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.922
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 19.8
Optimal Cycle: 108 Level Of Service: B

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	10	10		0	10	10		10	0	10		0	0	0	
Lanes:	0 0	2	0	1	0 0	1	1	0	2	0	0	0	1	0 0	0	0	0
Volume Module: >> Count Date: 16 Mar 2005 << 4:15pm																
Base Vol:	0	878	504		0	1044	940		407	0	354		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	878	504		0	1044	940		407	0	354		0	0	0	
Added Vol:	0	9	3		0	20	0		0	0	0		0	0	0	
Approved Tr:	0	1	0		0	2	141		0	0	0		0	0	0	
Initial Fut:	0	888	507		0	1066	1081		407	0	354		0	0	0	
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:	0	888	507		0	1066	1081		407	0	354		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	888	507		0	1066	1081		407	0	354		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		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	888	507		0	1066	1081		407	0	354		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	0.85		1.00	0.88	0.88		0.92	1.00	0.85		1.00	1.00	1.00	
Lanes:	0.00	2.00	1.00		0.00	1.00	1.00		2.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	0	3610	1615		0	1670	1670		3502	0	1615		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.25	0.31		0.00	0.64	0.65		0.12	0.00	0.22		0.00	0.00	0.00	
Crit Moves:							****				****					
Green/Cycle:	0.00	0.70	0.70		0.00	0.70	0.70		0.24	0.00	0.24		0.00	0.00	0.00	
Volume/Cap:	0.00	0.35	0.45		0.00	0.91	0.92		0.49	0.00	0.92		0.00	0.00	0.00	
Delay/Veh:	0.0	6.0	6.7		0.0	18.0	19.3		33.3	0.0	64.5		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	6.0	6.7		0.0	18.0	19.3		33.3	0.0	64.5		0.0	0.0	0.0	
DesignQueue:	0	16	9		0	21	21		18	0	16		0	0	0	

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.953
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 33.7
Optimal Cycle: 138 Level Of Service: C

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1	1 0	0 0	2	0 1	0 0	0	0 0	2 0	0	0 1
Volume Module: >> Count Date: 16 Mar 2005 << 7:15am												
Base Vol:	0	1183	168	0	966	395	0	0	0	379	0	785
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	1183	168	0	966	395	0	0	0	379	0	785
Added Vol:	0	13	0	0	5	0	0	0	0	2	0	0
Approved Tr:	0	2	0	0	25	0	0	0	0	0	0	39
Initial Fut:	0	1198	168	0	996	395	0	0	0	381	0	824
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:	0	1198	168	0	996	395	0	0	0	381	0	824
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1198	168	0	996	395	0	0	0	381	0	824
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1198	168	0	996	395	0	0	0	381	0	824
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.93	0.93	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.75	0.25	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3109	436	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.39	0.00	0.28	0.24	0.00	0.00	0.00	0.11	0.00	0.51
Crit Moves:		****										****
Green/Cycle:	0.00	0.40	0.40	0.00	0.40	0.40	0.00	0.00	0.00	0.54	0.00	0.54
Volume/Cap:	0.00	0.95	0.95	0.00	0.68	0.60	0.00	0.00	0.00	0.20	0.00	0.95
Delay/Veh:	0.0	42.9	42.9	0.0	25.8	25.1	0.0	0.0	0.0	12.2	0.0	42.0
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	42.9	42.9	0.0	25.8	25.1	0.0	0.0	0.0	12.2	0.0	42.0
DesignQueue:	0	44	6	0	35	14	0	0	0	10	0	24

ParkeBridge
Baseline + Project w/o Fong Ranch Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.939
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 28.1
Optimal Cycle: 123 Level Of Service: C

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1	1 0	0 0	2	0 1	0 0	0	0 0	2 0	0	0 1
Volume Module: >> Count Date: 16 Mar 2005 << 4:15pm												
Base Vol:	0	936	349	0	1550	823	0	0	0	434	0	473
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	936	349	0	1550	823	0	0	0	434	0	473
Added Vol:	0	9	0	0	15	0	0	0	0	6	0	0
Approved Tr:	0	1	0	0	144	0	0	0	0	0	0	130
Initial Fut:	0	946	349	0	1709	823	0	0	0	440	0	603
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:	0	946	349	0	1709	823	0	0	0	440	0	603
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	946	349	0	1709	823	0	0	0	440	0	603
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	946	349	0	1709	823	0	0	0	440	0	603
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.91	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.46	0.54	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2532	934	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.37	0.00	0.47	0.51	0.00	0.00	0.00	0.13	0.00	0.37
Crit Moves:						****						****
Green/Cycle:	0.00	0.54	0.54	0.00	0.54	0.54	0.00	0.00	0.00	0.40	0.00	0.40
Volume/Cap:	0.00	0.69	0.69	0.00	0.87	0.94	0.00	0.00	0.00	0.32	0.00	0.94
Delay/Veh:	0.0	17.8	17.8	0.0	24.5	38.8	0.0	0.0	0.0	20.9	0.0	50.8
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	17.8	17.8	0.0	24.5	38.8	0.0	0.0	0.0	20.9	0.0	50.8
DesignQueue:	0	26	10	0	49	24	0	0	0	15	0	22

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APPENDIX E7
INTERSECTION OPERATIONS CALCULATIONS
CUMULATIVE PLUS PROJECT W/O FONG RANCH EXTENSION CONDITIONS

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Scenario Report

Scenario:	Cumulative Base + Project wo FR Ext AM
Command:	Cumulative + Project wo FR Ext AM
Volume:	Cumulative + Project wo FR Ext AM
Geometry:	Cumulative Base AM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing AM
Trip Distribution:	Cumulative w/o Fong Ranch
Paths:	Cumulative No Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Scenario Report

Scenario:	Cumulative Base + Project wo FR Ext PM
Command:	Cumulative + Project wo FR Ext PM
Volume:	Cumulative + Project wo FR Ext PM
Geometry:	Cumulative Base PM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing PM
Trip Distribution:	Cumulative w/o Fong Ranch
Paths:	Cumulative No Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

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ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Trip Generation Report

Forecast for Existing AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	PARKEBRIDGE	1.00	Apartment	19.00	56.00	19	56	75	20.9
1	PARKEBRIDGE	1.00	Single Family	71.00	212.00	71	212	283	79.1
	Zone 1 Subtotal					90	268	358	100.0
TOTAL						90	268	358	100.0

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Trip Generation Report

Forecast for Existing PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	PARKEBRIDGE	1.00	Apartment	64.00	47.00	64	47	111	23.4
1	PARKEBRIDGE	1.00	Single Family	229.00	135.00	229	135	364	76.6
	Zone 1 Subtotal					293	182	475	100.0
TOTAL						293	182	475	100.0

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ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Trip Distribution Report

Percent Of Trips Cumulative w/o Fong Ranch

Zone	To Gates 4	5	7	14	16	20	22	23	24	25	26
1	15.0	13.0	10.0	5.0	5.0	22.0	9.0	10.0	5.0	5.0	1.0

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Trip Distribution Report

Percent Of Trips Cumulative w/o Fong Ranch

Zone	To Gates 4	5	7	14	16	20	22	23	24	25	26
1	15.0	13.0	10.0	5.0	5.0	22.0	9.0	10.0	5.0	5.0	1.0

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Turning Movement Report
Existing AM

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	2587	635	0	2280	1411	0	0	0	396	0	2129	9438
Added	0	59	27	0	20	0	0	0	0	12	0	0	118
Total	0	2646	662	0	2300	1411	0	0	0	408	0	2129	9556
#2 Truxel Rd / I-80 East Ramps													
Base	0	1300	432	0	1468	1208	1922	0	181	0	0	0	6511
Added	0	86	35	0	32	0	0	0	9	0	0	0	162
Total	0	1386	467	0	1500	1208	1922	0	190	0	0	0	6673
#3 Truxel Rd / San Juan Rd													
Base	499	908	233	455	825	280	644	390	361	324	466	675	6060
Added	0	0	22	41	0	0	0	5	0	64	13	121	266
Total	499	908	255	496	825	280	644	395	361	388	479	796	6326
#4 Truxel Rd / El Camino Avenue													
Base	251	525	66	220	982	281	236	453	204	217	518	245	4198
Added	0	8	0	13	24	27	9	0	0	0	0	5	86
Total	251	533	66	233	1006	308	245	453	204	217	518	250	4284
#5 Fong Ranch Rd / San Juan Rd													
Base	38	53	8	180	0	240	323	760	8	7	1202	227	3046
Added	0	0	0	22	0	120	40	26	0	0	78	7	293
Total	38	53	8	202	0	360	363	786	8	7	1280	234	3339
#6 Pony Express Dr / San Juan Road													
Base	38	0	19	4	1	83	32	878	23	20	1306	10	2414
Added	0	0	0	0	0	27	9	39	0	0	58	0	133
Total	38	0	19	4	1	110	41	917	23	20	1364	10	2547
#7 Bridgeford Drive \ San Juan Road													
Base	131	18	112	174	19	139	67	678	110	37	1012	68	2565
Added	0	1	0	45	3	51	17	22	0	0	7	15	161
Total	131	19	112	219	22	190	84	700	110	37	1019	83	2726
#8 Northgate Bl / San Juan Rd													
Base	293	872	174	142	876	241	272	365	338	258	553	158	4542
Added	14	0	0	0	0	5	13	13	40	0	5	0	90
Total	307	872	174	142	876	246	285	378	378	258	558	158	4632
#9 Northgate / Rosin													
Base	93	1432	40	280	1018	120	106	20	30	48	2	73	3262
Added	0	13	0	0	5	0	0	0	0	0	0	0	18
Total	93	1445	40	280	1023	120	106	20	30	48	2	73	3280

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Turning Movement Report
Existing PM

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	2564	235	0	2670	2002	0	0	0	579	0	1684	9734
Added	0	40	18	0	64	0	0	0	0	38	0	0	160
Total	0	2604	253	0	2734	2002	0	0	0	617	0	1684	9894
#2 Truxel Rd / I-80 East Ramps													
Base	0	1280	356	0	2103	1146	1519	0	440	0	0	0	6844
Added	0	58	24	0	103	0	0	0	29	0	0	0	214
Total	0	1338	380	0	2206	1146	1519	0	469	0	0	0	7058
#3 Truxel Rd / San Juan Rd													
Base	528	944	281	763	1178	603	468	597	438	229	361	392	6782
Added	0	0	70	132	0	0	0	15	0	44	9	82	352
Total	528	944	351	895	1178	603	468	612	438	273	370	474	7134
#4 Truxel Rd / El Camino Avenue													
Base	306	942	198	431	746	197	535	858	480	153	412	255	5513
Added	0	26	0	9	16	18	29	0	0	0	0	15	113
Total	306	968	198	440	762	215	564	858	480	153	412	270	5626
#5 Fong Ranch Rd / San Juan Rd													
Base	4	1	2	27	0	46	78	1557	7	23	934	29	2708
Added	0	0	0	15	0	82	132	85	0	0	53	24	391
Total	4	1	2	42	0	128	210	1642	7	23	987	53	3099
#6 Pony Express Dr / San Juan Road													
Base	17	1	16	16	0	56	103	1430	49	17	903	18	2626
Added	0	0	0	0	0	18	29	71	0	0	58	0	176
Total	17	1	16	16	0	74	132	1501	49	17	961	18	2802
#7 Bridgeford Drive \ San Juan Road													
Base	113	14	96	94	14	80	139	1159	121	125	783	159	2897
Added	0	3	0	31	2	35	56	15	0	0	24	50	216
Total	113	17	96	125	16	115	195	1174	121	125	807	209	3113
#8 Northgate Bl / San Juan Rd													
Base	484	1026	238	324	938	329	357	633	244	251	334	104	5262
Added	44	0	0	0	0	15	9	9	27	0	15	0	119
Total	528	1026	238	324	938	344	366	642	271	251	349	104	5381
#9 Northgate / Rosin													
Base	81	1289	34	96	1295	60	741	5	19	107	6	270	4003
Added	0	9	0	0	15	0	0	0	0	0	0	0	24
Total	81	1298	34	96	1310	60	741	5	19	107	6	270	4027

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ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#10 Northgate Bl / I-80 East Ramps													
Base	0	919	548	0	906	545	701	0	385	0	0	0	4004
Added	0	13	0	0	5	0	0	0	0	0	0	0	18
Total	0	932	548	0	911	545	701	0	385	0	0	0	4022
#11 Northgate Bl / I-80 West Ramps													
Base	0	1404	215	0	996	785	0	0	0	455	0	803	4658
Added	0	13	0	0	5	0	0	0	0	0	0	0	18
Total	0	1417	215	0	1001	785	0	0	0	455	0	803	4676
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	123	0	0	41	0	164
Total	0	0	0	0	0	0	0	123	0	0	41	0	164
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	123	0	142	48	0	0	0	0	41	354
Total	0	0	0	123	0	142	48	0	0	0	0	41	354
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	3	0	0	0	123	0	0	41	1	168
Total	0	0	0	3	0	0	0	123	0	0	41	1	168

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#10 Northgate Bl / I-80 East Ramps													
Base	0	994	605	0	1156	995	450	0	395	0	0	0	4595
Added	0	9	0	0	15	0	0	0	0	0	0	0	24
Total	0	1003	605	0	1171	995	450	0	395	0	0	0	4619
#11 Northgate Bl / I-80 West Ramps													
Base	0	987	458	0	1630	789	0	0	0	521	0	717	5102
Added	0	9	0	0	15	0	0	0	0	0	0	0	24
Total	0	996	458	0	1645	789	0	0	0	521	0	717	5126
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	84	0	0	135	0	219
Total	0	0	0	0	0	0	0	84	0	0	135	0	219
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	84	0	96	155	0	0	0	0	135	470
Total	0	0	0	84	0	96	155	0	0	0	0	135	470
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	2	0	0	0	84	0	0	135	3	224
Total	0	0	0	2	0	0	0	84	0	0	135	3	224

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ParkeBridge
Cumulative Conditions w/o Fong Extension
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 Truxel Rd / I-80 West Ramps	E	71.5	1.152	E	73.6	1.165	+ 2.093 D/V
# 2 Truxel Rd / I-80 East Ramps	C	27.4	0.908	C	27.6	0.914	+ 0.220 D/V
# 3 Truxel Rd / San Juan Rd	E	63.8	1.041	F	81.6	1.132	+17.847 D/V
# 4 Truxel Rd / El Camino Avenue	C	31.9	0.676	C	32.0	0.688	+ 0.097 D/V
# 5 Fong Ranch Rd / San Juan Rd	C	28.7	0.809	C	33.6	0.877	+ 4.941 D/V
# 6 Pony Express Dr / San Juan Roa	F	157.8	0.000	F	264.0	0.000	+106.238 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	24.1	0.663	C	28.3	0.769	+ 4.192 D/V
# 8 Northgate Bl / San Juan Rd	C	33.0	0.747	C	33.3	0.753	+ 0.291 D/V
# 9 Northgate / Rosin	C	21.0	0.675	C	21.0	0.679	+ 0.021 D/V
# 10 Northgate Bl / I-80 East Ramps	B	17.7	0.707	B	17.7	0.708	-0.007 D/V
# 11 Northgate Bl / I-80 West Ramps	D	46.1	1.046	D	46.7	1.046	+ 0.673 D/V

ParkeBridge
Cumulative Conditions w/o Fong Extension
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 Truxel Rd / I-80 West Ramps	E	59.3	1.152	E	61.5	1.151	+ 2.193 D/V
# 2 Truxel Rd / I-80 East Ramps	C	27.0	0.936	C	28.4	0.955	+ 1.407 D/V
# 3 Truxel Rd / San Juan Rd	D	41.4	0.866	D	45.2	0.932	+ 3.827 D/V
# 4 Truxel Rd / El Camino Avenue	D	36.8	0.811	D	37.5	0.823	+ 0.719 D/V
# 5 Fong Ranch Rd / San Juan Rd	B	14.1	0.525	B	18.2	0.562	+ 4.065 D/V
# 6 Pony Express Dr / San Juan Roa	F	259.3	0.000	F	462.2	0.000	+202.933 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	22.3	0.657	C	25.4	0.693	+ 3.149 D/V
# 8 Northgate Bl / San Juan Rd	D	40.3	0.894	D	40.9	0.897	+ 0.555 D/V
# 9 Northgate / Rosin	F	108.6	1.141	F	109.8	1.145	+ 1.130 D/V
# 10 Northgate Bl / I-80 East Ramps	C	22.2	0.941	C	22.5	0.946	+ 0.346 D/V
# 11 Northgate Bl / I-80 West Ramps	D	36.2	0.992	D	36.6	0.992	+ 0.352 D/V

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ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 1.165
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 73.6
Optimal Cycle: 180 Level Of Service: E

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	2	1 1	0 0	3	1 1	0 0	0	0 0	2	0 0	3
Volume Module:												
Base Vol:	0	2587	635	0	2280	1411	0	0	0	396	0	2129
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	2587	635	0	2280	1411	0	0	0	396	0	2129
Added Vol:	0	59	27	0	20	0	0	0	0	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2646	662	0	2300	1411	0	0	0	408	0	2129
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:	0	2646	662	0	2300	1411	0	0	0	408	0	2129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2646	662	0	2300	1411	0	0	0	408	0	2129
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	2646	662	0	2300	1411	0	0	0	408	0	2129
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.88	0.88	1.00	0.86	0.86	1.00	1.00	1.00	0.92	1.00	0.75
Lanes:	0.00	3.00	1.00	0.00	3.10	1.90	0.00	0.00	0.00	2.00	0.00	3.00
Final Sat.:	0	5031	1677	0	5053	3100	0	0	0	3502	0	4264
Capacity Analysis Module:												
Vol/Sat:	0.00	0.53	0.39	0.00	0.46	0.46	0.00	0.00	0.00	0.12	0.00	0.50
Crit Moves:		****										****
Green/Cycle:	0.00	0.45	0.45	0.00	0.45	0.45	0.00	0.00	0.00	0.43	0.00	0.43
Volume/Cap:	0.00	1.17	0.87	0.00	1.01	1.01	0.00	0.00	0.00	0.27	0.00	1.17
Delay/Veh:	0.0	106	27.4	0.0	44.4	44.4	0.0	0.0	0.0	18.6	0.0	109.2
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	106	27.4	0.0	44.4	44.4	0.0	0.0	0.0	18.6	0.0	109.2
DesignQueue:	0	92	22	0	78	48	0	0	0	13	0	75

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 1.151
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 61.5
Optimal Cycle: 180 Level Of Service: E

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	2	1 1	0 0	3	1 1	0 0	0	0 0	2	0 0	3
Volume Module:												
Base Vol:	0	2564	235	0	2670	2002	0	0	0	579	0	1684
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	2564	235	0	2670	2002	0	0	0	579	0	1684
Added Vol:	0	40	18	0	64	0	0	0	0	38	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2604	253	0	2734	2002	0	0	0	617	0	1684
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:	0	2604	253	0	2734	2002	0	0	0	617	0	1684
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2604	253	0	2734	2002	0	0	0	617	0	1684
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	2604	253	0	2734	2002	0	0	0	617	0	1684
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.90	0.90	1.00	0.85	0.85	1.00	1.00	1.00	0.92	1.00	0.75
Lanes:	0.00	3.00	1.00	0.00	3.00	2.00	0.00	0.00	0.00	2.00	0.00	3.00
Final Sat.:	0	5120	1707	0	4860	3240	0	0	0	3502	0	4264
Capacity Analysis Module:												
Vol/Sat:	0.00	0.51	0.15	0.00	0.56	0.62	0.00	0.00	0.00	0.18	0.00	0.39
Crit Moves:						****						****
Green/Cycle:	0.00	0.54	0.54	0.00	0.54	0.54	0.00	0.00	0.00	0.34	0.00	0.34
Volume/Cap:	0.00	0.95	0.28	0.00	1.05	1.15	0.00	0.00	0.00	0.51	0.00	1.15
Delay/Veh:	0.0	29.3	12.6	0.0	51.4	94.3	0.0	0.0	0.0	26.6	0.0	109.1
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	29.3	12.6	0.0	51.4	94.3	0.0	0.0	0.0	26.6	0.0	109.1
DesignQueue:	0	76	7	0	81	60	0	0	0	24	0	67

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.914
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.6
Optimal Cycle: 116 Level Of Service: C

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	3	1 1	0 0	2	1 1	2 0	1!	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	1300	432	0	1468	1208	1922	0	181	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	1300	432	0	1468	1208	1922	0	181	0	0	0
Added Vol:	0	86	35	0	32	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1386	467	0	1500	1208	1922	0	190	0	0	0
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:	0	1386	467	0	1500	1208	1922	0	190	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1386	467	0	1500	1208	1922	0	190	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1386	467	0	1500	1208	1922	0	190	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.88	0.88	1.00	0.85	0.85	0.92	1.00	0.94	1.00	1.00	1.00
Lanes:	0.00	3.74	1.26	0.00	2.22	1.78	2.87	0.00	1.13	0.00	0.00	0.00
Final Sat.:	0	6221	2096	0	3574	2878	4998	0	2018	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.22	0.00	0.42	0.42	0.38	0.00	0.09	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.00	0.46	0.46	0.00	0.46	0.46	0.42	0.00	0.42	0.00	0.00	0.00
Volume/Cap:	0.00	0.49	0.49	0.00	0.91	0.91	0.91	0.00	0.22	0.00	0.00	0.00
Delay/Veh:	0.0	18.9	18.9	0.0	30.1	30.1	33.4	0.0	18.5	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	18.9	18.9	0.0	30.1	30.1	33.4	0.0	18.5	0.0	0.0	0.0
DesignQueue:	0	44	15	0	50	40	68	0	6	0	0	0

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.955
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 28.4
Optimal Cycle: 143 Level Of Service: C

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	3	1 1	0 0	2	1 1	2 0	1!	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	1280	356	0	2103	1146	1519	0	440	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	1280	356	0	2103	1146	1519	0	440	0	0	0
Added Vol:	0	58	24	0	103	0	0	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1338	380	0	2206	1146	1519	0	469	0	0	0
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:	0	1338	380	0	2206	1146	1519	0	469	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1338	380	0	2206	1146	1519	0	469	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1338	380	0	2206	1146	1519	0	469	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.88	0.88	1.00	0.86	0.86	0.90	1.00	0.93	1.00	1.00	1.00
Lanes:	0.00	3.89	1.11	0.00	2.63	1.37	2.69	0.00	1.31	0.00	0.00	0.00
Final Sat.:	0	6511	1849	0	4319	2244	4607	0	2313	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.21	0.21	0.00	0.51	0.51	0.33	0.00	0.20	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.00	0.53	0.53	0.00	0.53	0.53	0.35	0.00	0.35	0.00	0.00	0.00
Volume/Cap:	0.00	0.38	0.38	0.00	0.96	0.96	0.96	0.00	0.59	0.00	0.00	0.00
Delay/Veh:	0.0	13.7	13.7	0.0	29.5	29.5	43.0	0.0	27.2	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	13.7	13.7	0.0	29.5	29.5	43.0	0.0	27.2	0.0	0.0	0.0
DesignQueue:	0	36	10	0	65	34	60	0	18	0	0	0

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 1.132
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 81.6
Optimal Cycle: 180 Level Of Service: F

Street Name:	Truxel Rd						San Juan Rd					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	499	908	233	455	825	280	644	390	361	324	466	675
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:	499	908	233	455	825	280	644	390	361	324	466	675
Added Vol:	0	0	22	41	0	0	0	5	0	64	13	121
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	499	908	255	496	825	280	644	395	361	388	479	796
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:	499	908	255	496	825	280	644	395	361	388	479	796
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	499	908	255	496	825	280	644	395	361	388	479	796
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	499	908	255	496	825	280	644	395	361	388	479	796
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.14	0.25	0.16	0.14	0.23	0.17	0.18	0.11	0.22	0.11	0.13	0.49
Crit Moves:		****		****			****					****
Green/Cycle:	0.13	0.22	0.46	0.13	0.21	0.38	0.16	0.23	0.37	0.24	0.31	0.44
Volume/Cap:	1.07	1.13	0.34	1.13	1.07	0.46	1.13	0.47	0.61	0.47	0.43	1.13
Delay/Veh:	104.4	114	17.6	128.0	91.5	24.1	121.6	33.3	27.5	33.1	27.7	104.7
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:	104.4	114	17.6	128.0	91.5	24.1	121.6	33.3	27.5	33.1	27.7	104.7
DesignQueue:	25	42	8	25	38	10	31	17	13	17	19	28

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.932
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 45.2
Optimal Cycle: 133 Level Of Service: D

Street Name:	Truxel Rd						San Juan Rd					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	528	944	281	763	1178	603	468	597	438	229	361	392
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:	528	944	281	763	1178	603	468	597	438	229	361	392
Added Vol:	0	0	70	132	0	0	0	15	0	44	9	82
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	528	944	351	895	1178	603	468	612	438	273	370	474
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:	528	944	351	895	1178	603	468	612	438	273	370	474
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	528	944	351	895	1178	603	468	612	438	273	370	474
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	528	944	351	895	1178	603	468	612	438	273	370	474
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.15	0.26	0.22	0.26	0.33	0.37	0.13	0.17	0.27	0.08	0.10	0.29
Crit Moves:		****		****				****		****		
Green/Cycle:	0.18	0.28	0.36	0.27	0.38	0.53	0.15	0.18	0.36	0.08	0.12	0.39
Volume/Cap:	0.86	0.93	0.60	0.93	0.86	0.71	0.89	0.93	0.76	0.93	0.89	0.75
Delay/Veh:	51.9	49.8	27.5	50.7	34.4	20.4	58.6	60.6	34.2	80.6	64.0	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:	51.9	49.8	27.5	50.7	34.4	20.4	58.6	60.6	34.2	80.6	64.0	31.5
DesignQueue:	25	40	13	38	44	17	23	29	17	14	19	17

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.688
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 32.0
Optimal Cycle: 72 Level Of Service: C

Street Name:	Truxel Road						El Camino Avenue					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	251	525	66	220	982	281	236	453	204	217	518	245
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:	251	525	66	220	982	281	236	453	204	217	518	245
Added Vol:	0	8	0	13	24	27	9	0	0	0	0	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	251	533	66	233	1006	308	245	453	204	217	518	250
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:	251	533	66	233	1006	308	245	453	204	217	518	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	533	66	233	1006	308	245	453	204	217	518	250
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	251	533	66	233	1006	308	245	453	204	217	518	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.15	0.04	0.07	0.28	0.19	0.07	0.13	0.13	0.06	0.14	0.15
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.35	0.45	0.16	0.41	0.51	0.10	0.21	0.31	0.10	0.21	0.37
Volume/Cap:	0.69	0.42	0.09	0.42	0.69	0.38	0.69	0.60	0.40	0.60	0.69	0.42
Delay/Veh:	48.6	24.9	15.6	38.5	25.9	15.3	48.9	37.3	27.6	45.8	39.2	24.2
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:	48.6	24.9	15.6	38.5	25.9	15.3	48.9	37.3	27.6	45.8	39.2	24.2
DesignQueue:	13	20	2	11	36	9	12	21	8	11	24	9

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.823
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 37.5
Optimal Cycle: 96 Level Of Service: D

Street Name:	Truxel Road						El Camino Avenue					
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:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	306	942	198	431	746	197	535	858	480	153	412	255
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:	306	942	198	431	746	197	535	858	480	153	412	255
Added Vol:	0	26	0	9	16	18	29	0	0	0	0	15
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	306	968	198	440	762	215	564	858	480	153	412	270
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:	306	968	198	440	762	215	564	858	480	153	412	270
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	306	968	198	440	762	215	564	858	480	153	412	270
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	306	968	198	440	762	215	564	858	480	153	412	270
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.27	0.12	0.13	0.21	0.13	0.16	0.24	0.30	0.04	0.11	0.17
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.33	0.38	0.15	0.34	0.54	0.20	0.29	0.43	0.05	0.14	0.29
Volume/Cap:	0.62	0.82	0.32	0.82	0.62	0.25	0.81	0.82	0.69	0.82	0.81	0.57
Delay/Veh:	43.0	35.9	22.3	51.1	28.8	12.4	44.9	38.6	26.3	71.6	50.7	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:	43.0	35.9	22.3	51.1	28.8	12.4	44.9	38.6	26.3	71.6	50.7	31.5
DesignQueue:	15	39	7	21	30	6	26	36	16	8	20	11

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ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.877
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 33.6
Optimal Cycle: 100 Level Of Service: C

Street Name:	Fong Ranch Road									San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1!	0	0	1	0	1!	0	1	1	0	1	1	0	1	0	1	1	0
Volume Module:																				
Base Vol:	38	53	8	180	0	240	323	760	8	7	1202	227
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:	38	53	8	180	0	240	323	760	8	7	1202	227
Added Vol:	0	0	0	22	0	120	40	26	0	0	78	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	53	8	202	0	360	363	786	8	7	1280	234
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:	38	53	8	202	0	360	363	786	8	7	1280	234
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	53	8	202	0	360	363	786	8	7	1280	234
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	53	8	202	0	360	363	786	8	7	1280	234
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.97	0.89	1.00	0.89	0.95	0.95	0.95	0.95	0.93	0.93
Lanes:	0.38	0.54	0.08	1.36	0.00	1.64	1.00	1.98	0.02	1.00	1.69	0.31
Final Sat.:	708	987	149	2293	0	2767	1805	3570	36	1805	2982	545
Capacity Analysis Module:																				
Vol/Sat:	0.05	0.05	0.05	0.09	0.00	0.13	0.20	0.22	0.22	0.00	0.43	0.43
Crit Moves:	****			****			****				****	
Green/Cycle:	0.10	0.10	0.10	0.10	0.00	0.32	0.22	0.58	0.58	0.10	0.46	0.46
Volume/Cap:	0.54	0.54	0.54	0.88	0.00	0.41	0.93	0.38	0.38	0.04	0.93	0.93
Delay/Veh:	45.9	45.9	45.9	57.9	0.0	27.0	66.3	11.7	11.7	40.3	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:	45.9	45.9	45.9	57.9	0.0	27.0	66.3	11.7	11.7	40.3	34.8	34.8
DesignQueue:	2	3	0	10	0	14	17	20	0	0	43	8

