SAN PABLO GENERAL PLAN 2030

Volume 3: Draft Environmental Impact Report

SCH NO. 2008082069

November 2010

Public Review Draft

"Building San Pablo's Tomorrow – Today"

SAN PABLO GENERAL PLAN 2030

Volume 3: Draft Environmental Impact Report

SCH NO. 2008082069

November 2010

Public Review Draft

CITY OF SAN PABLO

City of New Directions

Prepared by

DYETT & BHATIA
Urban and Regional Planners

In association with:

Dowling Associates, Inc.
Environmental Science Associates
Charles Salter Associates

Table of Contents

E. Executive Summary E-1

ES.1 Proposed Project E-1
ES.2 Alternatives to the Proposed General Plan E-4
ES.3 Areas of Controversy E-5
ES.4 Impacts Summary and Environmentally Superior Alternative E-6

1. Introduction 1-1

1.1 Purpose of the EIR 1-1
1.2 General Plan Process and Public Involvement 1-2
1.3 Notice of Preparation 1-2
1.4 EIR Approach and Issues Addressed 1-2
1.5 EIR Organization 1-6

2. Project Description 2-1

2.1 Regional Location and Planning Boundaries 2-1
2.2 Purpose and Objectives of the General Plan 2-4
2.3 The Proposed General Plan Land Use Diagram and Land Use Classifications 2-7
2.4 Buildout under the Proposed General Plan 2-15
2.5 Key Plan Guiding Policies 2-19

3. Settings, Impacts, and Mitigation Measures

3.1 Land Use 3.1-1
3.2 Transportation 3.2-1
3.3 Air Quality 3.3-1
3.4 Energy and Greenhouse Gases 3.4-1
3.5 Hydrology, Flooding, and Water Quality 3.5-1
3.6 Biological Resources 3.6-1
3.7 Geology and Seismicity 3.7-1
3.8 Public Services, Facilities, and Utilities 3.8-1
3.9 Noise 3.9-1
3.10 Hazardous Materials and Wildfire Hazards 3.10-1

3.11 Cultural Resources 3.11-1
3.12 Visual Resources 3.12-1

4. Analysis of Alternatives 4-1
4.1 Alternatives Screening 4-1
4.2 Alternatives Analyzed in this EIR 4-3
4.3 Comparative Impact Analysis of Alternatives 4-15
4.4 Environmentally Superior Alternative 4-32

5 CEQA Required Conclusions 5-1
5.1 Significant Irreversible Environmental Changes 5-1
5.2 Significant Unavoidable Impacts 5-2
5.3 Growth-Inducing Impacts 5-3
5.4 Cumulative Impacts 5-5
5.5 Impacts Found Not To Be Significant 5-6

6. Bibliography 6-1
Land Use 6-1
Transportation 6-1
Air Quality 6-1
Energy & Greenhouse Gases 6-2
Hydrology & Flooding 6-5
Biological Resources 6-6
Geology & Seismicity 6-8
Public Services, Facilities, & Utilities 6-9
Noise 6-11
Hazardous Materials 6-11
Cultural Resouces 6-12