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.562
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 18.2
Optimal Cycle: 46 Level Of Service: B

Street Name:	Fong Ranch Road									San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1!	0	0	1	0	1!	0	1	1	0	1	1	0	1	0	1	1	0
Volume Module:																				
Base Vol:	4	1	2	27	0	46	78	1557	7	23	934	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:	4	1	2	27	0	46	78	1557	7	23	934	29
Added Vol:	0	0	0	15	0	82	132	85	0	0	53	24
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	1	2	42	0	128	210	1642	7	23	987	53
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:	4	1	2	42	0	128	210	1642	7	23	987	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	1	2	42	0	128	210	1642	7	23	987	53
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	4	1	2	42	0	128	210	1642	7	23	987	53
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.88	1.00	0.88	0.95	0.95	0.95	0.95	0.94	0.94
Lanes:	0.57	0.14	0.29	1.25	0.00	1.75	1.00	1.99	0.01	1.00	1.90	0.10
Final Sat.:	1014	254	507	2076	0	2919	1805	3591	15	1805	3399	182
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.04	0.12	0.46	0.46	0.01	0.29	0.29
Crit Moves:	****			****				****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.00	0.29	0.19	0.64	0.64	0.04	0.49	0.49
Volume/Cap:	0.04	0.04	0.04	0.20	0.00	0.15	0.60	0.71	0.71	0.32	0.60	0.60
Delay/Veh:	40.8	40.8	40.8	41.5	0.0	26.1	39.5	13.0	13.0	49.2	19.2	19.2
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:	40.8	40.8	40.8	41.5	0.0	26.1	39.5	13.0	13.0	49.2	19.2	19.2
DesignQueue:	0	0	0	2	0	5	10	37	0	1	30	2

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 7.5 Worst Case Level Of Service: F[264.0]

Street Name:	Pony Express Dr									San Juan Road								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	1!	0	0	1	0	1	1	0	1	0	1	1	0
Volume Module:																				
Base Vol:	38	0	19			4	1	83			32	878	23			20	1306	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:	38	0	19			4	1	83			32	878	23			20	1306	10		
Added Vol:	0	0	0			0	0	27			9	39	0			0	58	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	38	0	19			4	1	110			41	917	23			20	1364	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:	38	0	19			4	1	110			41	917	23			20	1364	10		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Final Vol.:	38	0	19			4	1	110			41	917	23			20	1364	10		
Critical Gap Module:																				
Critical Gp:	7.5	xxxx	6.9			7.5	6.5	6.9			4.1	xxxx	xxxxx			4.1	xxxx	xxxxx		
FollowUpTim:	3.5	xxxx	3.3			3.5	4.0	3.3			2.2	xxxx	xxxxx			2.2	xxxx	xxxxx		
Capacity Module:																				
Cnflict Vol:	1733	xxxx	470			1950	2431	687			1374	xxxx	xxxxx			940	xxxx	xxxxx		
Potent Cap.:	58	xxxx	545			40	32	394			506	xxxx	xxxxx			737	xxxx	xxxxx		
Move Cap.:	37	xxxx	545			35	29	394			506	xxxx	xxxxx			737	xxxx	xxxxx		
Volume/Cap:	1.02	xxxx	0.03			0.11	0.03	0.28			0.08	xxxx	xxxx			0.03	xxxx	xxxx		
Level Of Service Module:																				
Queue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			0.3	xxxx	xxxxx			0.1	xxxx	xxxxx		
Stopped Del:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			12.7	xxxx	xxxxx			10.0	xxxx	xxxxx		
LOS by Move:	*	*	*			*	*	*			B	*	*			B	*	*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx		54	xxxxx	xxxx		269	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx						
SharedQueue:	xxxxx		4.8	xxxxx	xxxxx		2.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
Shrd StpDel:	xxxxx		264	xxxxx	xxxxx		28.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
Shared LOS:	*		F	*	*		D	*	*	*	*	*	*	*						
ApproachDel:			264.0				28.1			xxxxxx					xxxxxx					
ApproachLOS:			F				D			*					*					

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 9.2 Worst Case Level Of Service: F[462.2]

Street Name:	Pony Express Dr									San Juan Road								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	1!	0	0	1	0	1	1	0	1	0	1	1	0
Volume Module:																				
Base Vol:	17	1	16			16	0	56			103	1430	49			17	903	18		
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:	17	1	16			16	0	56			103	1430	49			17	903	18		
Added Vol:	0	0	0			0	0	18			29	71	0			0	58	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	17	1	16			16	0	74			132	1501	49			17	961	18		
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:	17	1	16			16	0	74			132	1501	49			17	961	18		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Final Vol.:	17	1	16			16	0	74			132	1501	49			17	961	18		
Critical Gap Module:																				
Critical Gp:	7.5	6.5	6.9			7.5	xxxx	6.9			4.1	xxxx	xxxxx			4.1	xxxx	xxxxx		
FollowUpTim:	3.5	4.0	3.3			3.5	xxxx	3.3			2.2	xxxx	xxxxx			2.2	xxxx	xxxxx		
Capacity Module:																				
Cnflict Vol:	2304	2803	775			2019	xxxx	489			979	xxxx	xxxxx			1550	xxxx	xxxxx		
Potent Cap.:	21	19	345			35	xxxx	530			713	xxxx	xxxxx			433	xxxx	xxxxx		
Move Cap.:	15	15	345			26	xxxx	530			713	xxxx	xxxxx			433	xxxx	xxxxx		
Volume/Cap:	1.12	0.07	0.05			0.61	xxxx	0.14			0.19	xxxx	xxxx			0.04	xxxx	xxxx		
Level Of Service Module:																				
Queue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			0.7	xxxx	xxxxx			0.1	xxxx	xxxxx		
Stopped Del:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			11.2	xxxx	xxxxx			13.6	xxxx	xxxxx		
LOS by Move:	*	*	*			*	*	*			B	*	*			B	*	*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx		28	xxxxx	xxxx		121	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx						
SharedQueue:	xxxxx		4.0	xxxxx	xxxxx		4.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
Shrd StpDel:	xxxxx		462	xxxxx	xxxxx		92.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
Shared LOS:	*		F	*	*		F	*	*	*	*	*	*	*						
ApproachDel:			462.2				92.9			xxxxxx					xxxxxx					
ApproachLOS:			F				F			*					*					

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec): 100 Critical Vol./Cap. (X): 0.769
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 28.3
Optimal Cycle: 62 Level Of Service: C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module:												
Base Vol:	131	18	112	174	19	139	67	678	110	37	1012	68
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	18	112	174	19	139	67	678	110	37	1012	68
Added Vol:	0	1	0	45	3	51	17	22	0	0	7	15
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	131	19	112	219	22	190	84	700	110	37	1019	83
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:	131	19	112	219	22	190	84	700	110	37	1019	83
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	19	112	219	22	190	84	700	110	37	1019	83
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	131	19	112	219	22	190	84	700	110	37	1019	83
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.63	0.63	0.63	0.66	0.66	0.66	0.95	0.93	0.93	0.95	0.94	0.94
Lanes:	0.50	0.07	0.43	0.51	0.05	0.44	1.00	1.73	0.27	1.00	1.85	0.15
Final Sat.:	601	87	514	636	64	552	1805	3057	480	1805	3301	269
Capacity Analysis Module:												
Vol/Sat:	0.22	0.22	0.22	0.34	0.34	0.34	0.05	0.23	0.23	0.02	0.31	0.31
Crit Moves:					****		****				****	
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.06	0.39	0.39	0.07	0.40	0.40
Volume/Cap:	0.49	0.49	0.49	0.77	0.77	0.77	0.77	0.58	0.58	0.30	0.77	0.77
Delay/Veh:	20.2	20.2	20.2	29.6	29.6	29.6	73.8	24.5	24.5	45.6	28.5	28.5
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:	20.2	20.2	20.2	29.6	29.6	29.6	73.8	24.5	24.5	45.6	28.5	28.5
DesignQueue:	4	1	4	7	1	6	4	25	4	2	37	3

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec): 100 Critical Vol./Cap. (X): 0.693
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 25.4
Optimal Cycle: 50 Level Of Service: C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0
Volume Module:												
Base Vol:	113	14	96	94	14	80	139	1159	121	125	783	159
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:	113	14	96	94	14	80	139	1159	121	125	783	159
Added Vol:	0	3	0	31	2	35	56	15	0	0	24	50
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	17	96	125	16	115	195	1174	121	125	807	209
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:	113	17	96	125	16	115	195	1174	121	125	807	209
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	17	96	125	16	115	195	1174	121	125	807	209
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	113	17	96	125	16	115	195	1174	121	125	807	209
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.67	0.67	0.67	0.68	0.68	0.68	0.95	0.94	0.94	0.95	0.92	0.92
Lanes:	0.50	0.08	0.42	0.49	0.06	0.45	1.00	1.81	0.19	1.00	1.59	0.41
Final Sat.:	638	96	542	633	81	583	1805	3227	333	1805	2779	720
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.20	0.20	0.20	0.11	0.36	0.36	0.07	0.29	0.29
Crit Moves:					****			****		****		
Green/Cycle:	0.28	0.28	0.28	0.28	0.28	0.28	0.17	0.53	0.53	0.10	0.46	0.46
Volume/Cap:	0.62	0.62	0.62	0.69	0.69	0.69	0.64	0.69	0.69	0.69	0.64	0.64
Delay/Veh:	34.4	34.4	34.4	37.4	37.4	37.4	43.1	18.9	18.9	54.5	21.8	21.8
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:	34.4	34.4	34.4	37.4	37.4	37.4	43.1	18.9	18.9	54.5	21.8	21.8
DesignQueue:	5	1	4	5	1	5	9	34	4	6	26	7

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.753
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 33.3
Optimal Cycle: 68 Level Of Service: C

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	293	872	174	142	876	241	272	365	338	258	553	158
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:	293	872	174	142	876	241	272	365	338	258	553	158
Added Vol:	14	0	0	0	0	5	13	13	40	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	307	872	174	142	876	246	285	378	378	258	558	158
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:	307	872	174	142	876	246	285	378	378	258	558	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	307	872	174	142	876	246	285	378	378	258	558	158
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	307	872	174	142	876	246	285	378	378	258	558	158
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.93	0.93	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.92	0.92
Lanes:	2.00	1.67	0.33	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.56	0.44
Final Sat.:	3502	2934	586	1805	3610	1615	3502	3610	1615	3502	2721	770
Capacity Analysis Module:												
Vol/Sat:	0.09	0.30	0.30	0.08	0.24	0.15	0.08	0.10	0.23	0.07	0.21	0.21
Crit Moves:		****		****			****				****	
Green/Cycle:	0.13	0.39	0.39	0.10	0.37	0.47	0.11	0.25	0.39	0.13	0.27	0.27
Volume/Cap:	0.66	0.75	0.75	0.75	0.66	0.32	0.75	0.41	0.61	0.58	0.75	0.75
Delay/Veh:	44.8	28.4	28.4	59.1	27.7	16.5	51.6	31.5	26.4	43.0	36.7	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:	44.8	28.4	28.4	59.1	27.7	16.5	51.6	31.5	26.4	43.0	36.7	36.7
DesignQueue:	15	32	6	7	33	7	14	16	14	13	24	7

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.897
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 40.9
Optimal Cycle: 108 Level Of Service: D

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	484	1026	238	324	938	329	357	633	244	251	334	104
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:	484	1026	238	324	938	329	357	633	244	251	334	104
Added Vol:	44	0	0	0	0	15	9	9	27	0	15	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	528	1026	238	324	938	344	366	642	271	251	349	104
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:	528	1026	238	324	938	344	366	642	271	251	349	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	528	1026	238	324	938	344	366	642	271	251	349	104
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	528	1026	238	324	938	344	366	642	271	251	349	104
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.92	0.92
Lanes:	2.00	1.62	0.38	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.54	0.46
Final Sat.:	3502	2848	661	1805	3610	1615	3502	3610	1615	3502	2687	801
Capacity Analysis Module:												
Vol/Sat:	0.15	0.36	0.36	0.18	0.26	0.21	0.10	0.18	0.17	0.07	0.13	0.13
Crit Moves:		****		****				****		****		
Green/Cycle:	0.22	0.40	0.40	0.20	0.38	0.50	0.12	0.20	0.42	0.08	0.15	0.15
Volume/Cap:	0.68	0.90	0.90	0.90	0.68	0.42	0.84	0.90	0.40	0.90	0.84	0.84
Delay/Veh:	38.2	35.9	35.9	62.9	27.3	15.9	56.7	53.1	20.7	74.4	52.6	52.6
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:	38.2	35.9	35.9	62.9	27.3	15.9	56.7	53.1	20.7	74.4	52.6	52.6
DesignQueue:	24	37	9	15	35	10	18	30	9	13	17	5

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.679
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.0
Optimal Cycle: 57 Level Of Service: C

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1 0	1	1 0	2 0	1	1 0	1 0	1	0 1	1 0	0	1 0
Volume Module:												
Base Vol:	93	1432	40	280	1018	120	106	20	30	48	2	73
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:	93	1432	40	280	1018	120	106	20	30	48	2	73
Added Vol:	0	13	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	93	1445	40	280	1023	120	106	20	30	48	2	73
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:	93	1445	40	280	1023	120	106	20	30	48	2	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	1445	40	280	1023	120	106	20	30	48	2	73
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	93	1445	40	280	1023	120	106	20	30	48	2	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.93	0.93	0.95	1.00	0.85	0.95	0.85	0.85
Lanes:	1.00	1.95	0.05	2.00	1.79	0.21	1.00	1.00	1.00	1.00	0.03	0.97
Final Sat.:	1805	3499	97	3502	3179	373	1805	1900	1615	1805	43	1579
Capacity Analysis Module:												
Vol/Sat:	0.05	0.41	0.41	0.08	0.32	0.32	0.06	0.01	0.02	0.03	0.05	0.05
Crit Moves:		****		****			****				****	
Green/Cycle:	0.10	0.58	0.58	0.11	0.60	0.60	0.08	0.12	0.22	0.06	0.10	0.10
Volume/Cap:	0.54	0.71	0.71	0.71	0.54	0.54	0.71	0.09	0.09	0.44	0.46	0.46
Delay/Veh:	46.3	15.9	15.9	48.5	12.0	12.0	59.1	39.1	31.2	48.0	44.5	44.5
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:	46.3	15.9	15.9	48.5	12.0	12.0	59.1	39.1	31.2	48.0	44.5	44.5
DesignQueue:	5	37	1	14	25	3	5	1	1	3	0	4

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 1.145
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 109.8
Optimal Cycle: 180 Level Of Service: F

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1 0	1	1 0	2 0	1	1 0	1 0	1	0 1	1 0	0	1 0
Volume Module:												
Base Vol:	81	1289	34	96	1295	60	741	5	19	107	6	270
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:	81	1289	34	96	1295	60	741	5	19	107	6	270
Added Vol:	0	9	0	0	15	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	1298	34	96	1310	60	741	5	19	107	6	270
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:	81	1298	34	96	1310	60	741	5	19	107	6	270
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	1298	34	96	1310	60	741	5	19	107	6	270
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	81	1298	34	96	1310	60	741	5	19	107	6	270
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.94	0.94	0.95	1.00	0.85	0.95	0.85	0.85
Lanes:	1.00	1.95	0.05	2.00	1.91	0.09	1.00	1.00	1.00	1.00	0.02	0.98
Final Sat.:	1805	3504	92	3502	3428	157	1805	1900	1615	1805	35	1585
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.03	0.38	0.38	0.41	0.00	0.01	0.06	0.17	0.17
Crit Moves:	****				****		****				****	
Green/Cycle:	0.05	0.33	0.33	0.05	0.33	0.33	0.35	0.31	0.36	0.19	0.15	0.15
Volume/Cap:	0.90	1.12	1.12	0.55	1.16	1.16	1.16	0.01	0.03	0.32	1.16	1.16
Delay/Veh:	109.4	101	101.0	50.0	115	115.4	121.0	23.6	20.5	35.7	151	151.2
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:	109.4	101	101.0	50.0	115	115.4	121.0	23.6	20.5	35.7	151	151.2
DesignQueue:	4	53	1	5	54	2	30	0	1	5	0	13

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.708
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.7
Optimal Cycle: 43 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2 0	1	0 0	1 1	0	2 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	919	548	0	906	545	701	0	385	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	919	548	0	906	545	701	0	385	0	0	0
Added Vol:	0	13	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	932	548	0	911	545	701	0	385	0	0	0
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:	0	932	548	0	911	545	701	0	385	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	932	548	0	911	545	701	0	385	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	932	548	0	911	545	701	0	385	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.90	0.90	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.25	0.75	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	2132	1276	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.34	0.00	0.43	0.43	0.20	0.00	0.24	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.60	0.60	0.00	0.60	0.60	0.34	0.00	0.34	0.00	0.00	0.00
Volume/Cap:	0.00	0.43	0.56	0.00	0.71	0.71	0.59	0.00	0.71	0.00	0.00	0.00
Delay/Veh:	0.0	10.7	12.7	0.0	14.9	14.9	28.3	0.0	33.2	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	10.7	12.7	0.0	14.9	14.9	28.3	0.0	33.2	0.0	0.0	0.0
DesignQueue:	0	22	13	0	22	13	27	0	15	0	0	0

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.946
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 22.5
Optimal Cycle: 130 Level Of Service: C

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2 0	1	0 0	1 1	0	2 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	994	605	0	1156	995	450	0	395	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	994	605	0	1156	995	450	0	395	0	0	0
Added Vol:	0	9	0	0	15	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1003	605	0	1171	995	450	0	395	0	0	0
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:	0	1003	605	0	1171	995	450	0	395	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1003	605	0	1171	995	450	0	395	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1003	605	0	1171	995	450	0	395	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.88	0.88	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.08	0.92	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	1817	1544	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.37	0.00	0.64	0.64	0.13	0.00	0.24	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.68	0.68	0.00	0.68	0.68	0.26	0.00	0.26	0.00	0.00	0.00
Volume/Cap:	0.00	0.41	0.55	0.00	0.95	0.95	0.50	0.00	0.95	0.00	0.00	0.00
Delay/Veh:	0.0	7.1	8.7	0.0	23.4	23.4	32.0	0.0	66.9	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	7.1	8.7	0.0	23.4	23.4	32.0	0.0	66.9	0.0	0.0	0.0
DesignQueue:	0	19	12	0	24	21	19	0	17	0	0	0

ParkeBridge
Cumulative Conditions w/o Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 1.046
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 46.7
Optimal Cycle: 180 Level Of Service: D

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1	1 0	0 0	2	0 1	0 0	0	0 0	2	0	0 1
Volume Module:												
Base Vol:	0	1404	215	0	996	785	0	0	0	455	0	803
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	1404	215	0	996	785	0	0	0	455	0	803
Added Vol:	0	13	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1417	215	0	1001	785	0	0	0	455	0	803
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:	0	1417	215	0	1001	785	0	0	0	455	0	803
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1417	215	0	1001	785	0	0	0	455	0	803
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1417	215	0	1001	785	0	0	0	455	0	803
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.93	0.93	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.74	0.26	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3072	466	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.46	0.46	0.00	0.28	0.49	0.00	0.00	0.00	0.13	0.00	0.50
Crit Moves:						****						****
Green/Cycle:	0.00	0.46	0.46	0.00	0.46	0.46	0.00	0.00	0.00	0.48	0.00	0.48
Volume/Cap:	0.00	0.99	0.99	0.00	0.60	1.05	0.00	0.00	0.00	0.27	0.00	1.05
Delay/Veh:	0.0	47.0	47.0	0.0	20.4	72.3	0.0	0.0	0.0	15.9	0.0	71.4
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	47.0	47.0	0.0	20.4	72.3	0.0	0.0	0.0	15.9	0.0	71.4
DesignQueue:	0	48	7	0	32	26	0	0	0	14	0	26

ParkeBridge
Cumulative Conditions w/o Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Northgate Bl / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.992
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 36.6
Optimal Cycle: 180 Level Of Service: D

Street Name:	Northgate Blvd						I-80 West Ramps					
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	1	1 0	0 0	2	0 1	0 0	0	0 0	2	0	0 1
Volume Module:												
Base Vol:	0	987	458	0	1630	789	0	0	0	521	0	717
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	987	458	0	1630	789	0	0	0	521	0	717
Added Vol:	0	9	0	0	15	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	996	458	0	1645	789	0	0	0	521	0	717
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:	0	996	458	0	1645	789	0	0	0	521	0	717
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	996	458	0	1645	789	0	0	0	521	0	717
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	996	458	0	1645	789	0	0	0	521	0	717
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.91	1.00	0.95	0.85	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	0.00	1.37	0.63	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	2357	1084	0	3610	1615	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.42	0.42	0.00	0.46	0.49	0.00	0.00	0.00	0.15	0.00	0.44
Crit Moves:						****						****
Green/Cycle:	0.00	0.49	0.49	0.00	0.49	0.49	0.00	0.00	0.00	0.45	0.00	0.45
Volume/Cap:	0.00	0.86	0.86	0.00	0.93	0.99	0.00	0.00	0.00	0.33	0.00	0.99
Delay/Veh:	0.0	26.9	26.9	0.0	32.4	55.0	0.0	0.0	0.0	18.1	0.0	58.8
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	26.9	26.9	0.0	32.4	55.0	0.0	0.0	0.0	18.1	0.0	58.8
DesignQueue:	0	31	14	0	52	25	0	0	0	17	0	24

APPENDIX E8
INTERSECTION OPERATIONS CALCULATIONS
CUMULATIVE PLUS PROJECT W/ FONG RANCH EXTENSION CONDITIONS

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Scenario Report

Scenario:	Cumulative Base + Project w FR Ext AM
Command:	Cumulative + Project w FR Ext AM
Volume:	Cumulative + Project w FR Ext AM
Geometry:	Cumulative Base AM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing AM
Trip Distribution:	Cumulative w/ Fong Ranch
Paths:	Cumulative Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Scenario Report

Scenario:	Cumulative Base + Project w FR Ext PM
Command:	Cumulative + Project w FR Ext PM
Volume:	Cumulative + Project w FR Ext PM
Geometry:	Cumulative Base PM
Impact Fee:	Default Impact Fee
Trip Generation:	Existing PM
Trip Distribution:	Cumulative w/ Fong Ranch
Paths:	Cumulative Fong Ranch Extension
Routes:	Default Routes
Configuration:	Default Configuration

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ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Trip Generation Report

Forecast for Existing AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	PARKEBRIDGE	1.00	Apartment	19.00	56.00	19	56	75	20.9
1	PARKEBRIDGE	1.00	Single Family	71.00	212.00	71	212	283	79.1
	Zone 1 Subtotal					90	268	358	100.0
TOTAL						90	268	358	100.0

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Trip Generation Report

Forecast for Existing PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	PARKEBRIDGE	1.00	Apartment	64.00	47.00	64	47	111	23.4
1	PARKEBRIDGE	1.00	Single Family	229.00	135.00	229	135	364	76.6
	Zone 1 Subtotal					293	182	475	100.0
TOTAL						293	182	475	100.0

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Trip Distribution Report

Percent Of Trips Cumulative w/ Fong Ranch

Zone	To Gates 4	5	7	14	16	20	22	23	24	25	26
1	15.0	13.0	10.0	5.0	5.0	17.0	9.0	10.0	5.0	10.0	1.0

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Trip Distribution Report

Percent Of Trips Cumulative w/ Fong Ranch

Zone	To Gates 4	5	7	14	16	20	22	23	24	25	26
1	15.0	13.0	10.0	5.0	5.0	17.0	9.0	10.0	5.0	10.0	1.0

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Turning Movement Report
Existing AM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	2587	635	0	2280	1411	0	0	0	396	0	2129	9438
Added	0	46	27	0	15	0	0	0	0	4	0	0	92
Total	0	2633	662	0	2295	1411	0	0	0	400	0	2129	9530
#2 Truxel Rd / I-80 East Ramps													
Base	0	1300	432	0	1468	1208	1922	0	181	0	0	0	6511
Added	0	72	13	0	20	0	0	0	9	0	0	0	114
Total	0	1372	445	0	1488	1208	1922	0	190	0	0	0	6625
#3 Truxel Rd / San Juan Rd													
Base	499	908	233	455	825	280	644	390	361	324	466	675	6060
Added	0	0	22	29	0	0	0	5	0	64	13	86	219
Total	499	908	255	484	825	280	644	395	361	388	479	761	6279
#4 Truxel Rd / El Camino Avenue													
Base	251	525	66	220	982	281	236	453	204	217	518	245	4198
Added	0	8	0	13	24	27	9	0	0	0	0	5	86
Total	251	533	66	233	1006	308	245	453	204	217	518	250	4284
#5 Fong Ranch Rd / San Juan Rd													
Base	38	53	8	180	0	240	323	760	8	7	1202	227	3046
Added	0	0	0	5	0	107	36	19	0	0	56	2	225
Total	38	53	8	185	0	347	359	779	8	7	1258	229	3271
#6 Pony Express Dr / San Juan Road													
Base	38	0	19	4	1	83	32	878	23	20	1306	10	2414
Added	0	0	0	0	0	19	6	18	0	0	39	0	82
Total	38	0	19	4	1	102	38	896	23	20	1345	10	2496
#7 Bridgeford Drive \ San Juan Road													
Base	131	18	112	174	19	139	67	678	110	37	1012	68	2565
Added	0	1	0	8	3	37	13	5	0	0	2	3	72
Total	131	19	112	182	22	176	80	683	110	37	1014	71	2637
#8 Northgate Bl / San Juan Rd													
Base	293	872	174	142	876	241	272	365	338	258	553	158	4542
Added	0	14	0	0	40	0	0	13	0	0	5	0	72
Total	293	886	174	142	916	241	272	378	338	258	558	158	4614
#9 Northgate / Rosin													
Base	93	1432	40	280	1018	120	106	20	30	48	2	73	3262
Added	14	0	0	0	0	16	48	0	40	0	0	0	118
Total	107	1432	40	280	1018	136	154	20	70	48	2	73	3380

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Turning Movement Report
Existing PM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 Truxel Rd / I-80 West Ramps													
Base	0	2564	235	0	2670	2002	0	0	0	579	0	1684	9734
Added	0	31	18	0	50	0	0	0	0	14	0	0	113
Total	0	2595	253	0	2720	2002	0	0	0	593	0	1684	9847
#2 Truxel Rd / I-80 East Ramps													
Base	0	1280	356	0	2103	1146	1519	0	440	0	0	0	6844
Added	0	49	9	0	64	0	0	0	29	0	0	0	151
Total	0	1329	365	0	2167	1146	1519	0	469	0	0	0	6995
#3 Truxel Rd / San Juan Rd													
Base	528	944	281	763	1178	603	468	597	438	229	361	392	6782
Added	0	0	70	94	0	0	0	15	0	44	9	58	290
Total	528	944	351	857	1178	603	468	612	438	273	370	450	7072
#4 Truxel Rd / El Camino Avenue													
Base	306	942	198	431	746	197	535	858	480	153	412	255	5513
Added	0	26	0	9	16	18	29	0	0	0	0	15	113
Total	306	968	198	440	762	215	564	858	480	153	412	270	5626
#5 Fong Ranch Rd / San Juan Rd													
Base	4	1	2	27	0	46	78	1557	7	23	934	29	2708
Added	0	0	0	4	0	73	117	61	0	0	38	6	299
Total	4	1	2	31	0	119	195	1618	7	23	972	35	3007
#6 Pony Express Dr / San Juan Road													
Base	17	1	16	16	0	56	103	1430	49	17	903	18	2626
Added	0	0	0	0	0	13	21	44	0	0	31	0	109
Total	17	1	16	16	0	69	124	1474	49	17	934	18	2735
#7 Bridgeford Drive \ San Juan Road													
Base	113	14	96	94	14	80	139	1159	121	125	783	159	2897
Added	0	3	0	5	2	25	41	4	0	0	6	9	95
Total	113	17	96	99	16	105	180	1163	121	125	789	168	2992
#8 Northgate Bl / San Juan Rd													
Base	484	1026	238	324	938	329	357	633	244	251	334	104	5262
Added	0	44	0	0	27	0	0	9	0	0	15	0	95
Total	484	1070	238	324	965	329	357	642	244	251	349	104	5357
#9 Northgate / Rosin													
Base	81	1289	34	96	1295	60	741	5	19	107	6	270	4003
Added	44	0	0	0	0	53	33	0	27	0	0	0	157
Total	125	1289	34	96	1295	113	774	5	46	107	6	270	4160

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#10 Northgate Bl / I-80 East Ramps													
Base	0	919	548	0	906	545	701	0	385	0	0	0	4004
Added	0	27	22	0	16	0	0	0	0	0	0	0	65
Total	0	946	570	0	922	545	701	0	385	0	0	0	4069
#11 Northgate Bl / I-80 West Ramps													
Base	0	1404	215	0	996	785	0	0	0	455	0	803	4658
Added	0	27	0	0	9	0	0	0	0	7	0	0	43
Total	0	1431	215	0	1005	785	0	0	0	462	0	803	4701
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	153	0	0	51	0	204
Total	0	0	0	0	0	0	0	153	0	0	51	0	204
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	153	0	112	38	0	0	0	0	51	354
Total	0	0	0	153	0	112	38	0	0	0	0	51	354
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	3	0	0	0	153	0	0	51	1	208
Total	0	0	0	3	0	0	0	153	0	0	51	1	208

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#10 Northgate Bl / I-80 East Ramps													
Base	0	994	605	0	1156	995	450	0	395	0	0	0	4595
Added	0	18	15	0	53	0	0	0	0	0	0	0	86
Total	0	1012	620	0	1209	995	450	0	395	0	0	0	4681
#11 Northgate Bl / I-80 West Ramps													
Base	0	987	458	0	1630	789	0	0	0	521	0	717	5102
Added	0	18	0	0	29	0	0	0	0	24	0	0	71
Total	0	1005	458	0	1659	789	0	0	0	545	0	717	5173
#399 Fong Ranch / Project Driveway #2													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	104	0	0	167	0	271
Total	0	0	0	0	0	0	0	104	0	0	167	0	271
#401 Fong Ranch / Project Driveway #1													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	104	0	76	123	0	0	0	0	167	470
Total	0	0	0	104	0	76	123	0	0	0	0	167	470
#402 Fong Ranch / Project Driveway #3													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	2	0	0	0	104	0	0	167	3	276
Total	0	0	0	2	0	0	0	104	0	0	167	3	276

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ParkeBridge
Cumulative Conditions w/ Fong Extension
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 Truxel Rd / I-80 West Ramps	E	71.5	1.152	E	73.1	1.162	+ 1.629 D/V
# 2 Truxel Rd / I-80 East Ramps	C	27.4	0.908	C	27.5	0.912	+ 0.135 D/V
# 3 Truxel Rd / San Juan Rd	E	63.8	1.041	E	75.9	1.106	+12.145 D/V
# 4 Truxel Rd / El Camino Avenue	C	31.9	0.676	C	32.0	0.688	+ 0.097 D/V
# 5 Fong Ranch Rd / San Juan Rd	C	28.7	0.809	C	32.1	0.859	+ 3.408 D/V
# 6 Pony Express Dr / San Juan Roa	F	157.8	0.000	F	217.4	0.000	+59.664 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	24.1	0.663	C	25.9	0.709	+ 1.812 D/V
# 8 Northgate Bl / San Juan Rd	C	33.0	0.747	C	33.2	0.753	+ 0.178 D/V
# 9 Northgate / Rosin	C	21.0	0.675	C	23.6	0.706	+ 2.662 D/V
# 10 Northgate Bl / I-80 East Ramps	B	17.7	0.707	B	17.7	0.712	+ 0.019 D/V
# 11 Northgate Bl / I-80 West Ramps	D	46.1	1.046	D	47.5	1.046	+ 1.406 D/V

ParkeBridge
Cumulative Conditions w/ Fong Extension
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 Truxel Rd / I-80 West Ramps	E	59.3	1.152	E	61.2	1.152	+ 1.825 D/V
# 2 Truxel Rd / I-80 East Ramps	C	27.0	0.936	C	27.9	0.949	+ 0.915 D/V
# 3 Truxel Rd / San Juan Rd	D	41.4	0.866	D	44.2	0.919	+ 2.854 D/V
# 4 Truxel Rd / El Camino Avenue	D	36.8	0.811	D	37.5	0.823	+ 0.719 D/V
# 5 Fong Ranch Rd / San Juan Rd	B	14.1	0.525	B	17.6	0.549	+ 3.485 D/V
# 6 Pony Express Dr / San Juan Roa	F	259.3	0.000	F	379.4	0.000	+120.140 D/V
# 7 Bridgeford Drive \ San Juan Ro	C	22.3	0.657	C	23.9	0.667	+ 1.601 D/V
# 8 Northgate Bl / San Juan Rd	D	40.3	0.894	D	41.6	0.911	+ 1.290 D/V
# 9 Northgate / Rosin	F	108.6	1.141	F	120.8	1.208	+12.146 D/V
# 10 Northgate Bl / I-80 East Ramps	C	22.2	0.941	C	23.4	0.957	+ 1.275 D/V
# 11 Northgate Bl / I-80 West Ramps	D	36.2	0.992	D	36.9	0.992	+ 0.665 D/V

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ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 1.162
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 73.1
Optimal Cycle: 180 Level Of Service: E

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	2	1 1	0 0	3	1 1	0 0	0	0 0	2 0	0	0 3
Volume Module:												
Base Vol:	0	2587	635	0	2280	1411	0	0	0	396	0	2129
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	2587	635	0	2280	1411	0	0	0	396	0	2129
Added Vol:	0	46	27	0	15	0	0	0	0	4	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2633	662	0	2295	1411	0	0	0	400	0	2129
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:	0	2633	662	0	2295	1411	0	0	0	400	0	2129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2633	662	0	2295	1411	0	0	0	400	0	2129
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	2633	662	0	2295	1411	0	0	0	400	0	2129
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.88	0.88	1.00	0.86	0.86	1.00	1.00	1.00	0.92	1.00	0.75
Lanes:	0.00	3.00	1.00	0.00	3.10	1.90	0.00	0.00	0.00	2.00	0.00	3.00
Final Sat.:	0	5031	1677	0	5048	3104	0	0	0	3502	0	4264
Capacity Analysis Module:												
Vol/Sat:	0.00	0.52	0.39	0.00	0.45	0.45	0.00	0.00	0.00	0.11	0.00	0.50
Crit Moves:		****										****
Green/Cycle:	0.00	0.45	0.45	0.00	0.45	0.45	0.00	0.00	0.00	0.43	0.00	0.43
Volume/Cap:	0.00	1.16	0.88	0.00	1.01	1.01	0.00	0.00	0.00	0.27	0.00	1.16
Delay/Veh:	0.0	105	27.6	0.0	44.7	44.7	0.0	0.0	0.0	18.5	0.0	107.9
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:	0.0	105	27.6	0.0	44.7	44.7	0.0	0.0	0.0	18.5	0.0	107.9
DesignQueue:	0	92	22	0	78	48	0	0	0	13	0	75

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Truxel Rd / I-80 West Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 1.152
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 61.2
Optimal Cycle: 180 Level Of Service: E

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0	2	1 1	0 0	3	1 1	0 0	0	0 0	2 0	0	0 3
Volume Module:												
Base Vol:	0	2564	235	0	2670	2002	0	0	0	579	0	1684
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	2564	235	0	2670	2002	0	0	0	579	0	1684
Added Vol:	0	31	18	0	50	0	0	0	0	14	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2595	253	0	2720	2002	0	0	0	593	0	1684
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:	0	2595	253	0	2720	2002	0	0	0	593	0	1684
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2595	253	0	2720	2002	0	0	0	593	0	1684
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	2595	253	0	2720	2002	0	0	0	593	0	1684
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.90	0.90	1.00	0.85	0.85	1.00	1.00	1.00	0.92	1.00	0.75
Lanes:	0.00	3.00	1.00	0.00	3.00	2.00	0.00	0.00	0.00	2.00	0.00	3.00
Final Sat.:	0	5120	1707	0	4855	3237	0	0	0	3502	0	4264
Capacity Analysis Module:												
Vol/Sat:	0.00	0.51	0.15	0.00	0.56	0.62	0.00	0.00	0.00	0.17	0.00	0.39
Crit Moves:						****						****
Green/Cycle:	0.00	0.54	0.54	0.00	0.54	0.54	0.00	0.00	0.00	0.34	0.00	0.34
Volume/Cap:	0.00	0.94	0.28	0.00	1.04	1.15	0.00	0.00	0.00	0.49	0.00	1.15
Delay/Veh:	0.0	28.8	12.6	0.0	49.6	94.6	0.0	0.0	0.0	26.3	0.0	109.5
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:	0.0	28.8	12.6	0.0	49.6	94.6	0.0	0.0	0.0	26.3	0.0	109.5
DesignQueue:	0	76	7	0	80	60	0	0	0	23	0	67

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.912
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.5
Optimal Cycle: 115 Level Of Service: C

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	3	1 1	0 0	2	1 1	2 0	1!	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	1300	432	0	1468	1208	1922	0	181	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	1300	432	0	1468	1208	1922	0	181	0	0	0
Added Vol:	0	72	13	0	20	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1372	445	0	1488	1208	1922	0	190	0	0	0
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:	0	1372	445	0	1488	1208	1922	0	190	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1372	445	0	1488	1208	1922	0	190	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1372	445	0	1488	1208	1922	0	190	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.88	0.88	1.00	0.85	0.85	0.92	1.00	0.94	1.00	1.00	1.00
Lanes:	0.00	3.78	1.22	0.00	2.21	1.79	2.87	0.00	1.13	0.00	0.00	0.00
Final Sat.:	0	6286	2039	0	3561	2891	4998	0	2018	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.22	0.00	0.42	0.42	0.38	0.00	0.09	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.00	0.46	0.46	0.00	0.46	0.46	0.42	0.00	0.42	0.00	0.00	0.00
Volume/Cap:	0.00	0.48	0.48	0.00	0.91	0.91	0.91	0.00	0.22	0.00	0.00	0.00
Delay/Veh:	0.0	18.9	18.9	0.0	30.0	30.0	33.2	0.0	18.5	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	18.9	18.9	0.0	30.0	30.0	33.2	0.0	18.5	0.0	0.0	0.0
DesignQueue:	0	43	14	0	49	40	68	0	6	0	0	0

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Truxel Rd / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.949
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.9
Optimal Cycle: 138 Level Of Service: C

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	3	1 1	0 0	2	1 1	2 0	1!	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	1280	356	0	2103	1146	1519	0	440	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	1280	356	0	2103	1146	1519	0	440	0	0	0
Added Vol:	0	49	9	0	64	0	0	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1329	365	0	2167	1146	1519	0	469	0	0	0
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:	0	1329	365	0	2167	1146	1519	0	469	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1329	365	0	2167	1146	1519	0	469	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1329	365	0	2167	1146	1519	0	469	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.88	0.88	1.00	0.86	0.86	0.90	1.00	0.93	1.00	1.00	1.00
Lanes:	0.00	3.92	1.08	0.00	2.62	1.38	2.69	0.00	1.31	0.00	0.00	0.00
Final Sat.:	0	6565	1803	0	4288	2268	4607	0	2313	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.20	0.20	0.00	0.51	0.51	0.33	0.00	0.20	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.00	0.53	0.53	0.00	0.53	0.53	0.35	0.00	0.35	0.00	0.00	0.00
Volume/Cap:	0.00	0.38	0.38	0.00	0.95	0.95	0.95	0.00	0.58	0.00	0.00	0.00
Delay/Veh:	0.0	13.8	13.8	0.0	28.9	28.9	41.9	0.0	27.0	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	13.8	13.8	0.0	28.9	28.9	41.9	0.0	27.0	0.0	0.0	0.0
DesignQueue:	0	36	10	0	64	34	60	0	18	0	0	0

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 1.106
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 75.9
Optimal Cycle: 180 Level Of Service: E

Street Name:	Truxel Rd									San Juan Rd								
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:			Ovl					Ovl					Ovl					Ovl
Min. Green:	5		10		10	5		10		10	5		10		10	5		10		10
Lanes:	2	0	2	0	1	2	0	2	0	1	2	0	2	0	1	2	0	2	0	1
Volume Module:																				
Base Vol:	499		908		233	455		825		280	644		390		361	324		466		675
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:	499		908		233	455		825		280	644		390		361	324		466		675
Added Vol:	0		0		22	29		0		0	0		5		0	64		13		86
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	499		908		255	484		825		280	644		395		361	388		479		761
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:	499		908		255	484		825		280	644		395		361	388		479		761
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	499		908		255	484		825		280	644		395		361	388		479		761
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		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Final Vol.:	499		908		255	484		825		280	644		395		361	388		479		761
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.92		0.95		0.85	0.92		0.95		0.85	0.92		0.95		0.85	0.92		0.95		0.85
Lanes:	2.00		2.00		1.00	2.00		2.00		1.00	2.00		2.00		1.00	2.00		2.00		1.00
Final Sat.:	3502		3610		1615	3502		3610		1615	3502		3610		1615	3502		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.14		0.25		0.16	0.14		0.23		0.17	0.18		0.11		0.22	0.11		0.13		0.47
Crit Moves:			****			****					****									****
Green/Cycle:	0.14		0.23		0.46	0.13		0.22		0.38	0.17		0.23		0.37	0.24		0.30		0.43
Volume/Cap:	1.05		1.11		0.34	1.11		1.05		0.45	1.11		0.47		0.61	0.47		0.44		1.11
Delay/Veh:	99.1		103		17.4	118.6		86.0		23.5	111.3		33.5		27.6	33.3		28.4		95.7
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:	99.1		103		17.4	118.6		86.0		23.5	111.3		33.5		27.6	33.3		28.4		95.7
DesignQueue:	25		42		8	24		38		10	31		17		13	17		19		27

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Truxel Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.919
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 44.2
Optimal Cycle: 127 Level Of Service: D

Street Name:	Truxel Rd									San Juan Rd								
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:			Ovl					Ovl					Ovl					Ovl
Min. Green:	5		10		10	5		10		10	5		10		10	5		10		10
Lanes:	2	0	2	0	1	2	0	2	0	1	2	0	2	0	1	2	0	2	0	1
Volume Module:																				
Base Vol:	528		944		281	763		1178		603	468		597		438	229		361		392
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:	528		944		281	763		1178		603	468		597		438	229		361		392
Added Vol:	0		0		70	94		0		0	0		15		0	44		9		58
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	528		944		351	857		1178		603	468		612		438	273		370		450
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:	528		944		351	857		1178		603	468		612		438	273		370		450
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	528		944		351	857		1178		603	468		612		438	273		370		450
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		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Final Vol.:	528		944		351	857		1178		603	468		612		438	273		370		450
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.92		0.95		0.85	0.92		0.95		0.85	0.92		0.95		0.85	0.92		0.95		0.85
Lanes:	2.00		2.00		1.00	2.00		2.00		1.00	2.00		2.00		1.00	2.00		2.00		1.00
Final Sat.:	3502		3610		1615	3502		3610		1615	3502		3610		1615	3502		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.15		0.26		0.22	0.24		0.33		0.37	0.13		0.17		0.27	0.08		0.10		0.28
Crit Moves:			****			****							****			****				
Green/Cycle:	0.17		0.28		0.37	0.27		0.38		0.53	0.15		0.18		0.36	0.08		0.12		0.38
Volume/Cap:	0.87		0.92		0.59	0.92		0.87		0.71	0.88		0.92		0.76	0.92		0.88		0.73
Delay/Veh:	52.6		47.5		27.0	49.5		35.0		20.4	56.6		58.0		33.9	77.4		61.8		30.7
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:	52.6		47.5		27.0	49.5		35.0		20.4	56.6		58.0		33.9	77.4		61.8		30.7
DesignQueue:	25		40		13	37		44		17	23		29		17	14		19		16

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ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.688
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 32.0
Optimal Cycle: 72 Level Of Service: C

Street Name:	Truxel Road						El Camino Avenue					
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:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 2	0 1	2	0 2	0 1
Volume Module:												
Base Vol:	251	525	66	220	982	281	236	453	204	217	518	245
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:	251	525	66	220	982	281	236	453	204	217	518	245
Added Vol:	0	8	0	13	24	27	9	0	0	0	0	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	251	533	66	233	1006	308	245	453	204	217	518	250
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:	251	533	66	233	1006	308	245	453	204	217	518	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	533	66	233	1006	308	245	453	204	217	518	250
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	251	533	66	233	1006	308	245	453	204	217	518	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.15	0.04	0.07	0.28	0.19	0.07	0.13	0.13	0.06	0.14	0.15
Crit Moves:	****				****		****				****	
Green/Cycle:	0.10	0.35	0.45	0.16	0.41	0.51	0.10	0.21	0.31	0.10	0.21	0.37
Volume/Cap:	0.69	0.42	0.09	0.42	0.69	0.38	0.69	0.60	0.40	0.60	0.69	0.42
Delay/Veh:	48.6	24.9	15.6	38.5	25.9	15.3	48.9	37.3	27.6	45.8	39.2	24.2
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:	48.6	24.9	15.6	38.5	25.9	15.3	48.9	37.3	27.6	45.8	39.2	24.2
DesignQueue:	13	20	2	11	36	9	12	21	8	11	24	9

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ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Truxel Rd / El Camino Avenue

Cycle (sec): 100 Critical Vol./Cap. (X): 0.823
Loss Time (sec): 18 (Y+R = 4 sec) Average Delay (sec/veh): 37.5
Optimal Cycle: 96 Level Of Service: D

Street Name:	Truxel Road						El Camino Avenue					
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:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 2	0 1	2	0 2	0 1
Volume Module:												
Base Vol:	306	942	198	431	746	197	535	858	480	153	412	255
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:	306	942	198	431	746	197	535	858	480	153	412	255
Added Vol:	0	26	0	9	16	18	29	0	0	0	0	15
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	306	968	198	440	762	215	564	858	480	153	412	270
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:	306	968	198	440	762	215	564	858	480	153	412	270
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	306	968	198	440	762	215	564	858	480	153	412	270
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	306	968	198	440	762	215	564	858	480	153	412	270
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.27	0.12	0.13	0.21	0.13	0.16	0.24	0.30	0.04	0.11	0.17
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.33	0.38	0.15	0.34	0.54	0.20	0.29	0.43	0.05	0.14	0.29
Volume/Cap:	0.62	0.82	0.32	0.82	0.62	0.25	0.81	0.82	0.69	0.82	0.81	0.57
Delay/Veh:	43.0	35.9	22.3	51.1	28.8	12.4	44.9	38.6	26.3	71.6	50.7	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:	43.0	35.9	22.3	51.1	28.8	12.4	44.9	38.6	26.3	71.6	50.7	31.5
DesignQueue:	15	39	7	21	30	6	26	36	16	8	20	11

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ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.859
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 32.1
Optimal Cycle: 93 Level Of Service: C

Street Name:	Fong Ranch Road									San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0 1!	0	1	0 1!	0 1	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	38	53	8	180	0	240	323	760	8	7	1202	227
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:	38	53	8	180	0	240	323	760	8	7	1202	227
Added Vol:	0	0	0	5	0	107	36	19	0	0	56	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	53	8	185	0	347	359	779	8	7	1258	229
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:	38	53	8	185	0	347	359	779	8	7	1258	229
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	53	8	185	0	347	359	779	8	7	1258	229
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	53	8	185	0	347	359	779	8	7	1258	229
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.97	0.89	1.00	0.89	0.95	0.95	0.95	0.95	0.93	0.93
Lanes:	0.38	0.54	0.08	1.35	0.00	1.65	1.00	1.98	0.02	1.00	1.69	0.31
Final Sat.:	708	987	149	2270	0	2783	1805	3570	37	1805	2984	543
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.08	0.00	0.12	0.20	0.22	0.22	0.00	0.42	0.42
Crit Moves:	****			****			****				****	
Green/Cycle:	0.10	0.10	0.10	0.10	0.00	0.32	0.22	0.57	0.57	0.11	0.46	0.46
Volume/Cap:	0.54	0.54	0.54	0.81	0.00	0.39	0.91	0.38	0.38	0.04	0.91	0.91
Delay/Veh:	45.9	45.9	45.9	51.9	0.0	26.8	63.2	11.7	11.7	40.3	33.2	33.2
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:	45.9	45.9	45.9	51.9	0.0	26.8	63.2	11.7	11.7	40.3	33.2	33.2
DesignQueue:	2	3	0	9	0	14	16	19	0	0	42	8

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Fong Ranch Rd / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.549
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 17.6
Optimal Cycle: 46 Level Of Service: B

Street Name:	Fong Ranch Road									San Juan Road					
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			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0	0 1!	0	1	0 1!	0 1	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	4	1	2	27	0	46	78	1557	7	23	934	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:	4	1	2	27	0	46	78	1557	7	23	934	29
Added Vol:	0	0	0	4	0	73	117	61	0	0	38	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	1	2	31	0	119	195	1618	7	23	972	35
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:	4	1	2	31	0	119	195	1618	7	23	972	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	1	2	31	0	119	195	1618	7	23	972	35
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	4	1	2	31	0	119	195	1618	7	23	972	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.87	1.00	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.57	0.14	0.29	1.21	0.00	1.79	1.00	1.99	0.01	1.00	1.93	0.07
Final Sat.:	1014	254	507	2000	0	2972	1805	3591	16	1805	3467	125
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.04	0.11	0.45	0.45	0.01	0.28	0.28
Crit Moves:	****			****				****		****		
Green/Cycle:	0.10	0.10	0.10	0.10	0.00	0.29	0.19	0.64	0.64	0.04	0.49	0.49
Volume/Cap:	0.04	0.04	0.04	0.16	0.00	0.14	0.57	0.70	0.70	0.32	0.57	0.57
Delay/Veh:	40.8	40.8	40.8	41.2	0.0	26.4	39.2	12.8	12.8	49.2	18.5	18.5
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:	40.8	40.8	40.8	41.2	0.0	26.4	39.2	12.8	12.8	49.2	18.5	18.5
DesignQueue:	0	0	0	2	0	5	9	36	0	1	30	1

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 6.4 Worst Case Level Of Service: F[217.4]

Street Name:	Pony Express Dr						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	38	0	19	4	1	83	32	878	23	20	1306	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:	38	0	19	4	1	83	32	878	23	20	1306	10
Added Vol:	0	0	0	0	0	19	6	18	0	0	39	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	0	19	4	1	102	38	896	23	20	1345	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:	38	0	19	4	1	102	38	896	23	20	1345	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	38	0	19	4	1	102	38	896	23	20	1345	10
Critical Gap Module:												
Critical Gp:	7.5	xxxx	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1697	xxxx	460	1914	2385	678	1355	xxxx	xxxxx	919	xxxx	xxxxx
Potent Cap.:	61	xxxx	554	42	35	400	514	xxxx	xxxxx	751	xxxx	xxxxx
Move Cap.:	41	xxxx	554	38	31	400	514	xxxx	xxxxx	751	xxxx	xxxxx
Volume/Cap:	0.92	xxxx	0.03	0.11	0.03	0.26	0.07	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	0.1	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	12.6	xxxx	xxxxx	9.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	60	xxxxx	xxxx	272	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	4.5	xxxxx	xxxxx	1.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	217	xxxxx	xxxxx	26.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	D	*	*	*	*	*	*	*
ApproachDel:		217.4			26.6			xxxxxx			xxxxxx	
ApproachLOS:		F			D			*			*	

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Pony Express Dr / San Juan Road

Average Delay (sec/veh): 7.7 Worst Case Level Of Service: F[379.4]

Street Name:	Pony Express Dr						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	17	1	16	16	0	56	103	1430	49	17	903	18
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:	17	1	16	16	0	56	103	1430	49	17	903	18
Added Vol:	0	0	0	0	0	13	21	44	0	0	31	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	1	16	16	0	69	124	1474	49	17	934	18
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:	17	1	16	16	0	69	124	1474	49	17	934	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	17	1	16	16	0	69	124	1474	49	17	934	18
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	xxxx	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2248	2733	762	1963	xxxx	476	952	xxxx	xxxxx	1523	xxxx	xxxxx
Potent Cap.:	23	21	352	39	xxxx	541	730	xxxx	xxxxx	444	xxxx	xxxxx
Move Cap.:	17	16	352	30	xxxx	541	730	xxxx	xxxxx	444	xxxx	xxxxx
Volume/Cap:	0.98	0.06	0.05	0.54	xxxx	0.13	0.17	xxxx	xxxx	0.04	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.6	xxxx	xxxxx	0.1	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.9	xxxx	xxxxx	13.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	31	xxxxx	xxxx	128	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	3.8	xxxxx	xxxxx	3.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	379	xxxxx	xxxxx	76.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	F	*	*	*	*	*	*	*
ApproachDel:		379.4			76.6			xxxxxx			xxxxxx	
ApproachLOS:		F			F			*			*	

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec): 100 Critical Vol./Cap. (X): 0.709
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 25.9
Optimal Cycle: 52 Level Of Service: C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	131	18	112	174	19	139	67	678	110	37	1012	68
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	18	112	174	19	139	67	678	110	37	1012	68
Added Vol:	0	1	0	8	3	37	13	5	0	0	2	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	131	19	112	182	22	176	80	683	110	37	1014	71
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:	131	19	112	182	22	176	80	683	110	37	1014	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	19	112	182	22	176	80	683	110	37	1014	71
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	131	19	112	182	22	176	80	683	110	37	1014	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.64	0.64	0.64	0.67	0.67	0.67	0.95	0.93	0.93	0.95	0.94	0.94
Lanes:	0.50	0.07	0.43	0.48	0.06	0.46	1.00	1.72	0.28	1.00	1.87	0.13
Final Sat.:	608	88	520	612	74	592	1805	3044	490	1805	3340	234
Capacity Analysis Module:												
Vol/Sat:	0.22	0.22	0.22	0.30	0.30	0.30	0.04	0.22	0.22	0.02	0.30	0.30
Crit Moves:					****		****				****	
Green/Cycle:	0.42	0.42	0.42	0.42	0.42	0.42	0.06	0.42	0.42	0.07	0.43	0.43
Volume/Cap:	0.51	0.51	0.51	0.71	0.71	0.71	0.71	0.54	0.54	0.28	0.71	0.71
Delay/Veh:	22.4	22.4	22.4	28.4	28.4	28.4	64.8	22.4	22.4	44.9	25.0	25.0
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:	22.4	22.4	22.4	28.4	28.4	28.4	64.8	22.4	22.4	44.9	25.0	25.0
DesignQueue:	4	1	4	6	1	6	4	23	4	2	35	2

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Bridgeford Drive \ San Juan Road

Cycle (sec): 100 Critical Vol./Cap. (X): 0.667
Loss Time (sec): 9 (Y+R = 4 sec) Average Delay (sec/veh): 23.9
Optimal Cycle: 47 Level Of Service: C

Street Name:	Bridgeford Drive						San Juan Road					
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:	10	10	10	10	10	10	4	10	10	4	10	10
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	113	14	96	94	14	80	139	1159	121	125	783	159
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:	113	14	96	94	14	80	139	1159	121	125	783	159
Added Vol:	0	3	0	5	2	25	41	4	0	0	6	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	17	96	99	16	105	180	1163	121	125	789	168
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:	113	17	96	99	16	105	180	1163	121	125	789	168
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	17	96	99	16	105	180	1163	121	125	789	168
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	113	17	96	99	16	105	180	1163	121	125	789	168
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.67	0.67	0.67	0.70	0.70	0.70	0.95	0.94	0.94	0.95	0.93	0.93
Lanes:	0.50	0.08	0.42	0.45	0.07	0.48	1.00	1.81	0.19	1.00	1.65	0.35
Final Sat.:	638	96	542	602	97	638	1805	3224	335	1805	2899	617
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.16	0.16	0.16	0.10	0.36	0.36	0.07	0.27	0.27
Crit Moves:		****						****		****		
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.17	0.54	0.54	0.10	0.47	0.47
Volume/Cap:	0.67	0.67	0.67	0.62	0.62	0.62	0.58	0.67	0.67	0.67	0.58	0.58
Delay/Veh:	37.8	37.8	37.8	35.6	35.6	35.6	40.7	17.4	17.4	52.0	19.7	19.7
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:	37.8	37.8	37.8	35.6	35.6	35.6	40.7	17.4	17.4	52.0	19.7	19.7
DesignQueue:	5	1	4	4	1	4	8	33	3	6	25	5

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.753
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 33.2
Optimal Cycle: 68 Level Of Service: C

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	293	872	174	142	876	241	272	365	338	258	553	158
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:	293	872	174	142	876	241	272	365	338	258	553	158
Added Vol:	0	14	0	0	40	0	0	13	0	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	293	886	174	142	916	241	272	378	338	258	558	158
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:	293	886	174	142	916	241	272	378	338	258	558	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	293	886	174	142	916	241	272	378	338	258	558	158
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	293	886	174	142	916	241	272	378	338	258	558	158
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.93	0.93	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.92	0.92
Lanes:	2.00	1.67	0.33	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.56	0.44
Final Sat.:	3502	2942	578	1805	3610	1615	3502	3610	1615	3502	2721	770
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.30	0.08	0.25	0.15	0.08	0.10	0.21	0.07	0.21	0.21
Crit Moves:		****		****			****				****	
Green/Cycle:	0.13	0.40	0.40	0.10	0.38	0.48	0.10	0.24	0.36	0.14	0.27	0.27
Volume/Cap:	0.67	0.75	0.75	0.75	0.67	0.31	0.75	0.44	0.58	0.53	0.75	0.75
Delay/Veh:	45.7	28.1	28.1	59.2	27.1	16.0	52.3	32.9	27.2	41.1	36.7	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:	45.7	28.1	28.1	59.2	27.1	16.0	52.3	32.9	27.2	41.1	36.7	36.7
DesignQueue:	15	32	6	7	34	7	14	16	13	13	24	7

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Northgate Bl / San Juan Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.911
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 41.6
Optimal Cycle: 115 Level Of Service: D