7. Persons and Organizations Consulted 7-1

8. Report Authors 8-1

9. Glossary 9-1

10. List of Acronyms..... 10-1

APPENDIX A NOTICE OF PREPARATION AND COMMENT LETTERS

APPENDIX B TRANSPORTATION VOLUME FIGURES AND MODELING RESULTS

APPENDIX B1 TRANSPORTATION APPENDIX - VOLUME FIGURES

APPENDIX B2 TRANSPORTATION APPENDIX – LEVEL OF SERVICE AT IMPACTED INTERSECTION

APPENDIX B3 TRANSPORTATION APPENDIX – LEVEL OF SERVICE AT IMPACTED INTERSECTION

APPENDIX C SPECIAL STATUS SPECIES LIST

APPENDIX D LIST OF HISTORICAL AND ARCHAEOLOGICAL SITES

List of Figures

Figure 2.1-1: San Pablo Regional Location 2-2
Figure 2.2-1: Planning Area Boundaries 2-5
Figure 2.3-1: General Plan Land Use Diagram 2-13
Figure 3.1-1: Existing Land Use 3.1-3
Figure 3.2-1: Existing Roadway System 3.2-3
Figure 3.2-2: Existing Level of Service 3.2-9
Figure 3.2-3: Future Level of Service 3.2-11
Figure 3.2-4: Transit and Truck Routes 3.2-15
Figure 3.2-5: Proposed Bicycle Systems 3.2-19
Figure 3.2-6: Planned Improvements 3.2-25
Figure 3.5-1: Flood Zones 3.5-5
Figure 3.6-1: Vegetation and Special Status Species 3.6-11
Figure 3.7-1: San Pablo Regional Faults 3.7-5
Figure 3.7-2: Liquefaction Susceptibility and Shrink-Swell 3.7-11
Figure 3.8-1: Parks, Schools, and Community Facilities 3.8-3
Figure 3.9-1: Typical Sound Levels 3.9-2
Figure 3.9-2: Existing Noise Contours 3.9-7
Figure 3.9-3: Future Noise Contours 3.9-21
Figure 3.10-1: Hazardous Materials and Wildfire Hazards 3.10-3
Figure 3.11-1: Historical and Cultural Resources 3.11-7
Figure 3.12-1: San Pablo Visual Resources 3.12-4
Figure 3.12-2: View of San Pablo Avenue Looking North 3.12-8
Figure 4.2-1: Alternative A 4-7
Figure 4.2-2: Alternative B 4-9
Figure 4.2-3: No Project Alternative 4-11

List of Tables

Table ES-1: Population, Housing Units, Households, and Jobs at Buildout ES-3
Table ES-2: Comparison of Buildout of Proposed General Plan and Alternatives ES-4
Table ES-3: Summary of Impacts and Proposed General Plan Policies that Reduce the Impact ES-7
Table 2.3-1: General Plan Additional Land Use Acreages at Plan Buildout 2-12
Table 2.4-1: San Pablo General Plan Update Land Use Density and Intensity Standards 2-15
Table 2.4-2: Population, Housing Units, Households and Jobs at Plan Buildout 2-16
Table 2.4-3: Additional Housing Units by Land Use Type 2-17
Table 2.4-4: Additional Jobs by Land Use Type 2-18
Table 2.4-5: Jobs per Employed Residents Ratios 2-18
Table 3.1-1: Existing Land Use 3.1-2
Table 3.1-2: Existing Demographic Data 3.1-6
Table 3.1-3: ABAG Projections for the City of San Pablo 3.1-7
Table 3.1-4: Correspondence of Generalized Land Use Categories to Current and Proposed Designations 3.1-12
Table 3.2-1: Mode Share 3.2-1
Table 3.2-2: Average Daily Traffic (ADT) Volumes for Selected Locations, 2007 ..... 3.2-2
Table 3.2-3: Study Intersections 3.2-5
Table 3.2-4: Definition of Level of Service for Signalized Intersections 3.2-6
Table 3.2-5: Intersection Existing Conditions Level of Service Summary 3.2-6
Table 3.2-6: Level of Service Criteria – Freeway Mainline 3.2-13
Table 3.2-7: Existing Year 2007 - Freeway Mainline LOS Summary (Observed) 3.2-14
Table 3.2-8: Major Transportation Improvements 3.2-22
Table 3.2-9: Freeway Delay Index for I-80 between Alameda County Line and Carquinez Bridge 3.2-31
Table 3.2-10: Level of Service Forecast for Signalized Intersections 3.2-32
Table 3.3-1: Ambient Air Quality Sources, Standards and Attainment Status in the Bay Area 3.3-4
Table 3.3-2: Air Quality Data Summary (2005 – 2009) for the Project Area 3.3-7
Table 3.3-3: Average Ambient Concentrations of Carcinogenic TACs 3.3-8
Table 3.3-4: Comparison of Change in VMT and Population Under the General Plan 3.3-17
Table 3.3-5: Control Strategies of the 2010 Clean Air Plan 3.3-25
Table 3.3-6: TAC Sources in the Planning Area 3.3-30
Table 3.4-1: Contra Costa County Basic Energy Use Statistics, 2005 and 2007 ..... 3.4-2