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			Ovl			Ovl			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	484	1026	238	324	938	329	357	633	244	251	334	104
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:	484	1026	238	324	938	329	357	633	244	251	334	104
Added Vol:	0	44	0	0	27	0	0	9	0	0	15	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	484	1070	238	324	965	329	357	642	244	251	349	104
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:	484	1070	238	324	965	329	357	642	244	251	349	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	484	1070	238	324	965	329	357	642	244	251	349	104
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	484	1070	238	324	965	329	357	642	244	251	349	104
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.85	0.92	0.95	0.85	0.92	0.92	0.92
Lanes:	2.00	1.64	0.36	1.00	2.00	1.00	2.00	2.00	1.00	2.00	1.54	0.46
Final Sat.:	3502	2873	639	1805	3610	1615	3502	3610	1615	3502	2687	801
Capacity Analysis Module:												
Vol/Sat:	0.14	0.37	0.37	0.18	0.27	0.20	0.10	0.18	0.15	0.07	0.13	0.13
Crit Moves:		****		****				****		****		
Green/Cycle:	0.21	0.41	0.41	0.20	0.40	0.52	0.12	0.20	0.40	0.08	0.15	0.15
Volume/Cap:	0.67	0.91	0.91	0.91	0.67	0.39	0.85	0.91	0.38	0.91	0.85	0.85
Delay/Veh:	39.0	36.8	36.8	65.9	25.8	14.8	57.7	55.4	21.4	77.6	53.1	53.1
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:	39.0	36.8	36.8	65.9	25.8	14.8	57.7	55.4	21.4	77.6	53.1	53.1
DesignQueue:	22	39	9	15	35	9	18	30	8	13	17	5

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ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.706
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 23.6
Optimal Cycle: 60 Level Of Service: C

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1 0	1	1 0	2 0	1	1 0	1 0	1	0 1	1 0	0	1 0
Volume Module:												
Base Vol:	93	1432	40	280	1018	120	106	20	30	48	2	73
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:	93	1432	40	280	1018	120	106	20	30	48	2	73
Added Vol:	14	0	0	0	0	16	48	0	40	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	1432	40	280	1018	136	154	20	70	48	2	73
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:	107	1432	40	280	1018	136	154	20	70	48	2	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	1432	40	280	1018	136	154	20	70	48	2	73
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	107	1432	40	280	1018	136	154	20	70	48	2	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.93	0.93	0.95	1.00	0.85	0.95	0.85	0.85
Lanes:	1.00	1.95	0.05	2.00	1.76	0.24	1.00	1.00	1.00	1.00	0.03	0.97
Final Sat.:	1805	3498	98	3502	3127	418	1805	1900	1615	1805	43	1579
Capacity Analysis Module:												
Vol/Sat:	0.06	0.41	0.41	0.08	0.33	0.33	0.09	0.01	0.04	0.03	0.05	0.05
Crit Moves:		****		****			****				****	
Green/Cycle:	0.10	0.56	0.56	0.11	0.56	0.56	0.12	0.14	0.25	0.07	0.10	0.10
Volume/Cap:	0.58	0.74	0.74	0.74	0.58	0.58	0.74	0.07	0.18	0.37	0.46	0.46
Delay/Veh:	47.4	18.2	18.2	50.6	14.7	14.7	55.6	37.2	29.9	46.0	44.5	44.5
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:	47.4	18.2	18.2	50.6	14.7	14.7	55.6	37.2	29.9	46.0	44.5	44.5
DesignQueue:	5	39	1	14	27	4	8	1	3	2	0	4

ParkeBridge
Cumulative Conditions w/ Fong Extension
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 1.208
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 120.8
Optimal Cycle: 180 Level Of Service: F

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1 0	1	1 0	2 0	1	1 0	1 0	1	0 1	1 0	0	1 0
Volume Module:												
Base Vol:	81	1289	34	96	1295	60	741	5	19	107	6	270
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:	81	1289	34	96	1295	60	741	5	19	107	6	270
Added Vol:	44	0	0	0	0	53	33	0	27	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	125	1289	34	96	1295	113	774	5	46	107	6	270
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:	125	1289	34	96	1295	113	774	5	46	107	6	270
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	125	1289	34	96	1295	113	774	5	46	107	6	270
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	125	1289	34	96	1295	113	774	5	46	107	6	270
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.94	0.94	0.95	1.00	0.85	0.95	0.85	0.85
Lanes:	1.00	1.95	0.05	2.00	1.84	0.16	1.00	1.00	1.00	1.00	0.02	0.98
Final Sat.:	1805	3503	92	3502	3280	286	1805	1900	1615	1805	35	1585
Capacity Analysis Module:												
Vol/Sat:	0.07	0.37	0.37	0.03	0.39	0.39	0.43	0.00	0.03	0.06	0.17	0.17
Crit Moves:	****				****		****				****	
Green/Cycle:	0.06	0.33	0.33	0.05	0.33	0.33	0.35	0.31	0.37	0.18	0.14	0.14
Volume/Cap:	1.21	1.10	1.10	0.55	1.21	1.21	1.21	0.01	0.08	0.32	1.21	1.21
Delay/Veh:	201.9	91.6	91.6	50.0	136	135.5	140.1	23.8	20.6	35.9	170	170.2
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:	201.9	91.6	91.6	50.0	136	135.5	140.1	23.8	20.6	35.9	170	170.2
DesignQueue:	7	53	1	5	54	5	31	0	2	5	0	13

ParkeBridge
Cumulative Conditions w/ Fong Extension
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.712
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 17.7
Optimal Cycle: 43 Level Of Service: B

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			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2 0	1	0 0	1 1	0	2 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	919	548	0	906	545	701	0	385	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	919	548	0	906	545	701	0	385	0	0	0
Added Vol:	0	27	22	0	16	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	946	570	0	922	545	701	0	385	0	0	0
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:	0	946	570	0	922	545	701	0	385	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	946	570	0	922	545	701	0	385	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	946	570	0	922	545	701	0	385	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.90	0.90	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.26	0.74	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	2142	1266	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.35	0.00	0.43	0.43	0.20	0.00	0.24	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.60	0.60	0.00	0.60	0.60	0.34	0.00	0.34	0.00	0.00	0.00
Volume/Cap:	0.00	0.43	0.58	0.00	0.71	0.71	0.60	0.00	0.71	0.00	0.00	0.00
Delay/Veh:	0.0	10.7	13.0	0.0	14.9	14.9	28.5	0.0	33.4	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	10.7	13.0	0.0	14.9	14.9	28.5	0.0	33.4	0.0	0.0	0.0
DesignQueue:	0	22	14	0	23	13	27	0	15	0	0	0

ParkeBridge
Cumulative Conditions w/ Fong Extension
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Northgate Bl / I-80 East Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.957
Loss Time (sec): 6 (Y+R = 4 sec) Average Delay (sec/veh): 23.4
Optimal Cycle: 144 Level Of Service: C

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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Lanes:	0 0	2 0	1	0 0	1 1	0	2 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	994	605	0	1156	995	450	0	395	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	994	605	0	1156	995	450	0	395	0	0	0
Added Vol:	0	18	15	0	53	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1012	620	0	1209	995	450	0	395	0	0	0
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:	0	1012	620	0	1209	995	450	0	395	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1012	620	0	1209	995	450	0	395	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1012	620	0	1209	995	450	0	395	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	1.00	0.89	0.89	0.92	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.00	1.10	0.90	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3610	1615	0	1846	1519	3502	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.38	0.00	0.66	0.66	0.13	0.00	0.24	0.00	0.00	0.00
Crit Moves:					****				****			
Green/Cycle:	0.00	0.68	0.68	0.00	0.68	0.68	0.26	0.00	0.26	0.00	0.00	0.00
Volume/Cap:	0.00	0.41	0.56	0.00	0.96	0.96	0.50	0.00	0.96	0.00	0.00	0.00
Delay/Veh:	0.0	7.0	8.7	0.0	24.9	24.9	32.3	0.0	70.0	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	7.0	8.7	0.0	24.9	24.9	32.3	0.0	70.0	0.0	0.0	0.0
DesignQueue:	0	19	12	0	25	21	19	0	17	0	0	0

APPENDIX E9
INTERSECTION OPERATIONS CALCULATIONS
MITIGATION MEASURES
CUMULATIVE PLUS PROJECT W/ FONG RANCH EXTENSION CONDITIONS

ParkeBridge
Cumulative Conditions w/ Fong Extension - Mitigated
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Northgate / Rosin

Cycle (sec): 100 Critical Vol./Cap. (X): 0.972
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 49.6
Optimal Cycle: 158 Level Of Service: D

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			Include		
Min. Green:	5	10	10	5	10	10	5	10	10	5	10	10
Lanes:	1 0 1	1 0		2 0 1	1 0		2 0 1	0 1		1 0	0 1	0
Volume Module:												
Base Vol:	81	1289	34	96	1295	60	741	5	19	107	6	270
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:	81	1289	34	96	1295	60	741	5	19	107	6	270
Added Vol:	44	0	0	0	0	53	33	0	27	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	125	1289	34	96	1295	113	774	5	46	107	6	270
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:	125	1289	34	96	1295	113	774	5	46	107	6	270
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	125	1289	34	96	1295	113	774	5	46	107	6	270
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	125	1289	34	96	1295	113	774	5	46	107	6	270
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.92	0.94	0.94	0.92	1.00	0.85	0.95	0.85	0.85
Lanes:	1.00	1.95	0.05	2.00	1.84	0.16	2.00	1.00	1.00	1.00	0.02	0.98
Final Sat.:	1805	3503	92	3502	3280	286	3502	1900	1615	1805	35	1585
Capacity Analysis Module:												
Vol/Sat:	0.07	0.37	0.37	0.03	0.39	0.39	0.22	0.00	0.03	0.06	0.17	0.17
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.42	0.42	0.06	0.41	0.41	0.23	0.25	0.32	0.15	0.18	0.18
Volume/Cap:	0.97	0.88	0.88	0.48	0.97	0.97	0.97	0.01	0.09	0.40	0.97	0.97
Delay/Veh:	116.8	32.6	32.6	47.5	46.5	46.5	63.4	28.0	23.6	39.4	86.5	86.5
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:	116.8	32.6	32.6	47.5	46.5	46.5	63.4	28.0	23.6	39.4	86.5	86.5
DesignQueue:	7	46	1	5	47	4	35	0	2	5	0	13

Capacity Analysis of Freeway Mainline Segments

2000 Highway Capacity Manual

Capacity based on 2200 vphpl for freeway lanes, 1600 vphpl for auxiliary lanes

Mainline Segment	Frwy Lanes	Aux Lanes	Exising AM	Exising PM	Baseline Conditions AM	Baseline Conditions PM	Baseline+Proposed Project AM	Baseline+Proposed Project PM	Baseline+Current Zoning AM	Baseline+Current Zoning PM	Year 2025 Baseline AM	Year 2025 Baseline PM	Year 2025+Proposed Prj. w/o Fong Ranch Road AM	Year 2025+Proposed Prj. w/o Fong Ranch Road PM	Year 2025+Current Zoning Prj. w/o Fong Ranch Road AM	Year 2025+Current Zoning Prj. w/o Fong Ranch Road PM	Year 2025+Proposed Prj. w Fong Ranch Road AM	Year 2025+Proposed Prj. w Fong Ranch Road PM	Year 2025+Current Zoning Prj. w/o Fong Ranch Road AM	Year 2025+Current Zoning Prj. w/o Fong Ranch Road PM
Freeway Traffic Volume																				
I-80 EB -- I-5 to Truxel	3	1	5,057	6,405	5,170	6,727	5,184	6,831	5,363	6,839	7,247	8,270	7,256	8,299	7,437	8,313	7,256	8,298	7,437	8,313
I-80 EB -- Truxel to Northgate	3	1	5,006	5,771	5,058	5,930	5,085	5,948	5,081	5,984	6,784	7,813	6,819	7,837	6,812	7,870	6,797	7,822	6,795	7,840
I-80 EB -- Northgate to Norwood	3	0	4,874	6,454	4,951	6,754	4,983	6,775	4,987	6,875	6,791	8,568	6,826	8,592	6,829	8,690	6,826	8,592	6,828	8,691
I-80 WB -- Norwood to Northgate	3	0	6,781	5,423	6,830	5,688	6,841	5,724	6,968	5,727	9,397	7,628	9,409	7,666	9,536	7,670	9,408	7,666	9,536	7,669
I-80 WB -- Northgate to Truxel	3	1	6,180	5,688	6,190	5,823	6,199	5,853	6,248	5,848	9,139	7,637	9,151	7,675	9,199	7,668	9,143	7,651	9,168	7,649
I-80 WB -- Truxel to I-5	3	2	6,655	5,301	6,719	5,668	6,759	5,695	6,766	5,836	8,660	7,611	8,687	7,629	8,699	7,774	8,687	7,629	8,699	7,774
Volume to Capacity (V/C)																				
I-80 EB -- I-5 to Truxel			0.62	0.78	0.63	0.82	0.63	0.83	0.65	0.83	0.88	1.01	0.88	1.01	0.91	1.01	0.88	1.01	0.91	1.01
I-80 EB -- Truxel to Northgate			0.61	0.70	0.62	0.72	0.62	0.73	0.62	0.73	0.83	0.95	0.83	0.96	0.83	0.96	0.83	0.95	0.83	0.96
I-80 EB -- Northgate to Norwood			0.74	0.98	0.75	1.02	0.76	1.03	0.76	1.04	1.03	1.30	1.03	1.30	1.03	1.32	1.03	1.30	1.03	1.32
I-80 WB -- Norwood to Northgate			1.03	0.82	1.03	0.86	1.04	0.87	1.06	0.87	1.42	1.16	1.43	1.16	1.44	1.16	1.43	1.16	1.44	1.16
I-80 WB -- Northgate to Truxel			0.75	0.69	0.75	0.71	0.76	0.71	0.76	0.71	1.11	0.93	1.12	0.94	1.12	0.94	1.12	0.93	1.12	0.93
I-80 WB -- Truxel to I-5			0.68	0.54	0.69	0.58	0.69	0.58	0.69	0.60	0.88	0.78	0.89	0.78	0.89	0.79	0.89	0.78	0.89	0.79
Level of Service:																				
I-80 EB -- I-5 to Truxel			C	D	C	D	C	D	C	D	D	F	D	F	E	F	D	F	E	F
I-80 EB -- Truxel to Northgate			C	C	C	C	C	C	C	C	D	E	D	E	D	E	D	E	D	E
I-80 EB -- Northgate to Norwood			C	E	D	F	D	F	D	F	F	F	F	F	F	F	F	F	F	F
I-80 WB -- Norwood to Northgate			F	D	F	D	F	D	F	D	F	F	F	F	F	F	F	F	F	F
I-80 WB -- Northgate to Truxel			D	C	D	C	D	C	D	C	F	E	F	E	F	E	F	E	F	E
I-80 WB -- Truxel to I-5			C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D

I-80 EB off-ramp to Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Major Diverge, 2 Lane Off-Ramp

Existing Upstrm Frwy Lanes / Aux. Lanes 4
Existing Dnstrm Frwy Lanes / Aux. Lanes 3

	Exising			Baseline Conditions			Baseline+Proposed Project			Baseline+Current Zoning			Year 2025 Baseline			Year 2025+Proposed Prj. w/o Fong Ranch Road			Year 2025+Current Zoning Prj. w/o Fong Ranch Road			Year 2025+Proposed Prj. w Fong Ranch Road			Year 2025+Current Zoning Prj. w/o Fong Ranch Road		
	AM	PM	Sat.	AM	PM	Sat.	AM	PM	Sat.	AM	PM	Sat.	AM	PM	Sat.	AM	PM	Sat.	AM	PM	Sat.	AM	PM	Sat.	AM	PM	Sat.
Freeway Volume (Upstream):	5,057	6,405	0	5,170	6,727	0	5,184	6,831	0	5,363	6,839	0	7,247	8,270	0	7,256	8,299	0	7,437	8,313	0	7,256	8,298	0	7,437	8,313	0
Ramp Volume:	819	1,205	0	932	1,527	0	946	1,631	0	1,125	1,639	0	2,103	1,959	0	2,112	1,988	0	2,293	2,002	0	2,112	1,987	0	2,293	2,002	0
Ramp Design Speed (mph):	40	40	0	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Freeway Volume (Upstream):	5,517	6,988	0	5,640	7,339	0	5,656	7,453	0	5,851	7,461	0	7,906	9,022	0	7,915	9,054	0	8,113	9,069	0	7,915	9,053	0	8,113	9,069	0
Adjusted Ramp Volume:	893	1,315	0	1,017	1,666	0	1,032	1,779	0	1,227	1,788	0	2,294	2,137	0	2,304	2,169	0	2,501	2,184	0	2,304	2,168	0	2,501	2,184	0
Adjusted Freeway Volume (Downstream):	4,624	5,673	#DIV/0!	4,623	5,673	0	4,624	5,674	0	4,624	5,673	0	5,612	6,885	0	5,611	6,885	0	5,612	6,885	0	5,611	6,885	0	5,612	6,885	0
Upstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Upstream Freeway V/C:	0.57	0.73	0.00	0.59	0.76	0.00	0.59	0.78	0.00	0.61	0.78	0.00	0.82	0.94	0.00	0.82	0.94	0.00	0.85	0.94	0.00	0.82	0.94	0.00	0.85	0.94	0.00
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.64	0.79	#DIV/0!	0.64	0.79	0.00	0.64	0.79	0.00	0.64	0.79	0.00	0.78	0.96	0.00	0.78	0.96	0.00	0.78	0.96	0.00	0.78	0.96	0.00	0.78	0.96	0.00
Ramp Capacity:	3,800	3,800	3,200	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800
Ramp V/C:	0.24	0.35	0.00	0.27	0.44	0.00	0.27	0.47	0.00	0.32	0.47	0.00	0.60	0.56	0.00	0.61	0.57	0.00	0.66	0.57	0.00	0.61	0.57	0.00	0.66	0.57	0.00
Density (pc/mi/ln):	15.03	19.04	0.00	15.37	20.00	0.00	15.41	20.31	0.00	15.94	20.33	0.00	21.54	24.58	0.00	21.57	24.67	0.00	22.11	24.71	0.00	21.57	24.67	0.00	22.11	24.71	0.00
Level of Service:	B	B	#DIV/0!	B	B	A	B	C	A	B	C	A	C	C	A	C	C	A	C	C	A	C	C	A	C	C	A

I-80 EB on-ramp from SB Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Single Lane On-Ramp, Enters Own Lane

Existing Upstrm Frwy Lanes / A 3
Existing Dnstrm Frwy Lanes / A 4

	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Ramp Volume:	477	329	502	470	502	470	502	470	1,208	1,146	1,208	1,146	1,208	1,146	1,208	1,146	1,208	1,146
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Ramp Volume:	520	359	548	513	548	513	548	513	1,318	1,250	1,318	1,250	1,318	1,250	1,318	1,250	1,318	1,250
Service Flow Rate @ LOS "A"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "B"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "C"	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Service Flow Rate @ LOS "D"	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
Service Flow Rate @ LOS "E"	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Level of Service:	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

I-80 EB on-ramp from NB Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lan 4
Existing Dnstrm Frwy Lanes / Aux. Lan 4

	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	4,715	5,529	4,740	5,670	4,740	5,670	4,740	5,670	6,352	7,457	6,352	7,457	6,352	7,457	6,352	7,457	6,352	7,457
Ramp Volume:	291	242	318	260	345	278	341	314	432	356	467	380	460	413	445	365	443	383
Acceleration Length (ft.):	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Freeway Volume (Upstream):	5,144	6,032	5,171	6,186	5,171	6,186	5,171	6,186	6,929	8,135	6,929	8,135	6,929	8,135	6,929	8,135	6,929	8,135
Adjusted Ramp Volume:	317	264	347	284	376	303	372	343	471	388	509	415	502	451	485	398	483	418
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	0.57	0.66	0.57	0.67	0.58	0.68	0.58	0.68	0.77	0.89	0.77	0.89	0.77	0.89	0.77	0.89	0.77	0.89
Proportion in lanes 1,2 (Pfm):	0.457	0.464	0.453	0.461	0.450	0.459	0.450	0.454	0.438	0.448	0.433	0.445	0.434	0.440	0.436	0.447	0.436	0.444
V12 (upstream two-lane volume):	2,350	2,796	2,343	2,852	2,325	2,837	2,327	2,806	3,033	3,645	3,000	3,617	3,006	3,581	3,021	3,635	3,022	3,614
VR12 (downstream two-lane volume):	2,667	3,060	2,690	3,136	2,701	3,140	2,699	3,149	3,504	4,033	3,509	4,032	3,508	4,032	3,506	4,033	3,505	4,032
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.58	0.67	0.58	0.68	0.59	0.68	0.59	0.68	0.76	0.88	0.76	0.88	0.76	0.88	0.76	0.88	0.76	0.88
Density (pc/mi/ln):	19.86	22.95	20.03	23.54	20.10	23.56	20.09	23.61	26.32	30.48	26.34	30.46	26.34	30.45	26.33	30.48	26.32	30.46
Level of Service:	B	C	C	C	C	C	C	C	C	D	C	D	C	D	C	D	C	D

I-80 EB off-ramp to Northgate Boulevard

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Major Diverge, 2 Lane Off-Ramp

Existing Upstrm Frwy Lanes / Aux. Lanes 4
Existing Dnstrm Frwy Lanes / Aux. Lanes 3

	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	5,006	5,771	5,058	5,930	5,085	5,948	5,081	5,984	6,784	7,813	6,819	7,837	6,812	7,870	6,797	7,822	6,795	7,840
Ramp Volume:	1,015	761	1,015	761	1,015	761	1,015	761	1,086	845	1,086	845	1,086	845	1,086	845	1,086	845
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Freeway Volume (Upstream):	5,462	6,296	5,518	6,470	5,548	6,489	5,543	6,529	7,400	8,524	7,439	8,550	7,431	8,586	7,415	8,533	7,412	8,553
Adjusted Ramp Volume:	1,107	830	1,107	830	1,107	830	1,107	830	1,185	922	1,185	922	1,185	922	1,185	922	1,185	922
Adjusted Freeway Volume (Downstream):	4,355	5,466	4,411	5,640	4,441	5,659	4,436	5,699	6,215	7,602	6,254	7,628	6,246	7,664	6,230	7,611	6,227	7,631
Upstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Upstream Freeway V/C:	0.57	0.66	0.57	0.67	0.58	0.68	0.58	0.68	0.77	0.89	0.77	0.89	0.77	0.89	0.77	0.89	0.77	0.89
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.60	0.76	0.61	0.78	0.62	0.79	0.62	0.79	0.86	1.06	0.87	1.06	0.87	1.06	0.87	1.06	0.86	1.06
Ramp Capacity:	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800
Ramp V/C:	0.29	0.22	0.29	0.22	0.29	0.22	0.29	0.22	0.31	0.24	0.31	0.24	0.31	0.24	0.31	0.24	0.31	0.24
Density (pc/mi/ln):	14.88	17.16	15.04	17.63	15.12	17.68	15.10	17.79	20.17	23.23	20.27	23.30	20.25	23.40	20.21	23.25	20.20	23.31
Level of Service:	B	B	B	B	B	B	B	B	C	F	C	F	C	F	C	F	C	F

I-80 EB on-ramp from SB Northgate Boulevard

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 6 lane freeway, Single Lane On-Ramp (Equation 1)

Existing Upstrm Frwy Lanes / Aux. Lane 3
Existing Dnstrm Frwy Lanes / Aux. Lane 3

	Exising																		
				Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	Sat.	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	3,991	5,010	0	4,043	5,169	4,070	5,187	4,066	5,223	5,698	6,968	5,733	6,992	5,726	7,025	5,711	6,977	5,709	6,995
Ramp Volume:	510	940	0	535	1,081	535	1,081	535	1,081	545	995	545	995	545	995	545	995	545	995
Acceleration Length (ft.):	1,000	1,000	0	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Adjusted Freeway Volume (Upstream):	4,354	5,466	0	4,411	5,639	4,440	5,659	4,436	5,698	6,216	7,602	6,254	7,628	6,246	7,664	6,230	7,612	6,228	7,631
Adjusted Ramp Volume:	556	1,025	0	584	1,179	584	1,179	584	1,179	595	1,085	595	1,085	595	1,085	595	1,085	595	1,085
Downstream Freeway Capacity:	7,200	7,200	#DIV/0!	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.68	0.90	#DIV/0!	0.69	0.95	0.70	0.95	0.70	0.96	0.95	1.21	0.95	1.21	0.95	1.22	0.95	1.21	0.95	1.21
Proportion in lanes 1,2 (Pfm):	0.606	0.606	0.578	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606
V12 (upstream two-lane volume):	2,636	3,310	0	2,671	3,414	2,688	3,427	2,686	3,450	3,764	4,603	3,787	4,619	3,782	4,641	3,772	4,609	3,771	4,621
VR12 (downstream two-lane volume):	3,192	4,335	0	3,255	4,593	3,272	4,606	3,270	4,629	4,359	5,688	4,382	5,704	4,377	5,726	4,367	5,694	4,366	5,706
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.69	0.94	0.00	0.71	1.00	0.71	1.00	0.71	1.01	0.95	1.24	0.95	1.24	0.95	1.24	0.95	1.24	0.95	1.24
Density (pc/mi/ln):	23.85	32.55	5.48	24.33	34.49	24.46	34.59	24.44	34.77	32.93	43.07	33.11	43.20	33.07	43.37	32.99	43.12	32.99	43.21
Level of Service:	C	D	#DIV/0!	C	D	C	F	C	F	D	F	D	F	D	F	D	F	D	F

I-80 EB on-ramp from NB Northgate Boulevard

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 6 lane freeway, Single Lane On-Ramp (Equation 1)

Existing Upstrm Frwy Lanes / Aux. Lane 3
Existing Dnstrm Frwy Lanes / Aux. Lane 3

	Exising			Baseline Conditions															
				Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	Sat.	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	4,501	5,950	0	4,578	6,250	4,605	6,268	4,601	6,304	6,243	7,963	6,278	7,987	6,271	8,020	6,256	7,972	6,254	7,990
Ramp Volume:	373	504	0	373	504	378	507	386	571	548	605	548	605	558	670	570	620	574	701
Acceleration Length (ft.):	1,000	1,000	0	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Adjusted Freeway Volume (Upstream):	4,911	6,491	0	4,995	6,819	5,024	6,838	5,020	6,878	6,810	8,687	6,848	8,713	6,841	8,749	6,824	8,697	6,822	8,717
Adjusted Ramp Volume:	407	550	0	407	550	412	553	421	623	598	660	598	660	609	731	622	676	626	765
Downstream Freeway Capacity:	7,200	7,200	#DIV/0!	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.74	0.98	#DIV/0!	0.75	1.02	0.76	1.03	0.76	1.04	1.03	1.30	1.03	1.30	1.03	1.32	1.03	1.30	1.03	1.32
Proportion in lanes 1,2 (Pfm):	0.606	0.606	0.578	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606
V12 (upstream two-lane volume):	2,974	3,930	0	3,024	4,129	3,042	4,140	3,040	4,165	4,123	5,260	4,146	5,276	4,142	5,298	4,132	5,266	4,131	5,278
VR12 (downstream two-lane volume):	3,381	4,480	0	3,431	4,679	3,454	4,693	3,461	4,788	4,721	5,920	4,744	5,936	4,751	6,029	4,754	5,942	4,757	6,043
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.74	0.97	0.00	0.75	1.02	0.75	1.02	0.75	1.04	1.03	1.29	1.03	1.29	1.03	1.31	1.03	1.29	1.03	1.31
Density (pc/mi/ln):	25.39	33.90	5.48	25.78	35.45	25.96	35.56	26.01	36.26	35.75	45.08	35.93	45.20	35.98	45.89	36.00	45.24	36.02	45.99
Level of Service:	C	D	#DIV/0!	C	F	C	F	C	F	F	F	F	F	F	F	F	F	F	F

I-80 WB off-ramp to Northgate Boulevard

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 6 lane freeway, Single Lane Off-Ramp (Equation 5)

Existing Upstrm Frwy Lanes / Aux. Lane 3
Existing Dnstrm Frwy Lanes / Aux. Lane 3

	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	6,781	5,423	6,830	5,688	6,841	5,724	6,968	5,727	9,397	7,628	9,409	7,666	9,536	7,670	9,408	7,666	9,536	7,669
Ramp Volume:	1,164	907	1,203	1,037	1,205	1,043	1,283	1,051	1,258	1,238	1,258	1,238	1,337	1,249	1,265	1,262	1,368	1,267
Deceleration Length (ft):	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Adjusted Freeway Volume (Upstream):	7,397	5,916	7,451	6,205	7,463	6,244	7,601	6,248	10,251	8,321	10,264	8,363	10,403	8,367	10,263	8,363	10,403	8,366
Adjusted Ramp Volume:	1,270	989	1,312	1,131	1,315	1,138	1,400	1,147	1,372	1,351	1,372	1,351	1,459	1,363	1,380	1,377	1,492	1,382
Upstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Upstream Freeway V/C:	1.03	0.82	1.03	0.86	1.04	0.87	1.06	0.87	1.42	1.16	1.43	1.16	1.44	1.16	1.43	1.16	1.44	1.16
Proportion in lanes 1,2 (Pfd):	0.517	0.567	0.513	0.553	0.513	0.552	0.506	0.551	0.441	0.490	0.440	0.489	0.433	0.488	0.440	0.488	0.431	0.487
V12 (upstream two-lane volume):	4,436	3,781	4,464	3,936	4,468	3,954	4,535	3,958	5,284	4,765	5,287	4,778	5,330	4,782	5,288	4,783	5,335	4,785
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	1.01	0.86	1.01	0.89	1.02	0.90	1.03	0.90	1.20	1.08	1.20	1.09	1.21	1.09	1.20	1.09	1.21	1.09
Density (pc/mi/ln):	33.40	27.77	33.64	29.10	33.68	29.26	34.25	29.29	40.70	36.23	40.72	36.34	41.09	36.38	40.73	36.39	41.14	36.41
Level of Service:	F	C	F	D	F	D	F	D	F	F	F	F	F	F	F	F	F	F

I-80 WB on-ramp from NB Northgate Boulevard

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 6 lane freeway, Single Lane On-Ramp (Equation 1)

Existing Upstrm Frwy Lanes / Aux. Lane 3
Existing Dnstrm Frwy Lanes / Aux. Lane 3

	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	5,617	4,516	5,627	4,651	5,636	4,681	5,685	4,676	8,139	6,390	8,151	6,428	8,199	6,421	8,143	6,404	8,168	6,402
Ramp Volume:	168	349	168	349	168	349	168	349	215	458	215	458	215	458	215	458	215	458
Acceleration Length (ft.):	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Adjusted Freeway Volume (Upstream):	6,128	4,927	6,139	5,074	6,148	5,107	6,202	5,101	8,879	6,971	8,892	7,012	8,944	7,005	8,883	6,986	8,911	6,984
Adjusted Ramp Volume:	183	381	183	381	183	381	183	381	235	500	235	500	235	500	235	500	235	500
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.88	0.74	0.88	0.76	0.88	0.76	0.89	0.76	1.27	1.04	1.27	1.04	1.27	1.04	1.27	1.04	1.27	1.04
Proportion in lanes 1,2 (Pfm):	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606
V12 (upstream two-lane volume):	3,711	2,983	3,717	3,072	3,723	3,092	3,755	3,089	5,376	4,221	5,384	4,246	5,416	4,242	5,379	4,230	5,396	4,229
VR12 (downstream two-lane volume):	3,894	3,364	3,900	3,453	3,906	3,473	3,938	3,470	5,611	4,721	5,619	4,746	5,651	4,742	5,614	4,730	5,631	4,729
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.85	0.73	0.85	0.75	0.85	0.76	0.86	0.75	1.22	1.03	1.22	1.03	1.23	1.03	1.22	1.03	1.22	1.03
Density (pc/mi/ln):	29.49	25.27	29.54	25.96	29.59	26.12	29.84	26.10	42.86	35.80	42.93	35.99	43.17	35.96	42.89	35.87	43.02	35.86
Level of Service:	D	C	D	C	D	C	D	C	F	F	F	F	F	F	F	F	F	F

I-80 WB on-ramp from SB Northgate Boulevard

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Single Lane On-Ramp, Enters Own Lane

Existing Upstrm Frwy Lanes / Ai 3
Existing Dnstrm Frwy Lanes / Ai 4

	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Ramp Volume:	395	823	395	823	395	823	395	823	785	789	785	789	785	789	785	789	785	789
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Ramp Volume:	431	898	431	898	431	898	431	898	856	861	856	861	856	861	856	861	856	861
Service Flow Rate @ LOS "A"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "B"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "C"	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Service Flow Rate @ LOS "D"	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
Service Flow Rate @ LOS "E"	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Level of Service:	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

I-80 WB off-ramp to Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Major Diverge, 2 Lane Off-Ramp

Existing Upstrm Frwy Lanes / Aux. Lanes 4
Existing Dnstrm Frwy Lanes / Aux. Lanes 3

	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	6,180	5,688	6,190	5,823	6,199	5,853	6,248	5,848	9,139	7,637	9,151	7,675	9,199	7,668	9,143	7,651	9,168	7,649
Ramp Volume:	735	1,258	783	1,418	792	1,448	841	1,443	2,525	2,263	2,537	2,301	2,585	2,294	2,529	2,277	2,554	2,275
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Freeway Volume (Upstream):	6,742	6,205	6,753	6,352	6,763	6,385	6,816	6,380	9,970	8,331	9,983	8,373	10,035	8,365	9,974	8,347	10,001	8,344
Adjusted Ramp Volume:	802	1,372	854	1,547	864	1,580	917	1,574	2,755	2,469	2,768	2,510	2,820	2,503	2,759	2,484	2,786	2,482
Adjusted Freeway Volume (Downstream):	5,940	4,833	5,899	4,805	5,899	4,805	5,899	4,806	7,215	5,862	7,215	5,863	7,215	5,862	7,215	5,863	7,215	5,862
Upstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Upstream Freeway V/C:	0.70	0.65	0.70	0.66	0.70	0.67	0.71	0.66	1.04	0.87	1.04	0.87	1.05	0.87	1.04	0.87	1.04	0.87
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.83	0.67	0.82	0.67	0.82	0.67	0.82	0.67	1.00	0.81	1.00	0.81	1.00	0.81	1.00	0.81	1.00	0.81
Ramp Capacity:	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Ramp V/C:	0.40	0.69	0.43	0.77	0.43	0.79	0.46	0.79	1.38	1.23	1.38	1.26	1.41	1.25	1.38	1.24	1.39	1.24
Density (pc/mi/ln):	18.37	16.91	18.40	17.31	18.43	17.40	18.57	17.39	27.17	22.70	27.20	22.82	27.35	22.79	27.18	22.75	27.25	22.74
Level of Service:	B	B	B	B	B	B	B	B	F	F	F	F	F	F	F	F	F	F

I-80 WB on-ramp from NB Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Single Lane On-Ramp, Enters Own Lane

Existing Upstrm Frwy Lanes / 3
Existing Dnstrm Frwy Lanes / 4

	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Ramp Volume:	528	192	566	217	606	244	613	385	635	235	662	253	674	398	662	253	674	398
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Ramp Volume:	576	209	617	237	661	266	669	420	693	256	722	276	735	434	722	276	735	434
Service Flow Rate @ LOS "A"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "B"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "C"	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Service Flow Rate @ LOS "D"	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
Service Flow Rate @ LOS "E"	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Level of Service:	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

I-80 WB on-ramp from SB Truxel Road

Highway Capacity Manual
2000 Edition
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: Single Lane On-Ramp, Enters Own Lane

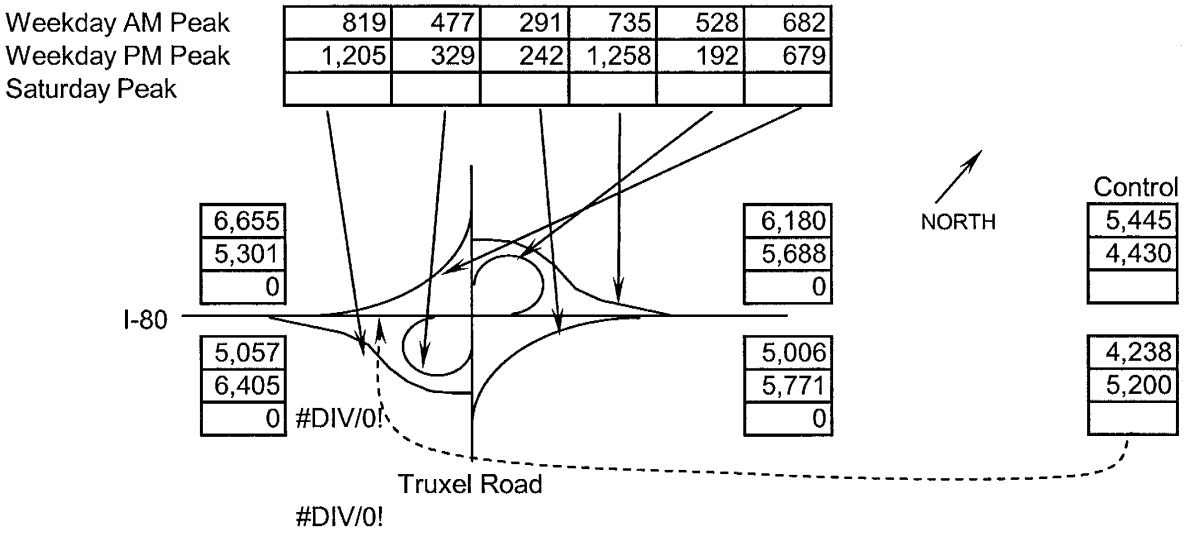
Existing Upstrm Frwy Lanes / A 4
Existing Dnstrm Frwy Lanes / A 5

	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Ramp Volume:	682	679	746	1,046	746	1,046	746	1,046	1,411	2,002	1,411	2,002	1,411	2,002	1,411	2,002	1,411	2,002
Ramp Design Speed (mph):	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Adjusted Ramp Volume:	744	741	814	1,141	814	1,141	814	1,141	1,539	2,184	1,539	2,184	1,539	2,184	1,539	2,184	1,539	2,184
Service Flow Rate @ LOS "A"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "B"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service Flow Rate @ LOS "C"	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Service Flow Rate @ LOS "D"	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
Service Flow Rate @ LOS "E"	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Level of Service:	C	C	C	C	C	C	C	C	D	F	D	F	D	F	D	F	D	F

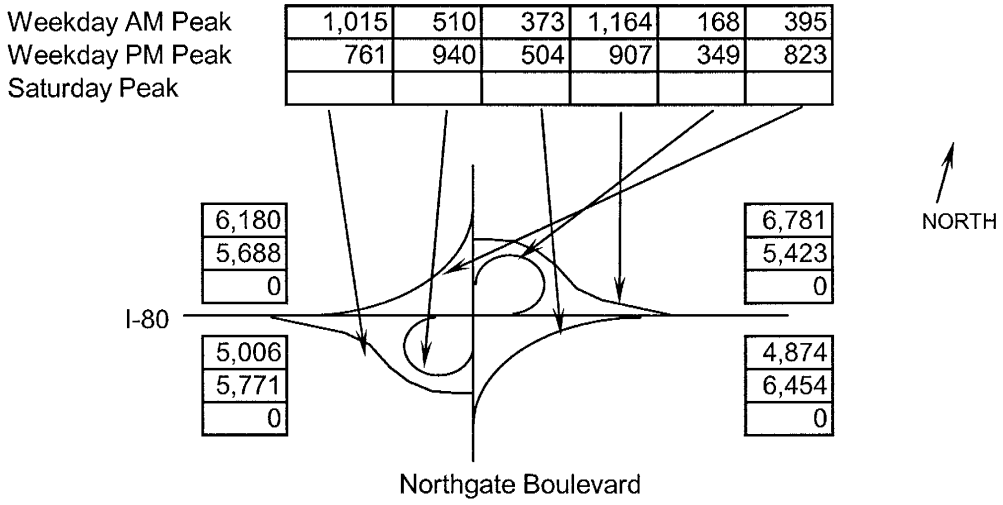
Interchange	Ramp Description	Exising		Baseline Conditions		Baseline+Proposed Project		Baseline+Current Zoning		Year 2025 Baseline		Year 2025+Proposed Prj. w/o Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road		Year 2025+Proposed Prj. w Fong Ranch Road		Year 2025+Current Zoning Prj. w/o Fong Ranch Road	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Eastbound																			
Truxel and I-80	Off-ramp to Truxel	819	1,205	932	1,527	946	1,631	1,125	1,639	2,103	1,959	2,112	1,988	2,293	2,002	2,112	1,987	2,293	2,002
Truxel and I-80	Southbound Truxel On-Ramp	477	329	502	470	502	470	502	470	1,208	1,146	1,208	1,146	1,208	1,146	1,208	1,146	1,208	1,146
Truxel and I-80	Northbound Truxel On-Ramp	291	242	318	260	345	278	341	314	432	356	467	380	460	413	445	365	443	383
Northgate and I-80	Off-ramp to Northgate	1,015	761	1,015	761	1,015	761	1,015	761	1,086	845	1,086	845	1,086	845	1,086	845	1,086	845
Northgate and I-80	Southbound Northgate On-Ramp	510	940	535	1,081	535	1,081	535	1,081	545	995	545	995	545	995	545	995	545	995
Northgate and I-80	Northbound Northgate On-Ramp	373	504	373	504	378	507	386	571	548	605	548	605	558	670	570	620	574	701
Westbound																			
Northgate and I-80	Off-ramp to Northgate	1,164	907	1,203	1,037	1,205	1,043	1,283	1,051	1,258	1,238	1,258	1,238	1,337	1,249	1,265	1,262	1,368	1,267
Northgate and I-80	Northbound Northgate On-Ramp	168	349	168	349	168	349	168	349	215	458	215	458	215	458	215	458	215	458
Northgate and I-80	Southbound Northgate On-Ramp	395	823	395	823	395	823	395	823	785	789	785	789	785	789	785	789	785	789
Truxel and I-80	Off-ramp to Truxel	735	1,258	783	1,418	792	1,448	841	1,443	2,525	2,263	2,537	2,301	2,585	2,294	2,529	2,277	2,554	2,275
Truxel and I-80	Northbound Truxel On-Ramp	528	192	566	217	606	244	613	385	635	235	662	253	674	398	662	253	674	398
Truxel and I-80	Southbound Truxel On-Ramp	682	679	746	1,046	746	1,046	746	1,046	1,411	2,002	1,411	2,002	1,411	2,002	1,411	2,002	1,411	2,002

I-80 Mainline Segment	Exising		Baseline Conditions		Baseline+Proposed		Baseline+Current		Year 2025 Baseline		Year		Year 2025+Current		Year		Year 2025+Current	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Eastbound																		
I-5 to Truxel	5,057	6,405	5,170	6,727	5,184	6,831	5,363	6,839	7,247	8,270	7,256	8,299	7,437	8,313	7,256	8,298	7,437	8,313
Truxel to Northgate	5,006	5,771	5,058	5,930	5,085	5,948	5,081	5,984	6,784	7,813	6,819	7,837	6,812	7,870	6,797	7,822	6,795	7,840
Northgate to Norwood	4,874	6,454	4,951	6,754	4,983	6,775	4,987	6,875	6,791	8,568	6,826	8,592	6,829	8,690	6,826	8,592	6,828	8,691
Westbound																		
Norwood to Northgate	6,781	5,423	6,830	5,688	6,841	5,724	6,968	5,727	9,397	7,628	9,409	7,666	9,536	7,670	9,408	7,666	9,536	7,669
Northgate to Truxel	6,180	5,688	6,190	5,823	6,199	5,853	6,248	5,848	9,139	7,637	9,151	7,675	9,199	7,668	9,143	7,651	9,168	7,649
Truxel to I-5	6,655	5,301	6,719	5,668	6,759	5,695	6,766	5,836	8,660	7,611	8,687	7,629	8,699	7,774	8,687	7,629	8,699	7,774

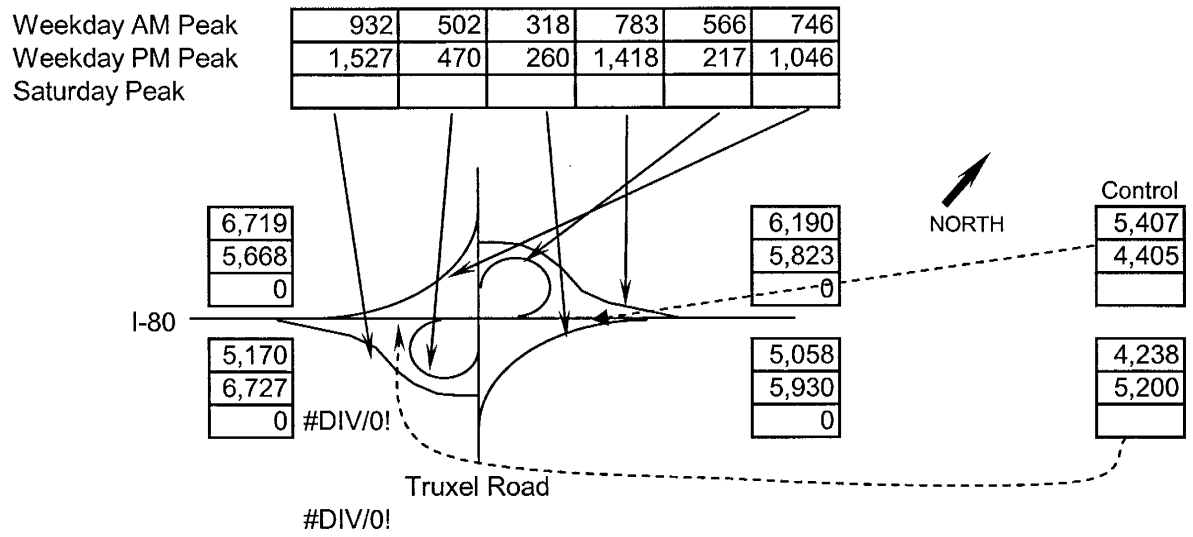
Existing Conditions (2004)
I-80 / Truxel Road Traffic Volumes



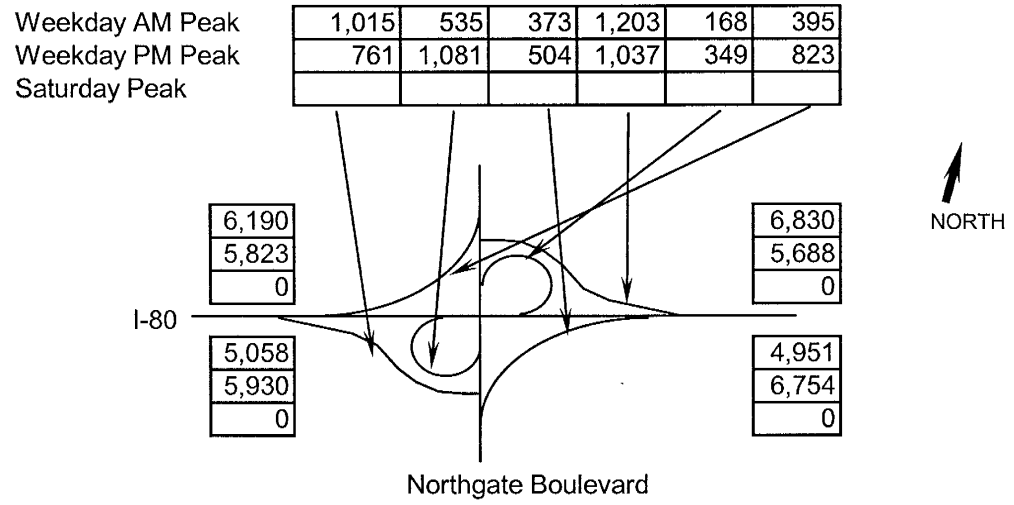
I-80 / Northgate Boulevard Traffic Volumes



Existing + Approved Projects
I-80 / Truxel Road Traffic Volumes

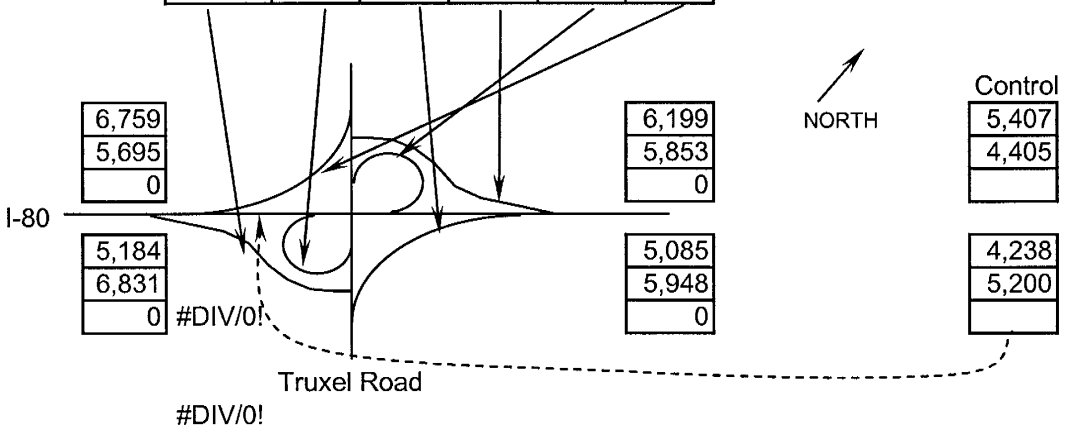


I-80 / Northgate Boulevard Traffic Volumes



Baseline + Proposed Project
I-80 / Truxel Road Traffic Volumes

	2EBRL	2SBR	2NBR	1WBRL	1NBR	1SBR
Weekday AM Peak	946	502	345	792	606	746
Weekday PM Peak	1,631	470	278	1,448	244	1,046
Saturday Peak						



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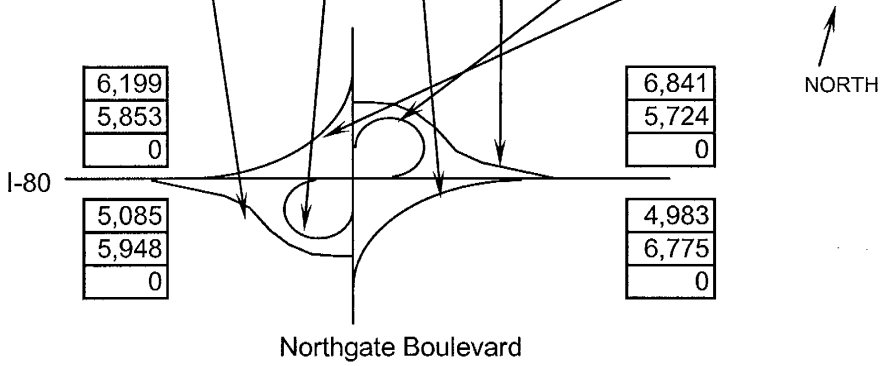
I-80 / Northgate Boulevard Traffic Volumes

	10EBRL	10SBR	10NBR	11WBRL	11NBR	11SBR
Weekday AM Peak	1,015	535	378	1,205	168	395
Weekday PM Peak	761	1,081	507	1,043	349	823
Saturday Peak						



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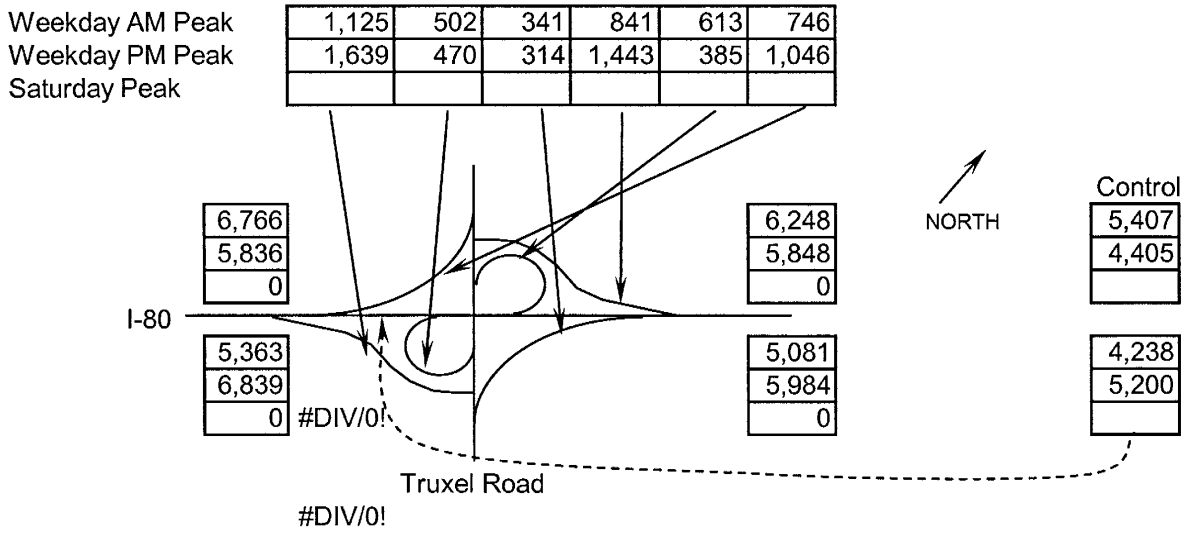
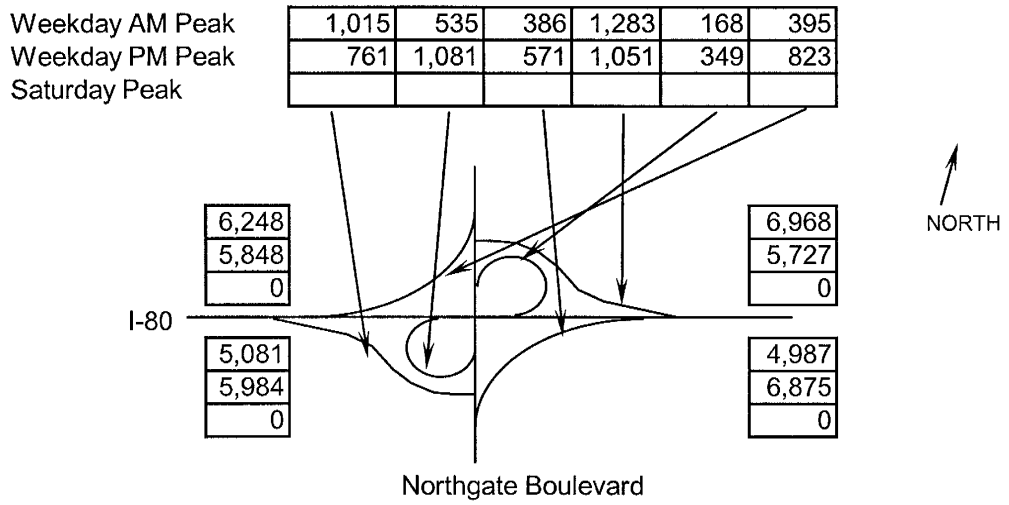
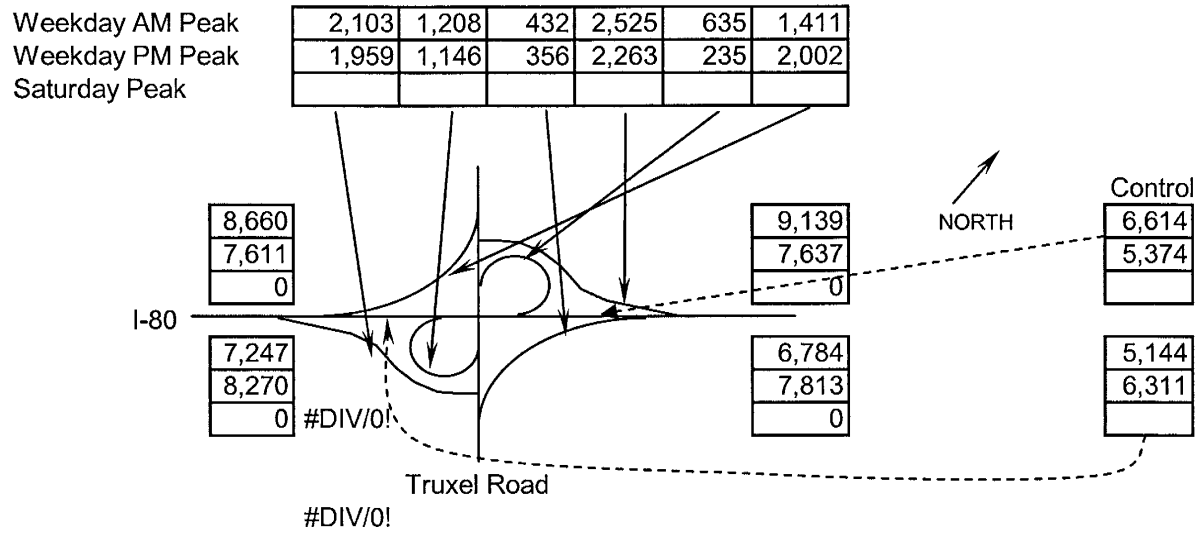


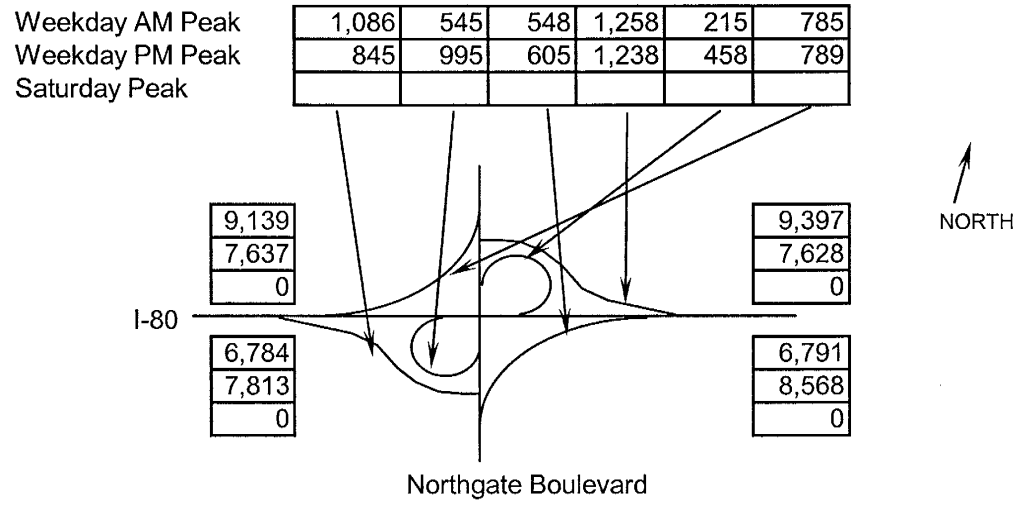
I-80 / Northgate Boulevard Traffic Volumes