Table 3.4-2: Communitywide Energy Use in San Pablo 3.4-3
Table 3.4-3: California 2020 GHG Emissions Goal 3.4-10
Table 3.4-4: 2007 Bay Area CO_2e Emissions by Pollutant 3.4-10
Table 3.4-5: Contra Costa Countywide GHG Emissions (2005) 3.4-12
Table 3.4-6 Communitywide Greenhouse Gas Emissions in San Pablo 3.4-13
Table 3.4-7: Non-Transportation Energy Use in San Pablo by Type and Sector, 2007-2030 (MMBtu) 3.4-27
Table 3.4-8: Transportation Energy Use in San Pablo, 2000-2030 (Btu) 3.4-28
Table 3.4-9: Total Energy Use, Existing Conditions to Proposed General Plan Buildout 3.4-28
Table 3.4-10: Greenhouse Gas Emissions Projection Summary 3.4-31
Table 3.7-1: Active Faults in the Vicinity of San Pablo 3.7-6
Table 3.7-2: Modified–Mercalli Intensity Scale (Ground Shaking) 3.7-8
Table 3.7-3: Planning Area Soils and Building Site Development Restriction 3.7-10
Table 3.8-1: CCCFPD Response Times 3.8-2
Table 3.8-2: Existing Public Schools in San Pablo 3.8-6
Table 3.8-3: Historic Average Daily Water Production 3.8-11
Table 3.8-4: Historical Average Water Use by Land Use Type 3.8-11
Table 3.8-5: Projected Water Demand and Supply in EBMUD Service Area 3.8-13
Table 3.8-6: Historical Wastewater Flows, 2008 ....3.8-15
Table 3.8-7: West Contra Costa Integrated Waste Management Authority Diversion Rates 3.8-18
Table 3.8-8: Student Generation Rates 3.8-28
Table 3.8-9: Additional Police Officers Needed for Buildout 3.8-30
Table 3.8-10: Buildout Student Population and School Demand 3.8-31
Table 3.8-11: Summary of Proposed Parks in San Pablo 3.8-32
Table 3.8-12: Estimated Water Demand 3.8-35
Table 3.8-13: Estimated Wastewater Flow 3.8-38
Table 3.9-1: Typical Noise Levels from Construction Equipment 3.9-9
Table 3.9-2: Proposed General Plan Land Use Changes in Areas with Existing Noise Exposure 3.9-15
Table 3.9-3: Existing and Proposed Exposure to Noise Above State-Recommended Levels 3.9-16
Table 3.9-4: Land Use Compatibility For Community Noise Environments 3.9-19
Table 3.9-5: Proposed General Plan Buildout Acres Exposed to Potentially Unacceptable Noise 3.9-20

Table 3.10-1: Reported Hazardous Substance Sites 3.10-2
Table 3.11-1: Buildings with Potential Historic Significance 3.11-4
Table 4.2-1: Buildout Compared to Existing (2010) Conditions 4-13
Table 4.3-1: Comparison of Land Use Buildout by Alternative 4-16
Table 4.3-2: Trips Summary by Alternative 4-19
Table 4.3-3: Comparison of Change in VMT and Population Under the Alternatives 4-21
Table 4.3-4: Comparison of Total Energy Use by Alternative 4-22
Table 4.3-5: Comparison of Greenhouse Gas Emissions Projections by Alternative 4-22
Table 4.3-6: Demand for Police Facilities at Buildout by Alternative 4-25
Table 4.3-7: Demand for Public Schools at Buildout by Alternative 4-26
Table 4.3-8: Water Demand at Buildout by Alternative 4-27
Table 4.3-9: Solid Waste Generation at Buildout by Alternative 4-28
Table 4.3-10: Total Parkland at Buildout by Alternative 4-28
Table 4.3-11: Wastewater Treatment at Buildout by Alternative 4-29

This page is intentionally left blank.