Year 2025 Baseline Volumes
I-80 / Truxel Road Traffic Volumes

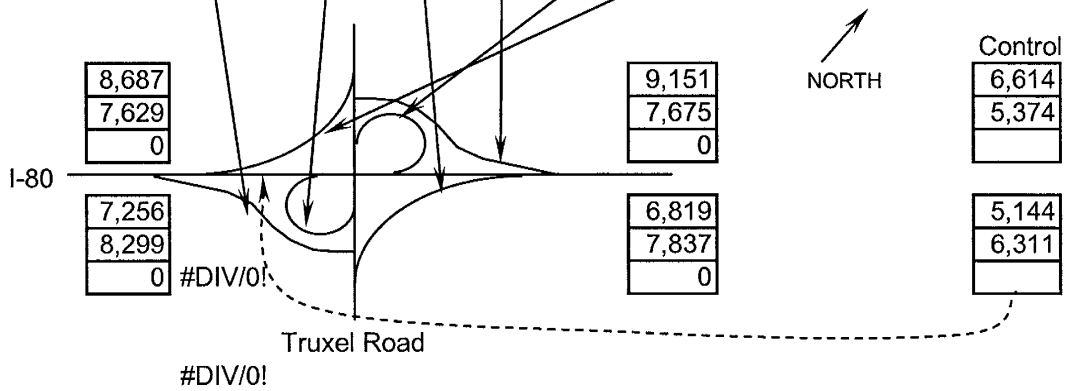


I-80 / Northgate Boulevard Traffic Volumes



Year 2025 + Proposed Project wo Fong Ranch Road
I-80 / Truxel Road Traffic Volumes

	2EBRL	2SBR	2NBR	1WBRL	1NBR	1SBR
Weekday AM Peak	2,112	1,208	467	2,537	662	1,411
Weekday PM Peak	1,988	1,146	380	2,301	253	2,002
Saturday Peak						



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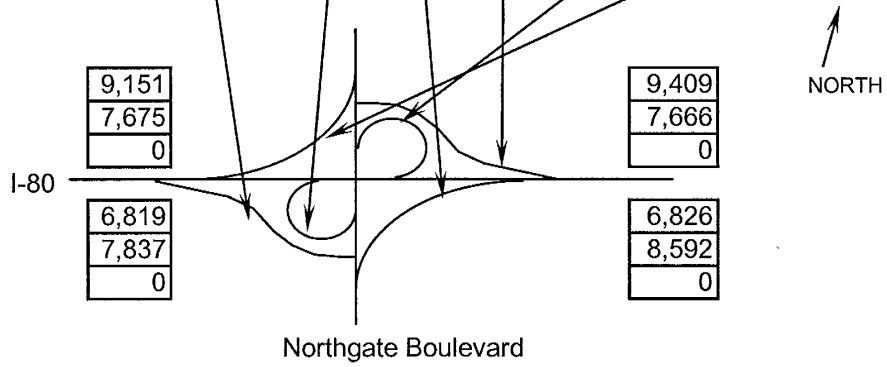
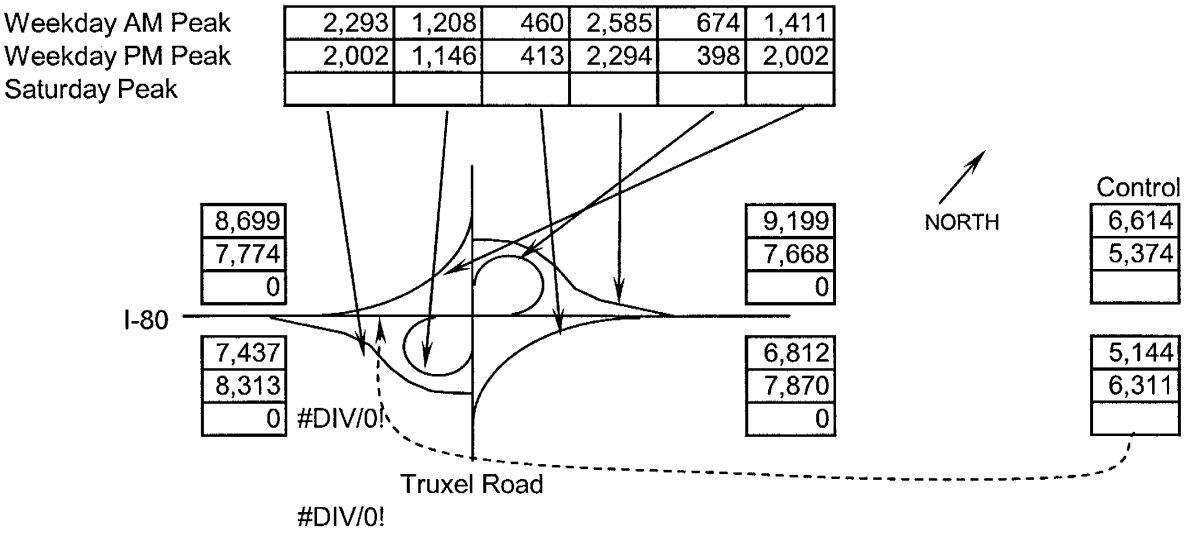
I-80 / Northgate Boulevard Traffic Volumes

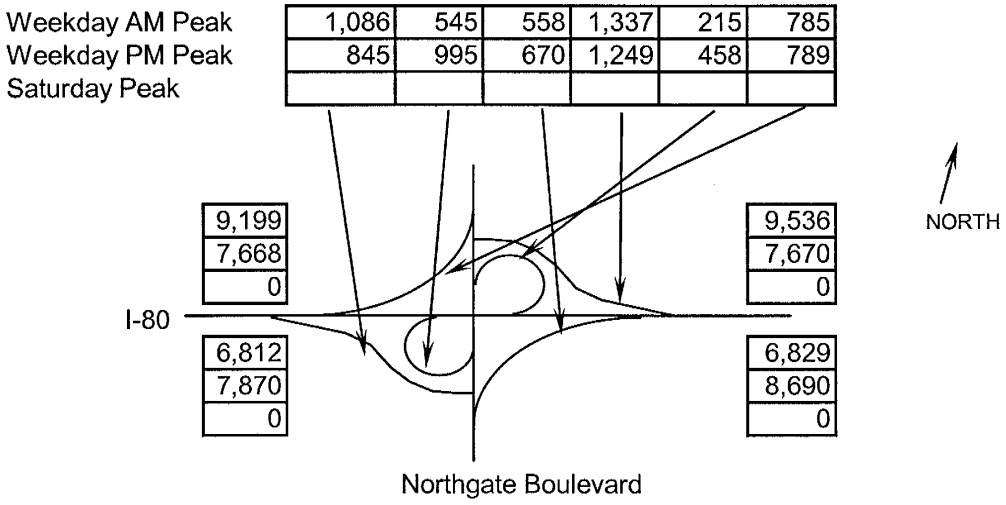
	10EBRL	10SBR	10NBR	11WBRL	11NBR	11SBR
Weekday AM Peak	1,086	545	548	1,258	215	785
Weekday PM Peak	845	995	605	1,238	458	789
Saturday Peak						



Year 2025 + Corrent Zoning wo Fong Ranch Road
I-80 / Truxel Road Traffic Volumes

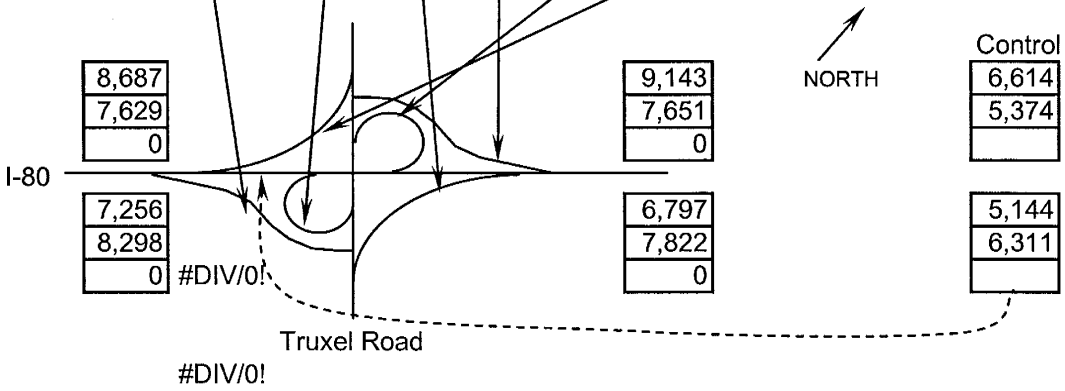


I-80 / Northgate Boulevard Traffic Volumes



Year 2025 + Proposed Project w Fong Ranch Road
I-80 / Truxel Road Traffic Volumes

	2EBRL	2SBR	2NBR	1WBRL	1NBR	1SBR
Weekday AM Peak	2,112	1,208	445	2,529	662	1,411
Weekday PM Peak	1,987	1,146	365	2,277	253	2,002
Saturday Peak						



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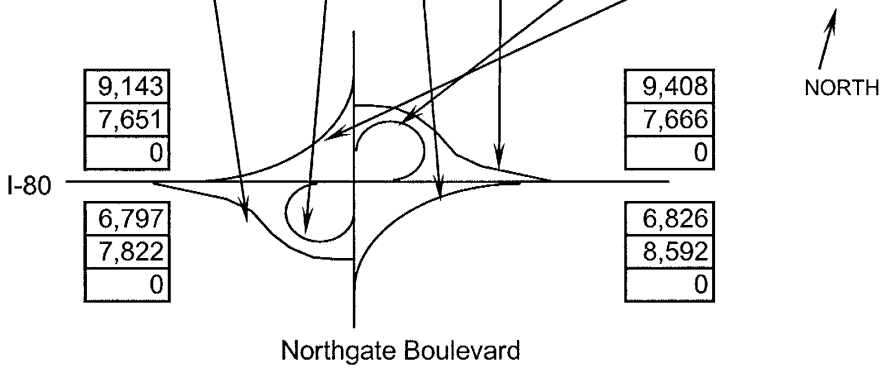
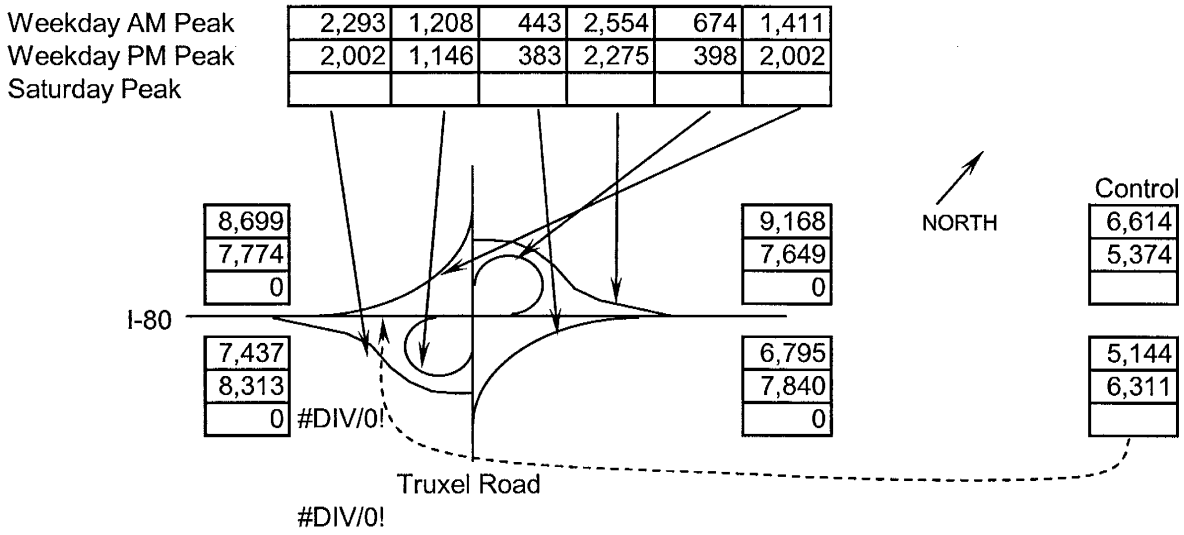
I-80 / Northgate Boulevard Traffic Volumes

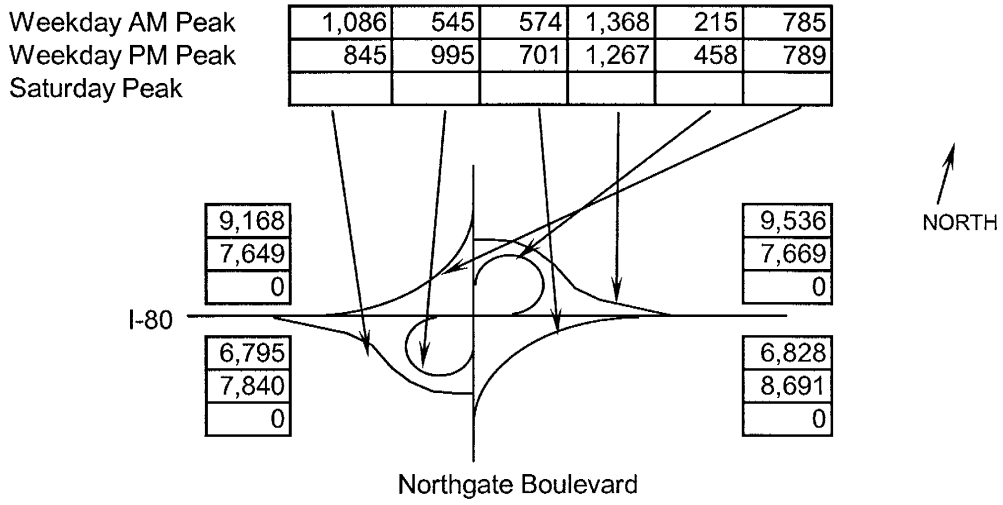
	10EBRL	10SBR	10NBR	11WBRL	11NBR	11SBR
Weekday AM Peak	1,086	545	570	1,265	215	785
Weekday PM Peak	845	995	620	1,262	458	789
Saturday Peak						



Year 2025 + Corrent Zoning w Fong Ranch Road
I-80 / Truxel Road Traffic Volumes



I-80 / Northgate Boulevard Traffic Volumes



Appendix F

WATER SUPPLY ASSESSMENT

City of Sacramento

FINAL

Water Supply Assessment

for the Proposed

ParkeBridge Development

September 2005

Prepared by:

EIP

WATER RESOURCES GROUP

EIP Associates
1200 Second Street, Suite 200
Sacramento, CA 95814
916.325.4800

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EXECUTIVE SUMMARY

The City of Sacramento (City) is the lead agency for the development of the proposed ParkeBridge project (proposed project); the residential development project would be located on a portion of a 113.3-acre site in the South Natomas area of Sacramento. The proposed project includes a tentative subdivision map for the development of 531 residential units, and associated infrastructure, on an 84.2-acre portion of the site. The remaining 29.6 acres would be developed as a community park in the future by the City, and is not considered as part of this development or this report.

As the public water system that supplies water to the proposed project area, the City is preparing this water supply assessment (WSA), as per the requirements of Senate Bill 610 (passed in 2002), and the California Water Code (primarily Sections 10910 through 10913). There are three primary areas to be addressed in a water supply assessment: (1) all relevant water supply entitlements, water rights, and water contracts; (2) a description of the available water supplies; and (3) an analysis of the demand placed on those supplies, both by the project, and all existing and planned future uses in the area.

The water supply for the proposed project comes from the City's water rights and a 1957 contract with the United States Bureau of Reclamation (USBR). Under the contract, the City is entitled to 326,800 acre-ft per year (AFY). As a signatory of the Water Forum Agreement (WFA), the City has agreed to withdrawal limitations from the American River. During the driest year scenario, the WFA limits annual withdrawal from the American River to 50,000 AFY. The WFA does not limit withdrawal from the Sacramento River; therefore, entitled American River water may be diverted at the Sacramento River Water Treatment Plant (WTP) below the confluence of the American and Sacramento Rivers. The resulting annual limitation is a function of the annual treatment plant capacity, resulting in a total supply in 230,000 AFY. The total supply during the driest year scenario can meet the anticipated annual demand of 2025 and the anticipated annual demand at 2030 with existing groundwater infrastructure.

The withdrawal rate from the American River is limited during low flow conditions. Based on modeling of historical climatic data, low flow conditions occur during 59 percent of the years during the peak demand months. The WFA limits the diversion rate from the American River to 155 cfs during June through August when the peak demand occurs. Assuming treatment at the reduced diversion rate from the American River (and maximum treatment at the Sacramento River WTP) the total surface water supply is 260 mgd, which is below the projected maximum day demand projected for 2010. The City is already undertaking studies to evaluate an additional Sacramento River diversion and treatment facility. With continued efforts to secure additional treatment capacity on the Sacramento River, the City has sufficient time to ensure reliable delivery of water for the proposed project and future demand past 2030. The additional 24 mgd available from the current groundwater

sources would ensure peak day demand is met up to 2014. Additional demand from the proposed project will not significantly alter this timeline.

This WSA concludes that the City's annual entitlements will meet the proposed project and projected future demand over the next 20 years, but due to diversion limitations agreed to in the WFA and the current infrastructure capabilities, an additional diversion structure and treatment plant on the Sacramento River will be required to meet the peak demand.

1.0 INTRODUCTION

The proposed ParkeBridge residential development project (proposed project) would be located on a portion of a 113.3-acre site in the South Natomas area of Sacramento. The proposed project includes a tentative subdivision map for the development of 531 residential units, and associated infrastructure, on an 84.2-acre portion of the site. The remaining 29.6 acres would be developed as a community park in the future by the City. The City park would be planned and evaluated as a separate project from this water supply assessment prior to development by the City.

The City of Sacramento (City) is conducting an environmental review under the requirements of the California Environmental Quality Act (CEQA) for the proposed project. This water supply assessment (WSA) will provide information for use in the CEQA analysis for this project. The environmental review for the proposed project includes the need for an assessment of the available water supply to serve the project. The requirements for such a WSA are described in the sections of the California Water Code (Water Code) amended by the enactment of Senate Bill 610 (SB 610) in 2002. Approval of any tentative subdivision maps may also require a written verification of available water supplies under the sections of the Public Resources Code amended by the enactment of Senate Bill 221 (SB 221) in 2002.

SB 610 and SB 221 provide a nexus between the regional land use planning process and the environmental review process. These laws also reflect the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. The core of these laws is an assessment of whether available water supplies are sufficient to serve the demand generated by a project, as well as the reasonably foreseeable cumulative demand in the region over the next 20 years under a range of hydrologic conditions.

This WSA provides information on the available water supply to serve the proposed project, based on the sections of the Water Code amended by SB 610. In addition, this information can be used as part of the written verification of water supplies, as required under SB 221.
This document is divided into 4 sections: Introduction, Water Supply, Demand Analysis, and Conclusion. The Introduction describes the project and water supply planning under SB 610 and SB 221.

1.1. PROJECT DESCRIPTION

The proposed ParkeBridge residential development project (proposed project) would be located on a portion of a 113.3-acre site in the South Natomas area of Sacramento. The project applicant is in the process of purchasing 88.6 acres from the Natomas Unified School District (NUSD) and negotiating an agreement with the City of Sacramento to exchange approximately 29 acres (purchased from NUSD) with 25 acres of City land. The proposed project includes a tentative subdivision map for the development of 531 residential units, which includes and associated

infrastructure, on an 84.2-acre portion of the site. The remaining 29.6 acres would be developed as a community park in the future by the City. The City park would be planned and evaluated as part of a process separate from this EIR prior to development by the City. Figure 1-1 shows the proposed project site within the area.

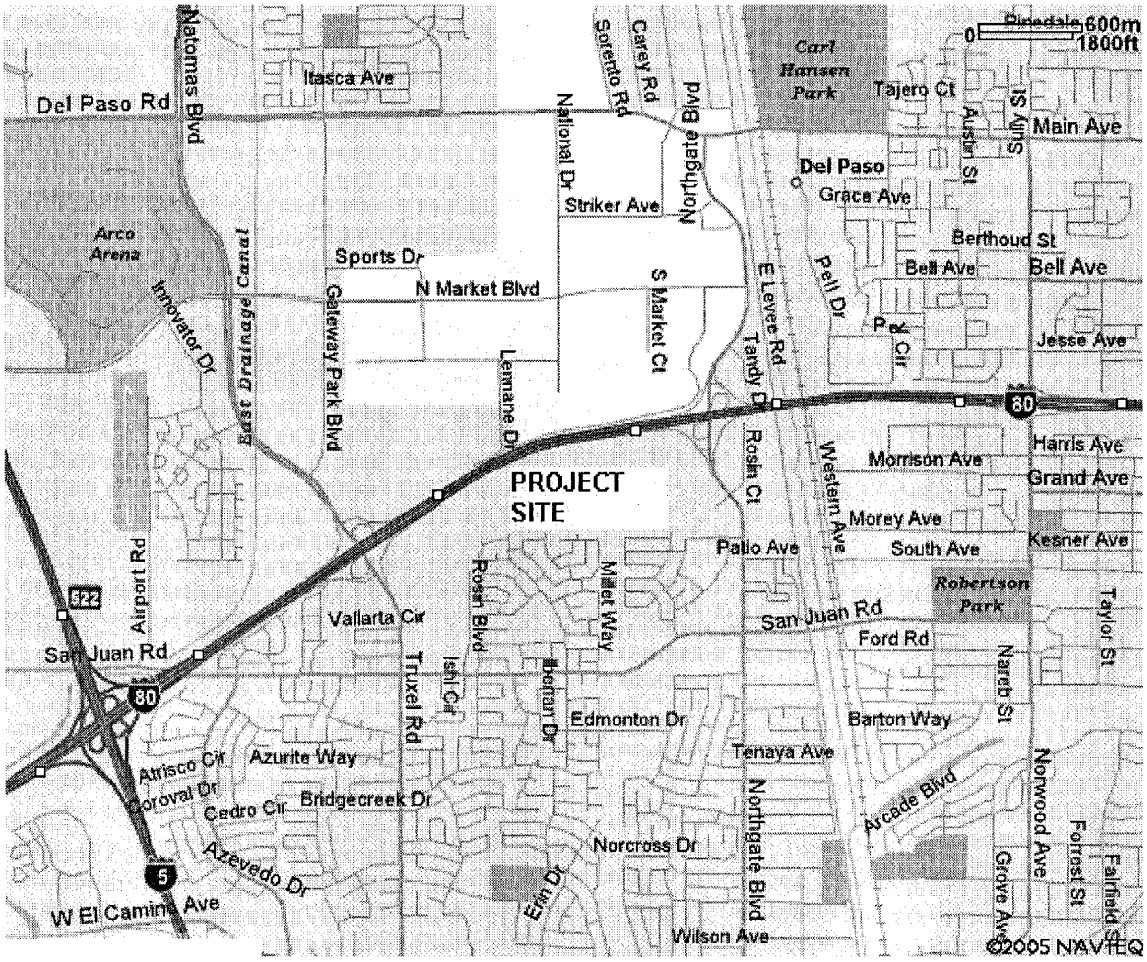

FIGURE 1-1. Project Vicinity Map – ParkeBridge Development

Climate

The City of Sacramento and the surrounding region has an arid Mediterranean climate; the weather consists of long, dry summers and cool, rainy winters. Summer trends extend from May to October. Average temperatures in July are 93 °F with lows in the mid 60s. The rainy season is from late November to mid-April; average precipitation is 18.5 inches annually; snow is uncommon and rare. Winter daytime temperatures are generally in the mid-50s to low 40s, and overnight lows often dip below 30 °F.

Sacramento has experienced two declared droughts in the last three decades. The drought of 1975 – 1977 accounted for only 7.5 inches of rain and the drought of 1987–1992 is considered the most severe drought in California's history[1]. Conversely, in years following drought periods Sacramento was drenched with rainfall, for example, in 1997 regional water levels rose to record highs, which threatened levee breaks and flooded parts of the greater metropolitan area. This extreme climatic variability is common throughout California.

1.2. WATER SUPPLY PLANNING

Senate Bill 610 and SB 221 were passed into law on January 1, 2002. These laws reflect the need to incorporate water supply and demand analysis at the earliest possible stage in the planning process. SB 610 amended portions of the Water Code, including Section 10631, which contains the Urban Water Management Planning Act, as well as adding Sections 10910, 10911, 10912, 10913, and 10915, which describe the required elements of a WSA. SB 221 amended Section 65867.5 and added Sections 66455.3 and 66473.7 to the Government Code. Upon signing these bills, Governor Gray Davis stated, "Most notably, these bills will coordinate local water supply and land use decisions to help provide California's cities, farms and rural communities with adequate water supplies. Additionally, these bills increase requirements and incentives for urban water suppliers to prepare and adopt comprehensive management plans on a timely basis."[2]

Senate Bill 610 is designed to build on the information that is typically contained in an Urban Water Management Plan (UWMP). The amendments to Water Code Section 10631 were designed to make water supply assessments and UWMPs consistent. A key difference between the WSA's and UWMPs is that UWMPs are required to be revised every five years, in years ending with either zero or five, while WSAs are required as part of the environmental review process for each individually qualifying project. As a result, the 20-year planning horizons for each type of document may cover slightly different planning periods than other WSAs or the current UWMP. Additionally, not all water providers who must prepare a WSA under SB 610 are required to prepare an UWMP.

1.2.1. SB 610 Water Supply Assessment

The SB 610 water supply assessment process involves answering the following questions:

- Is the project subject to CEQA?
- Is it a project under SB 610?
- Is there a public water system?
- Is there a current UWMP that accounts for the project demand?
- Is groundwater a component of the supplies for the project?
- Are there sufficient supplies available to serve the project over the next 20 years?

1.2.2. "Is the Project Subject to CEQA?"

The first step in the SB 610 process is determining whether the project is subject to CEQA. SB 610 amended Public Resources Code Section 21151.9 to read: "Whenever a City or county determines

1 Priest, D.F. et al. 1993. *California's 1987-92 Drought: A summary of six years of drought.* State of California Department of Water Resources.

2 Department of Water Resources, *Guidebook for Implementation of SB 610 and SB 221* of 2001, 2003.

that a project, as defined in Section 10912 of the Water Code, is subject to this division [i.e., CEQA], it shall comply with part 2.10 (commencing with Section 10910) of Division 6 of the Water Code." The proposed project is currently under environmental review pursuant to the requirements of CEQA; therefore, the information contained in this assessment will be used to support the Environmental Impact Report (EIR) at the project-level analysis.

1.2.2.1. *"Is It a Project Under SB 610?"*

The second step in the SB 610 process is to determine if a project meets the definition of a "Project" under Water Code Section 10912 (a). Under this section, a "Project" is defined as meeting any of the following criteria:

1. A proposed residential development of more than 500 dwelling units;
2. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (ft2) of floor space;
3. A commercial building employing more than 1,000 persons or having more than 250,000 ft2 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 ft2 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.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" also includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system. Because the proposed project is a residential development of more than 500 dwelling units, it meets the requirements as a "Project" under the Water Code.

1.2.2.2. *"Is There a Public Water System?"*

The third step in the SB 610 process is determining if there is a "public water system" to serve the project. Section 10912 (c) of the California Water Code (Water Code) states: "[A] public water system means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections."

The proposed project site is served by the City's Utilities Department, which is a public water agency that served 131,745 connections in June 2004. The City operates two water treatment plants (WTP). The Sacramento River WTP is located on the east bank of the Sacramento River, about a half mile downstream of the confluence of the Sacramento and American Rivers. The E. A. Fairbairn WTP (formally American River WTP) is located adjacent to the American River between the H Street and Howe Avenue bridges, approximately 7 miles upstream of the confluence. The City also has 32 municipal drinking water wells; of these 23 are currently active, and 9 are on standby[3].

3 Dan Sherry, City of Sacramento, Utilities Department, Comment on Towers WSA, June 23, 2005

1.2.2.3. *"Is There a Current UWMP That Accounts for the Project Demand?"*

Step four in the SB 610 process involves determining if there is a current UWMP that considers the projected water demand for the project area. The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 ac-ft per year (AFY), must prepare an UWMP, and this plan must be updated at least every five years on or before December 31, in years ending in five and zero.

Water Code Section 10910 (c)(2) states, "If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g) [i.e., the WSA]." The City's most recent UWMP was released in 2000. Although the proposed project was not included in the City's 2000 UWMP, the existing facility on the project site was considered. The proposed project is larger and water use is expected to be greater. Presently, the City is working on an UWMP for release in 2005.

1.2.2.4. *"Is Groundwater a Component of the Supplies for the Project?"*

This section addresses the requirements of Water Code Section 10910 (f), paragraphs 1 through 5, which apply if groundwater is a source of supply for a proposed project. The City maintains 32 wells for potable and non-potable use, 23 wells are actively used to supply drinking water[4]. The current system can supply 24 mgd and produce up to 26,800 AFY.

The City is located in the 548-square mile North American (Subbasin) as described by the Department of Water Resources. The Subbasin's boundaries are the Feather and Sacramento Rivers on the west, the Bear River to the north, south to the American River and east to the Sierra Nevada. The underlying geology or hydrostratigraphy of the basin consists of a variety of geologic formations that make up the water bearing units. There are two aquifer systems: an upper unconfined system consisting of the Victor, Fair Oaks, and Laguna Formations, and a lower, semi-confined system in the Mehrten Formation. These geologic formations are composed of lenses and layers of inter-bedded sand, silt and clay with coarse-grained stream channel deposits.[5] The groundwater contained in the upper aquifer system of the Victor, Fair Oaks and Laguna Formations is of superior quality compared to that in the lower semi-confined system, mainly because the water in the Mehrten Formation is higher in iron and manganese, and requires more treatment. The upper unconfined system only requires chlorination treatment to be potable.

The City is a member of the Sacramento Groundwater Authority. The Sacramento Groundwater Authority (SGA) is a joint powers authority created in 1998 by a coordinated effort between the Sacramento Metropolitan Water Authority and the Water Forum Agreement to manage the region's North Area Groundwater Basin, a sub-region of the North American Subbasin. The signatory participants are managing the basin in a cooperative fashion by allowing representatives from the local water purveyors, the agricultural community and other groundwater pumpers to serve on the Board of the SGA. The goal of the SGA is the responsible management of the groundwater basin through a commitment to not exceed the sustainable yield of the basin, which is approximately 131,000 AFY according to the WFA. The SGA

4 Dan Sherry, City of Sacramento, Utilities Department, Comment on Towers WSA, June 23, 2005
5 Sacramento Groundwater Authority, *Groundwater Management Plan*, 2003, page 7.

developed a Groundwater Management Plan (GMP) to ensure a safe, reliable water supply for the rapidly growing northern Sacramento County area[6]. Within this program the SGA will continually assess the status of the groundwater basin and make appropriate management decisions to sustain the basin.

The City and other SGA members, in accordance with the WFA, have implemented a conjunctive use program to responsibly manage and use the groundwater systems. This conjunctive use program is part of the WFA thirty-year agenda. The program accounts for the annual climatic variability of the region, whereby in normal or wet years of precipitation the water providers will divert more surface water and reduce or eliminate groundwater use, allowing the system to recharge. In dry years when the Lower American River flows must be maintained, groundwater will again be pumped and used to supplement the reduced diversions from the river systems.

> "In general, the intent of the WFA is to increase the use of groundwater in dry years and reduce surface water diversions. The decrease in available dry year diversions is a consequence of the WFA objective to provide instream flows in the lower American River for environmental purposes. In wet years, when more surface water is available, diversion will be increase and groundwater extraction will be reduced, thereby promoting recharge of the basin."[7]

1.2.2.5. *"Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?"*

The next step in the SB 610 process is to prepare the actual assessment of the available water supplies, including the availability of these supplies in all water-year conditions over a 20-year planning horizon, and an assessment of how these supplies relate to project-specific and cumulative demands over that same 20-year period. In this case, the period covers the years 2005 to 2025.

Water Code Section 10910 (c)(4) states: "If the City or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the City or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

There are three primary areas to be addressed in a water supply assessment:

- relevant water supply entitlements, water rights, and water contracts;
- a description of the available water supplies;
- analysis of the demand placed on those supplies, both by the project and on cumulative basis.

Water entitlements are addressed in Section 2 and the analysis of the demand is discussed in Section 3. Section 4 contains results and conclusions.

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6 Sacramento Groundwater Authority, *Groundwater Management Plan*, 2003, page 1. http://www.sgah2o.org/sga/programs/groundwater/.

7 Sacramento Groundwater Authority, *Groundwater Management Plan*, 2003, page 24.

2.0 WATER SUPPLY

This section reviews the City's water supply entitlements and water rights.

2.1. Water Supply Entitlements and Water Rights

Water Code Section 10910 (d)(1) states: "The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the City or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights or water service contracts."

2.2. Water Rights and Contracts

Water rights are a historically important means of securing water use in California. These rights date back to the Gold Rush days of the 1850's, whereby water claims were made by "first in time, first in rights"; this established a water user's right to divert water from a specific point on a stream for a specific use. Since 1914, the State Water Resources Control Board (SWRCB) has been charged with administrating and regulating all water rights permits in California. Under this process, an application is filed and the SWRCB issues a permit for surface water diversion, including the approved place of use (POU) for that water.

The City claims pre-1914 rights to divert 75 cubic feet per second (cfs) and secured five additional appropriative water rights with various priorities ranging between October 1947 to September 1954. Sacramento River permit 00992 and American River permits 011358 and 011361 authorize the taking of water from the respective sources by direct diversion. The other two permits, 011359 and 011360, authorize re-diversion and consumptive uses of stored and releases from the Upper American River Project. Currently, the City has Application S014834 pending with the SWRCB for additional 50,581 AFY from the Sacramento River. The City's surface water permits require use of the diverted water within the authorized POU. The project falls within the POU of all the permits.

In 1957, the U. S. Bureau of Reclamation (USBR) and the City executed a contract that ensures maximum entitlements through the Central Valley Project (CVP). At build-out in 2030, the USBR contract provides the City a maximum annual diversion of 326,800 AFY. This contract has no delivery limitations and is included in Appendix A. The City is a signatory of 2000 WFA, which explicitly does not impact the USBR annual diversions, but does reduce the diversion in the American River during dry years. The permits and USBR contractual diversions are listed in TABLE 2-1. The 2005 contract amount is 205,000 AFY. The contract amount increases annually to a maximum of 326,800 AFY in 2030 as show in FIGURE 2-1 and TABLE 2-2.

TABLE 2-1

SURFACE WATER ENTITLEMENTS

Permit	Authorized Diversion	Maximum Permitted Diversion	
		AFY	cfs
1957 USBR 2030 Contractual Maximum [c]	American River	245,000	675
	Sacramento River	81,800	225
	Total Combined Diversion	326,800	900
2000 WFA Maximum	American River	245,000	310[a]
	Sacramento River	81,800	290[b]
	Total Combined Diversion	326,800	900

a. 310 cfs is a maximum withdrawal rate, additional restrictions apply.
b. The Sacramento WTP, below the confluence of the American and Sacramento River, is an allowable withdrawal point for the permitted American River flows, allowing an increase in the diversion from the Sacramento River.
c. Based on permits 00922, 011358, 011359, 011360, and 11361.

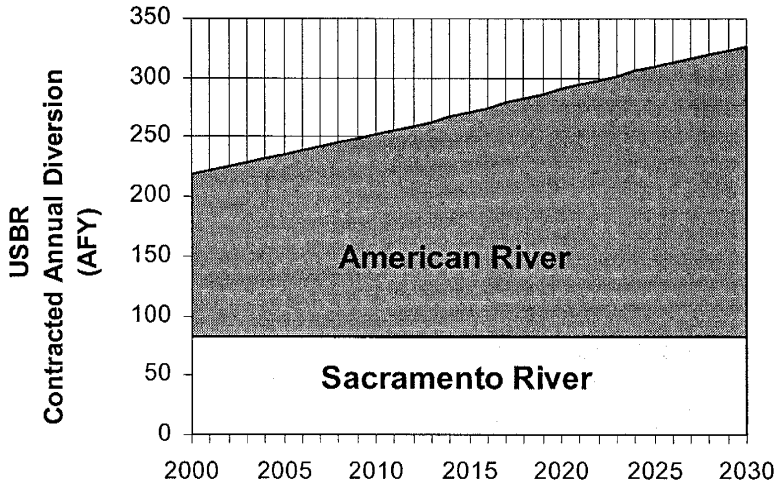

FIGURE 2-1 USBR Maximum Contracted Annual Surface Water Diversion

TABLE 2-2

USBR MAXIMUM CONTRACTED ANNUAL SURFACE WATER DIVERSION (AFY)

Source	2005	2010	2015	2020	2025	2030
American River	123,200	145,700	170,200	196,200	222,200	245,000
Sacramento River	81,800	81,800	81,800	81,800	81,800	81,800
TOTAL	**205,000**	**227,500**	**252,000**	**278,000**	**304,000**	**326,800**

2.3. Reliability of Water Supplies

An important aspect when discussing water supplies and reliability within Sacramento region is the Water Forum Agreement; this is an agreement between multiple stakeholders of the Sacramento metropolitan area and lower foothill regions. After seven years of meetings, sub-committee

negotiations and small group operations, the Water Forum members established a working agreement that provides water quality and reliability for all participants. The WFA's coequal goals were to (1) provide a reliable and safe water supply for the region's economic health and planned development through to the year 2030, and (2) preserve the fishery, wildlife, recreational and aesthetic values of the Lower American River[8]. From these coequal goals, the Water Forum signatories determined seven major elements that must be implemented during the next thirty years if the agreement is to be successful. The elements specific to water supply reliability include: Increased Surface Water Diversions, Actions to Meet Customers' Needs While Reducing Diversion Impacts in Drier Years, Water Conservation, Groundwater Management and the Water Forum Successor Effort. Each of these elements plays a vital role in the Water Forum's coequal objectives. As a signatory of the WFA, the City's Utilities department is actively participating in all seven elements. Recently, the City increased water treatment capacity at the Sacramento River Water Treatment Plant and the E.A. Fairbairn WTP.

The City is continuing to develop a water supply consistent with the WFA. Public Law 106-554 authorized the Sacramento River Water Reliability Study, which includes a feasibility study for another Sacramento River diversion. The Sacramento River Water Reliability Study includes development of alternatives, an environmental evaluation, and consultation with federal and state agencies regarding potential impacts. The Draft Planning report is scheduled for completion in 2005. The USBR is the lead agency for federal review and Placer County Water Agency is the lead agency for local review.

The WFA places flow restrictions on diversions from the American River when flow is below the "Hodge flows" as defined in *Environmental Defense Fund et al. v. East Bay Municipal Utility District*. Parties in the litigation cannot divert water from the American River unless instream flows measure at least 2,000 cfs from October 15 through February; 3,000 cfs from March through June; and 1,750 cfs from July to October 14. The diversion limits change seasonally and are listed in TABLE 2-3. Based on CALSIM II analysis of the 1922 to 1994 climate data, 59 percent of the years will experience Hodge flow conditions during the peak months of June through August.

8 Water Forum Agreement 2000, page 29.

TABLE 2-3

RESTRICTED AMERICAN RIVER DIVERSION RATES

Month	Diversion Limit[a]	
	cfs	AF
January	120	7,400
February	120	6,700
March	120	7,400
April	120	7,100
May	120	7,400
June	155	9,200
July	155	9,500
August	155	9,500
September	120	7,100
October	100	6,100
November	100	6,000
December	100	6,100

a. Restriction occurs when the bypassing flow is below the Hodge flow condition.

The Sacramento River WTP has a capacity of 160 mgd (250 cfs). Fairbairn WTP has a treatment capacity of 200 mgd (310 cfs), equal to the maximum diversion rate allowed in the WFA. If both plants operated at their maximum production, the combined output would be approximately 403,000 AFY.

One of the alternatives being evaluated in the Sacramento River Water Reliability Study is for a 145 mgd (225 cfs) WTP on the Sacramento River near Elverta Road, north of the Sacramento International Airport. The potential completion date of a new Sacramento WTP is 2011. With the addition of the new Sacramento River WTP, the combined production will be 505 mgd (i.e., the existing Sacramento River WTP diverts the American River allocation at its full capacity of 160 mgd, the Fairbairn WTP diverts at the maximum rate of 200 mgd, and the new WTP maximizes the Sacramento River allocation at 145 mgd). Maximum day production before and after completion of a 145 mgd Sacramento WTP is shown in TABLE 2-4.

TABLE 2-4

MAXIMUM DAY PRODUCTION

Source	Capacity Above Hodge Flows (mgd)	Capacity Below Hodge Flows (mgd)
Fairbairn WTP	200	100
Sacramento WTP	160	160
Groundwater	24	24
TOTAL without new WTP **no groundwater**	**384** **360**	**284** **260**
New Sacramento WTP	145	145
TOTAL with new WTP **no groundwater**	**529** **505**	**429** **405**

During years when the projected unimpaired inflow to Folsom Reservoir is less than 400,000 acre-feet, the WFA limits diversion from the American River to 50,000 AFY. The WFA has labeled the extremely low flow conditions as a "conference year" where signatories will meet to discuss water management strategies. A conference year scenario has a 1.8 percent probability of occurring and did occur in 1924 and 1977. The WFA does not restrict diversion of the American River entitlements from a Sacramento River diversion point; therefore, normal year and dry year supplies are identical for the City as shown in TABLE 2-5. However, annual surface water diversions below the USBR contracted amounts are limited by the diversion capacity from the Sacramento River.

Assuming 50,000 AFY from the Fairbairn WTP and a maximum production from the Sacramento WTP of 180,000 AFY, the current drought limiting scenario still allows the production of 230,000 AFY. (The additional 145 mgd Sacramento River WTP would increase the total annual production to 311,800 AFY.) The dry year production estimate of 230,000 AFY over estimates the current dry year production, because the Sacramento WTP can not operate at maximum capacity of 160 mgd when the maximum demand is below maximum treatment capacity, as is the case in winter months. In other words, supply production directly correlates to customer demands. Average day demand is not expected to exceed 160 mgd until after 2015; therefore, the Sacramento WTP will operate below annual maximum production capacity until after 2015. The most appropriate approach to addressing the diversion limitations is by analyzing maximum day demand; consequently, reference to total annual production capacity is for discussion purposes and does not appropriately reflect daily system operations.

TABLE 2-5

2005 ANNUAL SURFACE WATER SUPPLY (AFY)

Source	2005 USBR Contracted Supply	2005 to 2007 Dry Year Supply[a]		
		First Dry Year 2005	Second Dry Year 2006	Third Dry Year 2007
American River	123,200	50,000	50,000	50,000
American River diverted from the Sacramento River	--	73,200	77,700	82,200
Sacramento River	81,800	81,800	81,800	81,800
TOTAL[b]	**205,000**	**205,000**	**209,500**	**214,000**

a. Current diversion capacity from the Sacramento River is 180,000 AFY, allowing a drought year production of 230,000 AFY.
b. Total increases during multiple years according to USBR contract.

3.0 WATER DEMAND ANALYSIS

This section shows the calculated water demand for the proposed project as well as projected demand for the entire system and then compares the demand to the supply.

3.1. Proposed Project Water Demand

The expected water use of the proposed project was determined by analyzing similar land uses and assigning a demand factor for each use. The demand factors were formulated based on data from the *1994 Proposed Water Demand/Wastewater Generation Factors Report by* Nolte Engineering and West Yost and Associates, City of Sacramento, General Plan Implementation Chapter, as well as current and historical uses at similar facilities, personal communications with the City of Sacramento, Department of Utilities. As shown in TABLE 3-1 the residential uses at the proposed project site will potentially use 255 AFY (0.22 mgd) or an average demand of 223,080 gallons per day (gpd). The calculated demand represents the upper range of the potential demand.

TABLE 3-1

PARKEBRIDGE DEVELOPMENT PROJECTED WATER DEMAND

	Net Acres	Number of Units	Demand Factor	gpd	AFY
Village 1	7.86	142	350 gpd/du	49,700	55.7
Village 2	10.04	135	420 gpd/du	56,700	63.5
Village 3	14.03	154	420 gpd/du	64,680	72.4
Village 4	12.66	100	520 gpd/du	52,000	58.2
Park	1.23	--	--	--	5.28[a]
Total	**45.82**	**531**	**--**	**223,080**	**255**

Source: EIP Associates, June 2005; Nolte Engineering with West Yost & Associates, Proposed Water Demand/Wastewater Generation Factors Report 1994 and Vacaville Lower Lagoon Valley Specific Plan EIR.

a. Irrigation based on ETo at CIMIS Station 131 and a leaching fraction of 5% and assumed distribution uniformity of 90%

3.2. System Demand

The Sacramento historical demand over the last five years is shown in TABLE 3-2. The total water supplied by the City from June 2003 to July 2004 was 143,784 acre-ft. Over the last 7 years, 17 percent of the delivered water has been met with groundwater.

TABLE 3-2

HISTORICAL WATER DELIVERIES

	Surface Water				Groundwater	Total Water Delivered		
Year	Population[a]	Annual Surface Water Delivered (AFY)	Maximum Day Water Delivered (mgd)	Maximum Day to Average Day Ratio	Annual Groundwater Delivered (AFY)	Total Annual Water Delivery (AFY)	average (mgd)	Percent Increase
1997/98	392,800	92,031	140.40	1.71	7,186	99,216	88.58	
1998/99	396,200	102,180	143.60	1.58	24,630	126,810	113.22	21.8%
1999/00	405,963	112,547	161.60	1.61	24,146	136,693	122.04	7.2%
2000/01	418,711	114,172	214.00	2.10	23,578	137,750	122.98	0.8%
2001/02	426,013	113,979	159.80	1.57	24,271	138,250	123.43	0.4%
2002/03	433,400	111,539	278.90	2.35	23,997	135,537	121.01	-2.0%
2003/04	441,000	128,412	318.40	2.33	15,372	143,784	128.37	5.7%
Average	**416,298**	**110,694**	**202.39**	**1.89**	**20,454**	**131,149**	**117.09**	**5.6%**

Operational Statistics 2003/3004.
Other data from corresponding annual report.

The City of Sacramento recently completed a 2030 demand analysis for the USBR Sacramento River Water Reliability Study (March, 2005) including transfers within the designated point of use and demand through annexation. The City of Sacramento's demand was calculated as 156,766 AFY with a maximum day demand of 251 mgd. The total demand for the City's permitted Sacramento and American River diversions were calculated as 239,804 AFY with a peak demand of 402 mgd. The demand is summarized in TABLE 3-3. Supporting calculations, including population projections, are included in Appendix B.

TABLE 3-3

PROJECTED ANNUAL AND MAXIMUM DAY DEMAND FOR SACRAMENTO 2030A

Area	Annual Demand (AFY)	Maximum Day Demand[b] (mgd)
City of Sacramento	156,766	251
Area "D"	30,222	50
Cal-American (Mather)	12,129	20
Cal-American (Southgate)	10,551	17
Florin County Water District	2,296	4
Unincorporated Area (Zone 40)	10,644	19
Fruitridge Vista Water Company	4,734	8
Tokay Park Water District	119	1
Pending Annexation	5,208	8
Sacramento Wastewater Treatment Plant	520	1
Wheeling Demand	6,616	23
TOTAL	**239,805**	**402**

a. Demand based on estimates in USBR Sacramento River Water Reliability Study (March, 2005).
b. Maximum Day Demand based on a peaking factor of 1.8 except for wheeling demand.

Development of the proposed site is in the General Plan and is included in the City of Sacramento demand projections. The proposed project alters the original zoning, but the resulting change in demand is not quantifiable at this level of analysis. The projected demand is approximately 255 AFY or 0.15 percent. Future projects altering the land uses from those included in the original analysis of 2030 demand have not been included.

3.3. Comparison of Available Water Supplies versus Demand

Section 10910 (c)(3) of the Water Code states, "the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available for normal, dry and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses."

3.3.1. Annual Supply and Demand

The 2004 demand of 143,764 AFY was well below the current USBR contracted limit of 200,500 AFY for that year. The projected annual demand remains approximately 70% of the USBR contracted annual diversion when using a constant 2.0 percent per year growth rate to achieve the 2030 projected demand of 239,805 AFY as shown in TABLE 3-4. For the purposes of a cumulative analysis, the net increase in demand from the project was added to the 2030 projected demand and was assumed to be part of a constant 2.0 percent annual growth over the next 25 years.

TABLE 3-4

SUPPLY AND DEMAND COMPARISON DURING NORMAL YEARS (AFY)

	2005	2010	2015	2020	2025	2030
Surface Water Supply						
American River	123,200	145,700	170,200	196,200	222,200	245,000
Sacramento River	81,800	81,800	81,800	81,800	81,800	81,800
TOTAL SURFACE WATER SUPPLY[a]	**205,000**	**227,500**	**252,000**	**278,000**	**304,000**	**326,800**
Demand	146,647	161,321	178,090	196,596	217,219	239,559
Proposed Project	--	255	255	255	255	255
TOTAL DEMAND	**146,647**	**161,576**	**178,345**	**196,851**	**217,474**	**239,814**
SURPLUS	**58,353**	**65,924**	**73,655**	**81,149**	**86,526**	**86,986**

a. Total Surface water supply is based on USBR contracted delivery.

The WFA limits the driest year diversion to 50,000 AFY from the American River, but does not limit the diversion of the American River entitlement from the Sacramento River, resulting in no reduction in contracted delivery for single or multiple dry years. The annual supply becomes limited by diversion and treatment capacity of Sacramento River water. Current annual diversion capacity during the driest year limitation is approximately 230,000 AFY. The most appropriate approach to addressing the diversion limitations is by analyzing maximum day demand. As stated in Section 2.3, the dry year production estimate of 230,000 AFY over estimates the current dry year production, because the Sacramento WTP can not operate at maximum capacity of 160 mgd when the maximum demand is below maximum treatment capacity, as is the case in winter months. Average day demand is not expected to exceed 160 mgd until after 2015; therefore, the Sacramento WTP will operate below annual maximum production capacity until after 2015. TABLE 3-5 shows annual surface water supply and demand for dry years. Total annual contracted diversion, total annual production, driest year production capacity, and projected demand are also included in FIGURE 3-1. The figure does show a potential surface water deficit occurring in 2028 if a new diversion and WTP is not constructed on the Sacramento River. The deficit grows to 10,000 AFY in 2030. The anticipated deficit could be met with existing groundwater infrastructure or by curtailing wheeling agreements.

TABLE 3-5

SUPPLY AND DEMAND COMPARISON DURING DRY YEARS[a]

	2005	2010	2015	2020	2025	2030
Surface Water Supply						
American River	50,000	50,000	50,000	50,000	50,000	50,000
American River diverted from Sacramento	73,200	95,700	120,200	146,200	172,200	195,000
Sacramento River	81,800	81,800	81,800	81,800	81,800	81,800
TOTAL SURFACE WATER SUPPLY[a]	**205,000**	**227,500**	**252,000**	**278,000**	**304,000**	**326,800**
Demand	146,647	161,321	178,090	196,596	217,219	239,559
Proposed Project	--	255	255	255	255	255
TOTAL DEMAND	**146,647**	**161,576**	**178,345**	**196,851**	**217,474**	**239,814**
SURPLUS	**58,353**	**65,924**	**73,655**	**81,149**	**86,526**	**86,986**

a. Dry year is defined as projected unimpaired inflow to Folsom Reservoir is less than 400,000 acre-feet.
b. Total Surface water supply is based on USBR contracted delivery and not based on the maximum dry year treatment and diversion capacity of 230,00 AFY.
c. Exceeds current dry year diversion capacity of 230,000 AFY.

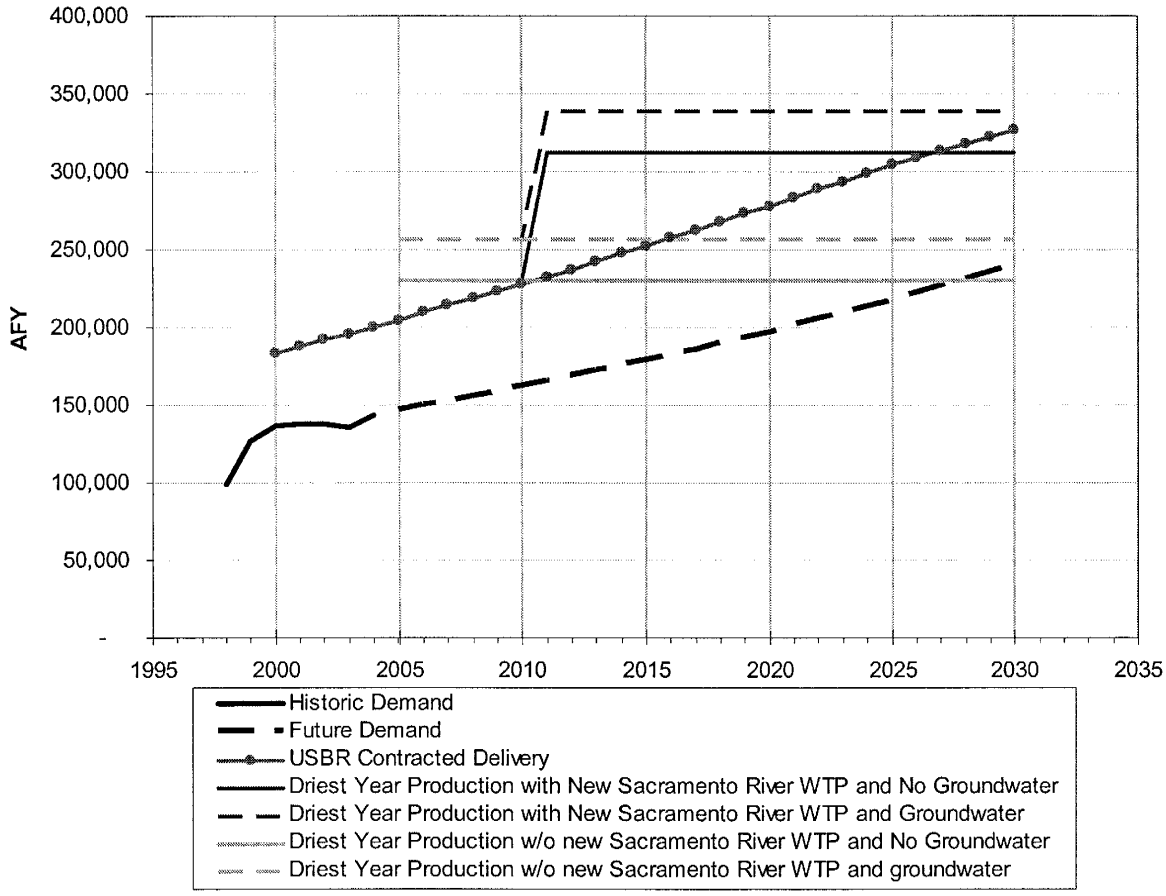

FIGURE 3-1 Annual Surface Water Supply and Demand

3.3.2. Maximum Day Supply and Demand

Because of diversion limitations during Hodge flow conditions, the maximum peak day demand should also be considered during the supply and demand analysis. TABLE 3-6shows the maximum day surface water supply and demand under normal flow conditions. TABLE 3-7 shows a reduction of the Fairbairn WTP capacity from 200 mgd to 100 mgd during Hodge flow conditions, resulting in a total treatment capacity of 260 mgd. Assuming a 2.2 percent growth rate of the maximum day demand, a deficit of surface water production will occur in 2010 without a new Sacramento River diversion and WTP as shown during Hodge flow conditions in FIGURE 3-2. In 2014, the deficit exceeds Hodge flow-limited surface supply combined with the current groundwater supply of 24 mgd. In 2030 the projected deficit is 142 mgd. A new 145 mgd Sacramento River diversion WTP would meet the anticipated peak day deficit in 2030 under all conditions.

TABLE 3-6

PEAK DAY SURFACE WATER SUPPLY AND DEMAND COMPARISON DURING NORMAL FLOW CONDITIONS (MGD)

	2005	2010	2015	2020	2025	2030
American River[a]	200	200	200	200	200	200
Sacramento River[a]	160	160	160	160	160	160
TOTAL SURFACE WATER SUPPLY	**360**	**360**	**360**	**360**	**360**	**360**
Demand[b]	235.7	261.9	291.5	324.5	361.2	402.0
Net Project Demand	--	0.4	0.4	0.4	0.4	0.4
TOTAL DEMAND		**262.3**	**291.9**	**324.9**	**361.6**	**402.4**
SURPLUS	**124.3**	**97.7**	**68.1**	**35.1**	**-1.6**	**-42.4**

a. Surface supply is based on nominal plant capacity.
b. Based on 2.2 percent annual growth rate between 2004 and 2030 demand.

TABLE 3-7

PEAK DAY SURFACE WATER SUPPLY AND DEMAND COMPARISON DURING HODGE FLOW CONDITIONS (MGD)

	2005	2010	2015	2020	2025	2030
American River[a]	100	100	100	100	100	100
Sacramento River[b]	160	160	160	160	160	160
TOTAL SURFACE WATER SUPPLY	**260**	**260**	**260**	**260**	**260**	**260**
Demand[c]	235.7	261.9	291.5	324.5	361.2	402.0
Net Project Demand	--	0.4	0.4	0.4	0.4	0.4
TOTAL DEMAND	**235.7**	**262.3**	**291.9**	**324.9**	**361.6**	**402.4**
SURPLUS	**24.3**	**-2.3**	**-31.9**	**-64.9**	**-101.6**	**-142.4**

a. American River diversion is limited 100 mgd during Hodge flow conditions.
b. Sacramento WTP peak day supply is based on the nominal capacity of the plant.
c. Based on 2.2 percent annual growth rate between 2004 and 2030 demand.