E. Executive Summary

This Draft Environmental Impact Report (EIR) evaluates the potential impacts of the proposed City of San Pablo General Plan.[1] The proposed Plan was developed in response to policy direction provided by the City Council and the Planning Commission as well as community concerns identified through an extensive public participation and outreach program, including newsletters, community workshops and public meetings in 2008-2010. The City of San Pablo is the lead agency for this EIR, as defined by the California Environmental Quality Act (CEQA). As the lead agency, the City is required to evaluate the potential effects of the Plan in an EIR.

An EIR is intended to inform decision-makers and the general public of the potential significant environmental impacts of a proposed project. The EIR also identifies mitigation measures to minimize significant impacts and evaluates reasonable alternatives to the proposed project that may reduce or avoid one or more significant environmental effects. These alternatives must include a "No Project" alternative that represents the result of not implementing the project and a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives but would avoid or substantially lessen any of the significant effects of the project.[2] Based on the alternatives analysis, an environmentally superior alternative is identified.

This EIR is a program EIR that examines the potential effects resulting from implementing designated land uses and policies in the proposed General Plan. The impact assessment evaluates the General Plan as a whole and identifies the broad, regional effects that may occur with its implementation. As a programmatic document, this EIR does not assess site-specific impacts. Any future development project made possible by the General Plan will be subject to individual, site-specific environmental review, as required by State law.

PROPOSED PROJECT

The proposed San Pablo General Plan is intended to replace the existing General Plan, which was last updated in 1996. The General Plan is composed of goals, policies, a land use diagram, and other graphic figures and maps (e.g. open space systems, a transportation network, and public facilities) to guide future development within the City's boundaries, through the year 2030.

San Pablo is located in the western portion of Contra Costa County. The City is bordered by the City of Richmond, and the unincorporated community of North Richmond and El Sobrante. It is located a short drive away from San Francisco and Oakland and has an area of approximately 2.8 square miles.

The Plan includes the seven elements required by State law, including Land Use, Transportation/ Circulation, Open Space, Conservation, Noise, and Safety. The Housing Element is adopted concurrently with the General Plan but is contained in a separate volume. It also includes four

[1] Throughout this document, the term "proposed City of San Pablo General Plan" is used interchangeably with "proposed General Plan," "proposed Plan" or the "proposed Project."

[2] CEQA Guidelines 15126.6(a)

optional elements, including Economic Development, Growth Management, Health, and Parks, Schools, Community Facilities and Utilities.

KEY FEATURES OF THE PROPOSED GENERAL PLAN

Based on the planning objectives that were set forth, nine key features emerged as the General Plan took shape. These initiatives are large-scale themes that address the planning objectives. The maps and policies in the General Plan are structured around these key initiatives.

- **Integrating economic development into the General Plan.** The new Economic Development Element brings a strategy for economic growth into the General Plan and underscores the City's goals for fiscal health, a strong regional center, and job creation.

- **Pedestrian and Bicycle-Friendly Community.** The proposed Plan establishes a comprehensive set of principals and strategies to enhance the existing pedestrian and bicycle system and promote a well integrated and coordinated network to parks, schools and neighborhood retail.

- **Community Facilities.** The General Plan responds to community desires for family-oriented community facilities through new land use designations, such as Mixed Use Center South that allows community uses to develop among residential and retail development, and direction for impact fees to fund improvements. Health and Safety. The Plan aims to improve health and safety through greater cooperative efforts with the Police Department as well as by transportation planning, encouraging healthy-living through food strategies, equitable job and housing opportunities, and safety through community design.

- **Safety and Health.** In response to community feedback, the Plan aims to improve health and safety through greater cooperative efforts with the Police Department as well as by transportation planning, encouraging healthy-living through food strategies, equitable job and housing opportunities, and safety through community design.
- **Parks and Open Space.** City officials and residents alike recognize the need for more parks in San Pablo and the proposed Plan sets out to achieve this with a network of community parks, neighborhood parks and trails to provide recreational areas in close proximity to residents.

These themes and the policies proposed to implement them are described in greater detail in Section 2 of this EIR.

ESTIMATED BUILDOUT OF THE PROPOSED GENERAL PLAN

Full development under the General Plan is referred to as "buildout." Although the General Plan envisions policies and land use intentions in the Plan to be realized by 2030, the year is not intended to be certain; nor does the designation of a site for a certain use necessarily mean the site will be built or redeveloped with that use in the next 20 years. The Land Use Element of the proposed General Plan provides a more detailed analysis of General Plan buildout.

The proposed General Plan designates an Urban Limit Line (ULL) on the General Plan Land Use Diagram and includes policies for its administration in the Growth Management Element. The

ULL is a requirement established under Contra Costa Transportation Improvement and Growth Management Program (Measure J) and includes all land within the City's Planning Area.

Residential Development

Approximately 9,680 households currently exist in the Planning Area. The General Plan is intended to accommodate an additional 940 households. General Plan buildout would result in approximately 10,620 households in the Planning Area.

Buildout Population

As shown in **Table ES-1**, the Planning Area would accommodate a population of approximately 34,950 people at buildout, an increase of about 8.5 percent over the current estimated population, or 2,750 new residents. Over a 20-year period, this represents an average annual growth rate of 0.4 percent, a lower rate than that experienced over the last 20 years, which was about 1.2 percent.

Table ES-1 Population, Housing Units, Households, and Jobs at Buildout[1]

	Existing (2010)	*Additional*	*Buildout (2030)*	*Annual Growth (percent)*
Population[2]	32,200	2,750	34,950	0.4
Households	9,680	940	10,620	0.5
Housing Units	10,520	990	11,510	0.5
Jobs	5,900	2,610	8,510	1.8

[1] All numbers rounded to the nearest tenth.

[2] Buildout population calculated assuming 3.1 persons per household and 1.5 persons per Secondary Unit.

Source: Association of Bay Area Governments, 2009; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Buildout Employment

San Pablo will accommodate approximately 8,510 jobs at buildout, an increase of about 44 percent. The total additional employment accommodated by the proposed General Plan is about 2,610 jobs. Over a 20-year period, this represents an average annual growth rate of 1.8 percent.

ALTERNATIVES TO THE PROPOSED GENERAL PLAN

The following alternatives are described and evaluated in this EIR:

Alternative A: Centers and Nodes

The development concepts proposed in this alternative focus on infill development around several nodes while limiting development to the rest of the city. These nodes would be given a new land use designation called Mixed Use Center, and would act as future community activity centers as well as regional destinations. Older, underutilized and vacant sites along San Pablo Avenue and 23rd Street would be redeveloped as a mix of residential, office and commercial spaces, while small-scale neighborhood commercial uses would also be allowed at important intersections. Design standards would ensure new residential development does not compromise neighborhood preservation. Alternative A would accommodate a greater number of households and jobs than the proposed General Plan.

Alternative B: Urban Boulevard

The development concepts proposed in this alternative are intended to promote a relatively uniform development of similar intensity along San Pablo Avenue and 23rd Street. As in Alternative A, most of the land use changes are proposed along the transportation corridors at underutilized and vacant infill sites. A main goal is to connect activities along San Pablo Avenue through retail street frontage and streetscape improvements to create an 'urban boulevard'. This alternative would generate a smaller number of households but more than the proposed General Plan.