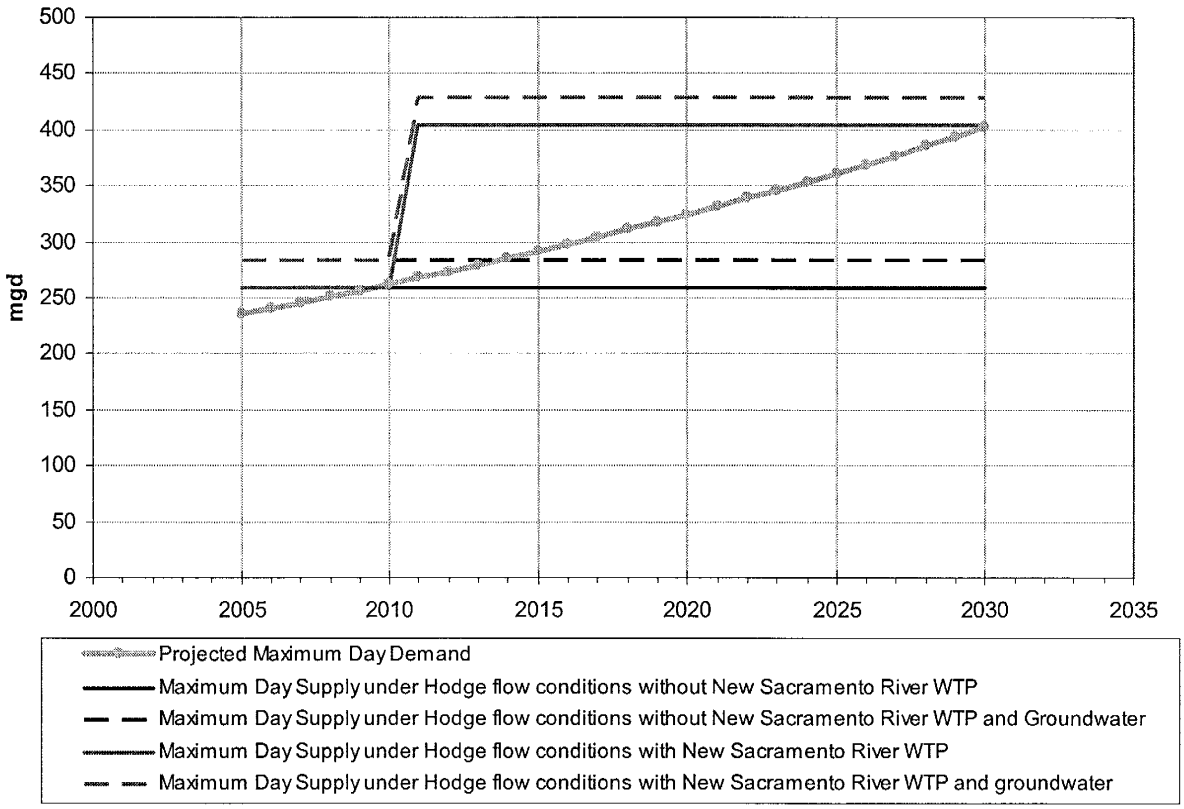

FIGURE 3-2 Maximum Day Surface Water Production and Demand

4.0 CONCLUSION

According to the requirements of Water Code Section 10910(c)(3) the water supply assessment shall include a discussion of "whether the public water system's total projected water supplies available ... will meet the projected water demand associated with proposed project, in addition to the public water system's existing and planned future uses." Due to the limitations occurring during peak day demand, the supply will not meet the projected demand. According to the requirements of Water Code Section 10911(a), if the results of the assessment conclude that the water supplies are, or will be, insufficient, the water supply assessment shall include plans for acquiring additional water supplies. Those plans may include, but are not limited to, information on costs and financing, permits, and timeframes.

The City is already a partner on the Sacramento River Water Reliability Study, which is investigating alternatives for an additional diversion on the Sacramento River. The environmental documents for the alternatives analysis is scheduled to be completed in 2006[9], providing eight years for the design and construction of a selected project before any potential peak demand shortfall would occur. The alternative of a 145 mgd diversion and WTP included in the Sacramento River Water Reliability Study would ensure the delivery of the entitled water for the City, as well as all wholesale and wheeling agreements past 2030.

This assessment finds that the City of Sacramento has sufficient water allocation secured from their 1957 contracts with the USBR and other related permits to serve the proposed project and projected future demand over the next 20 years. Annual and peak day demands are summarized in TABLE 4-1. However, based on a WFA limitation of 50,000 AFY from the American River, during a dry year, a surface water limitation does occur by 2030, but the full demand can be met with the groundwater infrastructure. Due to limitations agreed to in the WFA and current infrastructure capabilities, an additional diversion and WTP on the Sacramento River will be required to meet the peak day demand by as early as 2014.

9 Initial Alternatives Report. Final diversion, March 2005. Sacramento River Reliability Study.

TABLE 4-1

PROJECTED ANNUAL AND MAXIMUM-DAY SUPPLY AND DEMAND COMPARISON

Year	USBR contracted delivery (AFY)	Projected Annual Demand (AFY)[a]	Annual Surplus (AFY)	Peak Day Surface Water Supply under Hodge Flow conditions (mgd)[c]	Maximum Day Demand (mgd)[d]	Peak Day Surplus (mgd)
2005	205,000	146,647	58,353	260	236	24
2010	227,500	161,567	65,933	260	262	-2
2015	252,000	178,336	73,664	260	292	-32
2020	278,000	196,842	81,158	260	325	-65
2025	304,000	217,265	86,735	260	362	-102
2030	328,500	239,805[b]	86,995	260	402	-142

a. Demand based on estimates in Sacramento River Water Reliability Study (March, 2005) plus the net demand from project.
b. Exceeds drought year infrastructure limitation of 230,000 AFY, see TABLE 2-4
c. Based on Hodge flow limitations of 100 mgd at Fairbarn WTP and nominal capacity of 160 mgd at Sacramento WTP.
d. Maximum-day demand based on a peaking factor of 1.8, except for wheeling demand.
Indicates demand exceeds supply due to infrastructure limitations.

Appendix A

USBR Operating Contract

Contract No.
14-06-200-6497

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
CENTRAL VALLEY PROJECT, CALIFORNIA

OPERATING CONTRACT RELATING TO FOLSOM AND NIMBUS DAMS AND THEIR RELATED WORKS AND TO DIVERSIONS OF WATER BY THE CITY OF SACRAMENTO

1. THIS CONTRACT, made this 28th day of June, 1957, in pursuance generally of the Act of Congress approved June 17, 1902 (32 Stat. 388), and all acts of Congress amendatory thereof or supplementary thereto, particularly Section 14 of the Reclamation Project Act of 1939 (53 Stat. 1187, 1197-1198), and the Act of Congress approved October 14, 1949 (Ch. 690, 63 Stat. 852), all of which are commonly known and referred to as the Federal Reclamation Laws, between THE UNITED STATES OF AMERICA, hereinafter referred to as the "United States", represented by its officer who executes this contract, his duly appointed successor, or his duly authorized representative, herein styled the "Contracting Officer", and THE CITY OF SACRAMENTO, CALIFORNIA, a municipal corporation, herein styled the "City", acting by and in pursuance of the authority contained in the Constitution and laws of the State of California and particularly Article XI, Sections 8 and 19 of said Constitution, and Sections 2 and 8 of the City's Charter approved by Stats. 1921, p. 1919, as amended.

W I T N E S S E T H:

2. WHEREAS, the United States has constructed a dam and reservoir in and across the American River at a point upstream from Folsom, Sacramento County, California, and will utilize said dam and

reservoir and their related works for the diversion and storage of waters of the American River for reasonable and beneficial uses and purposes, said dam being known as Folsom Dam and the reservoir created thereby being known as Folsom Lake; and

3. WHEREAS, in carrying out the provisions of said Federal Reclamation Laws the United States deems it advantageous upon the terms herein agreed upon to dispose of rights to stored water in its reservoirs heretofore constructed or that might be constructed by the United States under the provisions of the Reclamation Act, and

4. WHEREAS, the City has constructed and is operating certain diversion and distribution facilities for the diversion of water of the Sacramento River and has perfected certain rights to the use of water of the Sacramento River and its tributaries from natural flow and is in the process of perfecting additional rights to the use of water of the Sacramento and American Rivers, and the water it has historically diverted is deemed insufficient for the anticipated growth and water requirements of the City, and

5. WHEREAS, the City is desirous of perfecting its water supply by arranging with the United States for the use of a portion of the said storage waters, and

6. WHEREAS, the City desires and intends to construct water diversion and filtration facilities and related works on the American River below Nimbus Dam within or adjacent to the City for diversion and distribution of water supplies for a municipal use and desires to continue and develop the use of the waters of the Sacramento River through its existing facilities at a point one-quarter

mile below the confluence of the Sacramento and American Rivers, and through other facilities which may be constructed on the Sacramento River within or adjacent to the City, for diversion, filtration and distribution of water, and

7. WHEREAS, the United States and the City have filed applications for the appropriation of unappropriated water and have protested certain applications of each other for the appropriation of unappropriated water, and it is the desire of the parties to settle and adjust any and all differences that might exist between them so that definite assurances can be had as nearly as practicable for the continued enjoyment and use of their respective diversion facilities and operations and to provide amicable means for the necessary increase and expansion of the City's beneficial uses of water, and

8. WHEREAS, the construction and operation of Folsom Dam and its related works and the distribution and regulation of the water of the American River and its tributaries as provided for under this contract are deemed to be mutually beneficial and desirable:

NOW, THEREFORE, in consideration of the premises herein contained, it is hereby agreed by and between the parties hereto as follows:

9. On March 19, 1957, the United States and the Sacramento Municipal Utility District, a municipal corporation, executed a contract entitled "Contract Relating to Sacramento Municipal Utility District Upper American River Project Reservoirs", a copy of which is attached hereto and hereinafter referred to as the SMUD contract.

The following paragraph of this Article is a diversion schedule prepared to show the schedule of diversions by the City of

Sacramento with and without the development by SMUD referred to in the SMUD contract. The quantities are expressed in thousands of acre feet for the respective years. The requirements shown in Schedule A of the tabulation are derived from information given in City of Sacramento Exhibit No. 4, Table 8, of the records, files and proceedings of the California State Water Rights Board concerning Application 12140, and others, before that Board for the appropriation of unappropriated water. The quantities shown in Schedule B of the tabulation are 75% of the annual requirements given in Schedule A of the tabulation.

Diversion schedule by City of Sacramento with and without SMUD development, in 1,000 acre-feet

Year	Total requirement Schedule "A"	Requirement from American River Schedule "B"	Required from Folsom Reservoir Without SMUD development Schedule "C"	Required from Folsom Reservoir With SMUD development Schedule "D"
1963	64.0	48.0	8.0	8.0
64	66.0	49.5	8.5	8.5
1965	68.0	51.0	9.0	9.0
66	70.5	53.0	9.4	9.4
67	73.0	55.0	9.8	9.8
68	75.5	56.5	10.0	10.0
69	78.0	58.5	10.5	10.5
1970	80.7	60.5	11.0	11.0
71	83.0	62.5	11.5	11.5
72	86.0	64.5	12.0	12.0
73	88.5	66.5	12.5	12.5
74	91.5	68.5	13.0	13.0
1975	94.5	71.0	13.5	13.5
76	97.5	73.0	14.0	14.0
77	100.5	75.5	15.0	14.5
78	103.5	77.5	16.0	15.0
79	106.5	80.0	17.5	15.5
1980	110.0	82.5	19.0	16.0
81	113.0	85.0	21.0	16.5
82	116.0	87.0	23.0	17.0
83	119.5	89.5	25.0	17.5
4	123.0	92.0	27.5	18.0
85	126.0	94.5	30.0	18.5

Year	Total requirement Schedule "A"	Requirement from American River Schedule "B"	Required from Folsom Reservoir Without SMUD development Schedule "C"	Required from Folsom Reservoir With SMUD development Schedule "D"
1986	129.5	97.0	32.0	19.5
87	133.0	99.5	35.0	20.0
88	136.5	102.0	37.5	20.5
89	140.0	105.0	40.0	21.0
1990	143.5	107.5	43.0	22.0
91	147.5	110.5	46.0	22.5
92	151.0	113.0	49.0	23.5
93	154.5	116.0	52.0	24.0
94	158.5	119.0	55.0	24.5
1995	162.5	122.0	58.0	25.5
96	166.5	125.0	61.0	26.0
97	171.0	128.0	64.5	27.0
98	175.0	131.0	67.5	28.0
99	179.0	134.0	71.0	29.0
2000	183.5	137.5	74.5	30.0
01	187.5	140.5	78.0	31.0
02	192.0	144.0	81.0	32.0
03	196.0	147.0	85.0	33.0
04	200.5	150.5	88.0	34.5
2005	205.0	154.0	91.5	36.0
06	209.5	157.0	95.0	37.5
07	214.0	160.5	98.5	39.0
08	218.5	164.0	102.0	40.5
09	223.0	167.5	105.5	42.5
2010	227.5	170.5	109.0	44.0
11	232.5	174.5	113.0	46.5
12	237.0	178.0	116.0	48.5
13	242.0	181.5	120.0	50.5
14	247.5	185.5	124.0	53.0
2015	252.0	189.0	127.5	55.5
16	257.5	193.0	131.0	58.0
17	262.5	197.0	135.0	60.0
18	268.0	201.0	138.5	62.5
19	273.0	205.0	142.5	64.5
2020	278.0	208.5	146.5	67.0
21	283.0	212.5	150.5	69.5
22	288.5	216.5	154.5	71.5
23	293.5	220.0	158.5	74.0
24	298.5	224.0	162.5	76.0
2025	304.0	228.0	166.5	78.5
26	308.5	231.5	171.0	81.0
27	313.5	235.0	175.0	83.0
28	318.0	238.5	179.0	85.5
29	322.5	242.0	183.5	88.0
2030 and subsequent ars	326.8	245.0	187.5	90.0

The United States will make available for diversion by the City water from the American River up to the quantities specified in Schedule B, and the United States will so operate Shasta Dam and its related works so as not to interfere with the diversions by the City at its facilities on the Sacramento River referred to in Article No. 6 above or to prevent the City from enjoying the additional diversions represented by the difference between Schedules A and B.

The United States will impound and store water in the reservoirs back of Folsom and Nimbus Dams or elsewhere and does hereby agree to discharge and release into the river channel below Nimbus Dam for the use of the City an amount of water which will, with all of the water that the City is otherwise entitled to and all water not otherwise appropriated, aggregate a quantity of water as shown in Schedule B and will so operate Folsom and Nimbus Dams and their related works that water will be discharged and released into the river channel below Nimbus Dam for later downstream diversion by the City at its said American River diversion and filtration facilities at the times and in the quantities shown in Schedule B.

10. The City's rate of diversion from the Sacramento River shall not exceed 225 cubic feet of water per second and its rate of diversion from the American River shall not exceed 675 cubic feet of water per second; and the total quantity diverted by the City from the American River shall not exceed the quantities shown in Schedule B. Following April 1 of any water year in which the October 1 - Sept. 30 estimated natural inflow to Folsom Reservoir measured and as predicted the United States based, in part, upon the runoff estimates of the California Cooperative Snow Survey Program on April 1 is less than

1,275,000 acre-feet, City's diversions from the American River each month when requested by the Contracting Officer shall not exceed 75% of the aggregate taking from both the Sacramento and American Rivers until Folsom Reservoir would fill or reach flood-control limitation in the absence of additional storage facilities on the American River.

11. The City shall be entitled to reasonable flexibility in demands based on maximum daily requirements and maximum peaks during such days. The City will cooperate with the Contracting Officer to facilitate United States operations to make this possible.

12. City shall pay, at the rate of $9.00 per acre foot, beginning in 1963, for the number of acre feet shown in Schedule C: Provided, however, that if the Sacramento Municipal Utility District builds its Upper American River Project and operates that project in accordance with the SMUD contract the City shall pay, at the rate of $9.00 per acre foot, beginning in 1963, for the number of acre feet shown in Schedule D.

The City shall make payments to the United States each calendar year as hereinafter provided, at rates fixed as provided in this Article. The City shall pay one-half of the amount payable for the year on or before January 1, and shall pay the remainder of the amount payable for the year on July 1.

Upon every installment of money required to be paid by the City to the United States pursuant to this contract which shall remain unpaid after the same shall have become due and payable, there shall be imposed a charge of one-half (1/2) of one (1) percent per month of the amount of such delinquent installment from and after the date when the same becomes due until paid; and the City hereby agrees

o pay said charge: Provided, That no such charge shall be made to or be paid by the City unless such delinquency continues for more than thirty (30) days.

Payment shall be made at the office of the Regional Director of the Bureau of Reclamation, Town and Country Village in Sacramento County, or at any other place designated by the United States in a written notice to the City.

13. The parties agree that in 1978 and again in 1988 the parties may renegotiate the terms of this contract as to quantities of water diverted and to be diverted by the City, so that the schedule of water diversions can be revised downward, and consequent payment for water shall be reduced proportionately thereafter in the ratio that the revised Schedule "B" bears to the original Schedule "B".

14. If prior to the year 2030, the City finds that because of accelerated growth its water requirements are greater than those indicated by Schedule A, the quantity of water to be furnished each year can be advanced in the schedule. In such case, the payment based upon Schedules C or D would be similarly advanced. This advancement of the schedule of diversions and of payments would not entitle the City to any water from the American River above the maximum of 245,000 acre feet annually as provided for in Schedule B above.

15. Should the City requirements exceed 245,000 acre feet annually from the American River it shall be the right of the City to secure the additional water it needs by means other than this contract. These other means may be, and are not restricted to, additional contracts with the United States if both the City and United States agree

such contracts, contracts with other parties, or the development by the City itself of additional water supplies, provided that the development of such supplies shall not involve the use of any facilities or water rights of the United States without its permission.

16. Should the Sacramento Municipal Utility District build and operate its project as provided in the SMUD contract during or after 1978 then payments being made by the City would change from Schedule C basis back to Schedule D basis when the SMUD project becomes so operational.

17. Should the Sacramento Municipal Utility District build and operate a project of lesser extent than that contemplated in the SMUD contract and which project might produce less water, and to the extent that SMUD releases are smaller, a new payment schedule shall be computed which will be intermediate between the basis of Schedules C and D and so computed to reflect payment for average computed demands on Folsom Reservoir.

18. The City will retain all its water rights and as between the United States and the City, the use of water by the City under the contract shall be treated by the United States as diligence of the City in perfecting by beneficial use the developing rights of the City in the Sacramento and American Rivers. Furthermore, by this contract the parties request the properly constituted agencies of the State of California to issue permits and licenses designated to sanction or permit the operations specified in this contract, but the parties agree that any necessary applications, permits and licenses, and rights of any and all sources and derivations owned by them may and shall be exercised as required to the end that the operational matters specified in this contract may and shall be performed, and the parties will use

due diligence to protect and defend their water rights and to acquire and keep in good standing any necessary applications, permits and licenses provided for by the laws of the State of California.

19. The City upon receiving the water discharged and released below Nimbus Dam and bypassed below Nimbus Dam as herein provided will at its own cost convey the same to the places of use and perform all actions necessary or required by law or custom in order to maintain its control over such water, and in order to secure its lawful and proper diversion from the said river through the head works of the City and the beneficial application of the same to use. All losses or diminution of such water by reason of seepage, evaporation, or other causes, after diversion by the City at the aforesaid point of diversion shall be bourne by the City.

20. Beneficial use shall be the basis, measure and limit of all rights hereunder.

21. The United States shall not be responsible for failure to supply water under this contract caused by insufficient supply of water, hostile diversion, unusual drouth, interruption of service made necessary by repairs, nor on account of any other distribution than that herein stipulated for, directed, or ordered to be made by any valid or subsisting order or decree of a court, nor for any damages caused by floods, acts of hostility, or unavoidable circumstances, nor for loss of crops or other damage caused by non-delivery of water.

22. The rights under this agreement shall be such as would permit the City to use the water in such manner as may be granted to it under State law.

23. This contract shall be permanent, but the quantity of water diverted from the American River by the City shall not exceed 245,000 acre-feet per year nor the rate of 675 cfs; also, the quantity diverted by the City from the Sacramento River shall not exceed 225 cfs. Provided, as a condition and not as a limitation or covenant, performance by the United States under the contract shall be in accord with the rights of the City as defined in any license or licenses granted under the law of California, and should such license or licenses provide for a lesser rate of diversions than those herein assumed, then the obligation of the United States for the discharge and releases of water from and by its storage works on the Sacramento and American Rivers shall be adjusted accordingly.

24. The execution of this contract shall constitute a withdrawal of any protest the United States has against any applications of the City for the appropriation of unappropriated water of the American and Sacramento Rivers.

25. The execution of this contract, also, shall constitute a withdrawal of any protests by the City against the applications of the United States for the appropriation of unappropriated water of the American and Sacramento Rivers.

26. By the execution of this agreement the parties hereto join in asking the Director of the Department of Water Resources of the State of California to execute a partial transfer to the City of Applications 5635, 5636, 5645, 7938, 7939 and 7940 for the appropriation of unappropriated water, insofar as they may now or hereafter be required for operations for the benefit of the City under this contract and to assign the rest and remainder of said applications to

the United States for use in the operation of the Central Valley Project.

27. Notwithstanding any permit or license issued to the United States for any diversion of the Sacramento and American Rivers below the points of diversion of the City of Sacramento, the uses of water under this contract shall carry all priorities accorded to or for municipal uses under the laws of the State of California and the United States will recognize such priorities. Within the limits of available water supply the City would not be required to accept any pro-rata of a deficiency in water of the American River.

28. No warranties, express or implied, by the United States shall be deemed to exist with regard to the potability of the water supplies diverted by the City, but to the contrary, the City itself will take due measures on its own behalf to insure and protect the potability of its own water supplies.

29. The parties agree and consent that this contract can be referred to and adopted by any administrative or judicial body of the state or federal government that has a proper governmental function with respect to the operational matters referred to in this contract and it may adopt, if desired, this contract as a part of any relevant administrative or judicial act, order or decree.

30. In order to enable the United States to discharge and release the supply of water herein specified on the basis of payments as herein provided, the City hereby makes available to the United States for exercise, delivery and performance of this contract, with title, however, to remain in the City, all of its right, title, and interest to the waters of the Sacramento River and its tributaries over and above any amounts provided for in this contract, and limits

its claims to the amounts specified in this contract, and the City shall assist the United States in the defense of said claims by the furnishing of all evidence and other like matters in its power or knowledge, in consideration whereof, upon the failure of the United States, through drouth or otherwise to fulfill its obligations hereunder, the City's said claims and rights to water shall revert unburdened to the City until deliveries of water as provided by this contract shall be resumed. The City will not convey, encumber, or transfer its water rights in such manner as to impair the ability of the parties to perform the provisions of this contract, and the City warrants that it has not heretofore impaired any of its water rights.

31. The City agrees to install, operate, and maintain such equipment and to make such computations as may be necessary to record all stream diversions of and by its various project facilities. Authorized representatives of the United States shall have access to such equipment at all reasonable times and shall be supplied with copies of all such records and computations upon request.

32. Except as provided herein, nothing herein is to be construed as an allocation of water rights as between the United States and the City or as between the signatories hereto and any third parties.

33. Subject to the provisions of this contract the United States may store and retain in its reservoirs on the American River, now constructed or to be constructed, all or such part of the water of the American River and its tributaries for such periods of time, including periods of several years' duration, as it may desire, and may withdraw water from storage in its reservoirs, in such amounts and in such rates as it may desire, and may restore

in one or more of its reservoirs all or any part of the water of the American River and its tributaries, and may divert the water within or without the watershed, provided, that nothing herein shall prevent the City from obtaining rights to use waters of the American River for municipal purposes from any storage project on the American River hereafter constructed which does not utilize facilities or water rights of the United States.

34. Subject to the provisions of this contract the United States may store and retain in its reservoirs on the Sacramento River, now constructed or to be constructed, all or such part of the water of the Sacramento River and its tributaries for such periods of time as it may desire, including periods of several years' duration, and may withdraw water from storage in its reservoirs, in such amounts and at such rates as it may desire, and may restore in one or more of its reservoirs all or any part of the water of the Sacramento River and its tributaries as it may desire, and may divert the water within or without the watershed, provided, that nothing herein shall prevent the City from obtaining rights to use waters of the Sacramento River or its tributaries for municipal purposes from any storage project on the Sacramento River or its tributaries hereafter constructed which does not utilize facilities or water rights of the United States.

35. It is the desire of the United States and the City to provide for the maximum beneficial use of the waters of the American and Sacramento Rivers and their tributaries, and to accomplish such purpose it may be desirable that operations under this contract be modified. Representatives of the United States and the City will confer with each other at least once each year, and if it shall appear

to them that storage, retention, or release other than that contemplated by this contract may be made without substantial injury or harm to the respective interests of the parties hereto in such waters and their use, then it is agreed between the parties that such storage, retention, or release may be made for the period agreed upon. Upon the expiration of such agreed period of time, in the absence of further agreement, the operations specified in this contract shall govern. Any such agreement reached by representatives of the United States and of the City shall forthwith be confirmed in writing by the representative of the party initiating the request. For the purpose of such conferences the City shall designate a representative, and the Contracting Officer shall designate a representative for the United States. Each such representative shall continue in office until his successor is duly designated. Such representative shall be authorized so to confer and to agree to such storage, retention, and release under such conditions as may carry out the purpose of this Article.

36. Representatives of the United States and the City shall confer with each other as often as necessary for the purpose of agreeing upon or approving methods, procedure, data, or other matters required under this contract to be mutually agreed upon or approved by the United States and the City. For the purpose of such conferences and for agreeing to or approving such matters the City shall designate a representative, and the Contracting Officer shall designate a representative for the United States, which may be the same persons designated pursuant to the preceding Article. Any such agreement reached by the United States and the City shall be reduced to writing and signed

by such representatives. Each such representative shall continue in office until his successor is duly designated. Such representatives shall be authorized so to confer and to agree to or approve such matters.

37. No member of or delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this contract if made by a corporation or company for its general benefit.

38. This contract shall inure solely to the benefit of the parties hereto and their respective successors and assigns. No other person, partnership, association, district, or corporation shall acquire or have any right under or by virtue of this contract. This contract shall be binding upon any respective successors and assigns of the parties hereto.

39. This contract shall become effective concurrently with the issuance to the parties of permits by the California State Water Rights Board in consonance with the operations herein specified. The effective date shall be established by a joint announcement of the parties. The operating requirements of the parties shall begin with the year 1963 in which the City expects to begin the operation of its American River diversion facilities, but payments under the contract by the City shall be apportioned in accordance with the American River diversions by the City during that year.

40. Contingent upon Appropriations

Where the operations of this contract extend beyond the current fiscal year, the contract is made contingent upon Congress

making the necessary appropriation for expenditures hereunder after such current year shall have expired. In case such appropriation as may be necessary to carry out this contract is not made, the City hereby releases the United States from all liability due to the failure of Congress to make such appropriation.

41. Nondiscrimination in Employment

In connection with the performance of work under this contract, the City agrees not to discriminate against any employee or applicant for employment because of race, religion, color, or national origin. The aforesaid provision shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The City agrees to post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the nondiscrimination clause.

The City further agrees to insert the foregoing provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials.

IN WITNESS WHEREOF, the parties hereto have duly executed these presents in eight counterparts all as of the day and year first hereinabove written.

THE UNITED STATES OF AMERICA

/s/ By C. H. SPENCER
Regional Director, Region II
Bureau of Reclamation

CITY OF SACRAMENTO,
a municipal corporation

/s/ By CLARENCE L. AZEVEDO
Mayor

ATTEST:

/s/ PAUL H. MANBY
City Clerk

APPROVED AS TO FORM:

/s/ EVERETT M. GLENN
City Attorney

Appendix B

DRAFT City of Sacramento Water Supply Masterplan Projections

APPENDIX B

Sacramento Water Demands

Preliminary Draft

	Location	Area (Sq. Miles)	Area (Acres)	Average Annual Water Use (Ac-Ft)	Average Annual Water Use (MGD)	Max. Day Demand (MGD)	Other Water Use Calc?	Notes
A	HCP Ownership Land	2.31	1,478	n/a	n/a	n/a		
B	Agricultural Open Space/Permanent Land Habitat	1.79	1,146	n/a	n/a	n/a		
C	County Owned parcel	0.89	570	n/a	n/a	n/a		
D	Agricultural Open Space/Permanent Land Habitat	4.26	2,726	n/a	n/a	n/a		
E	County Owned parcel	0.52	333	n/a	n/a	n/a		
F	HCP Ownership Land	0.13	83	n/a	n/a	n/a		
G	Teal Bend Golf Course	0.4	256	n/a	n/a	n/a		
H	Sacramento International Airport			*1,420*	*1.3*	*2.2*	Yes	Demands from HDR
I	Metro Air Park	3.02	1,933	*5,197*	*4.6*	*9.3*	Yes	Demands from Stantec
J	Sphere of Influence	10.05	6,432	16,030	14.3	25.8		
K	County Owned parcel	0.54	346	n/a	n/a	n/a		
L	Agricultural Open Space/Permanent Land Habitat	4.09	2,618	n/a	n/a	n/a		
M	HCP Ownership Land	1.79	1,146	n/a	n/a	n/a		
N	Agricultural Open Space/Permanent Land Habitat	5.69	3,642	n/a	n/a	n/a		
O	County Owned parcel	0.22	141	351	0.3	0.6		
P	SCWA & Panhandel	2.14	1,370	3,413	3.0	5.5		
Q	Sphere of Influence	0.11	70	175	0.2	0.3		
R	Sphere of Influence	0.51	326	813	0.7	1.3		
	Sub Total	**38.46**	**24,614**	**27,400**	**24.5**	**44.9**		
S	Sacramento Suburban	16.97	10,861	*26,064*	*23.3*	*41.9*	Yes	Amount changed to reflect the contract
S-1	Sacramento Suburban - Northridge	4.21	2,694	6,715	6.0	10.8		
S-2	Charmichael	0.59	378	941	0.8	1.5		
T	Sac. Suburban/Cal American	7.37	4,717	11,755	10.5	18.9		
U	Fruitridge Vista WC	2.99	1,914	4,769	4.3	7.7		
V	Sacramento County - Zone 40	8.87	5,677	14,148	12.6	22.7		
W	Florin County WD	2.28	1,459	3,637	3.2	5.8		
X	California American	6.25	4,000	9,969	8.9	16.0		
Y	Freeport	1.16	742	1,850	1.7	3.0		
	Sub Total	**50.69**	**32,442**	**79,847**	**71.3**	**128.3**		
Z	City of Sacramento - North Natomas	10.9	6,976	17,386	15.5	27.9		
AA	City of Sacramento - w/o North Natomas	87.7	56,128	139,882	124.9	224.8		
AB	Swanston Estates/Ben Ali Neighborhoods	0.74	470	1,172	1.0	1.9		
	Sub Total	**99**	**63,574**	**158,439**	**141**	**255**		
	Total	**188.49**	**120,630**	**265,687**	**237.3**	**427.9**		

Water Use Calculation (unless noted otherwise in notes):

1. Average annual water usage factor: 1595 ac-ft/sq. mile
2. Maximum Day Demand is 1.8 times average annual water use