Table ES-2 Comparison of Buildout of Proposed General Plan and Alternatives

	Households	*Jobs*	*Housing*	*Population*
Proposed General Plan	10,620	8,520	11,510	34,950
Alternative A	10,780	8,900	11,680	35,460
Alternative B	10,450	9,050	11,330	34,430
No Project	10,350	6,520	11,230	34,160

Note: Numbers rounded to nearest tenth and are only approximate projections. For projected buildouts, households equal 95 percent of the total housing units (assumes a 5 percent vacancy rate).

Source: Dyett & Bhatia, 2010.

AREAS OF CONTROVERSY

Although there are no clear areas of controversy, impacts classified as significant and unavoidable have been identified in the issue areas of transportation and air quality, and in as much as they may be considered controversial to agencies or stakeholders, they are described briefly here.

Traffic Generation

In general, implementation of the proposed Plan would contribute to population and job growth resulting in higher amounts of traffic generation and congestion in San Pablo. More specifically, it would cause a significant impact related to level of service at the intersection of San Pablo Avenue and San Pablo Dam Road during the PM peak hour. Increasing road capacity by adding lanes would not be feasible because of the lack of space, negative impacts on bicycle circulation, and other factors. Ramp improvements to Interstate 80 planned by Caltrans may reduce or increase this impact, but its effects are currently unknown.

A policy is proposed specifically to reduce the impact at this intersection as measured by current CCTA-based modeling. Further, the General Plan includes numerous other policies to mitigate traffic impacts to the greatest extent feasible throughout the Planning Area. It encourages the use of transit and provides bicycle lanes to encourage alternative modes of travel. The emphasis is on enhancing and supporting multimodal solutions, and seeking Caltrans assistance for ramp widening over the planning horizon for this General Plan.

Air Quality and Emissions

Implementation of the proposed General Plan will result in an unavoidable and significant impact associated with the increase of vehicle miles traveled faster than the increase in population growth. Current transportation modeling is unable to adequately account for land use and policy-based trip reduction efforts, and thus indicated more trip growth than is actually anticipated in this infill-and multimodal oriented Plan. Any plan designed to accommodate population growth in this way is bound to result in this unavoidable significant impact until such time as transportation models can account for trip reductions associated with mixed use, transit access, infill, and other proximity efforts.

The proposed General Plan is being offered despite these significant impacts because the City is in need of an updated land use plan that can thoughtfully and creatively accommodate projected population growth, as well as provide for jobs and economic development over the next 20 years. The current General Plan is no longer practical for San Pablo because stronger growth management is necessary and the current Plan neither provides for a balance of jobs and housing nor offers adequate, concrete policies to promote walkability, bikability, and minimize the impacts of growth. The proposed General Plan is consistent with MTC's and ABAG's transit oriented development goals in which urban development is directed toward existing urban infill sites near transit corridors in order to avoid the loss of open space. The proposed General Plan overall seeks to achieve this goal through growth management tools and policies that give high priority to density, connectivity, jobs-housing balance, and preserving open space and ecological areas. The significant impacts related to the proposed General Plan would not be considerably

different under any other likely growth scenario for San Pablo that accommodates planned approved residential and non-residential development proposed for the city.

IMPACTS SUMMARY AND ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table ES-3 presents the summary of the proposed General Plan impacts identified in the EIR and the proposed General Plan policies and mitigation measures that reduce these impacts. Detailed discussions of the impacts and proposed policies that would reduce impacts are in Chapter 3. The significance of each impact with implementation of the proposed General Plan policies is also shown in **Table ES-3**. The level of significance is determined by comparing the impact to the significance criteria described in Chapter 3.

Based on the comparative analysis in Chapter 4 of this Draft EIR, and setting aside the No Project alternative (as provided by CEQA), Alternative B is identified as the environmentally superior alternative. This determination is based on the fact that the proposed project, compared to the proposed General Plan and Alternative A, would result in less environmental impacts due to lower population. This factor would reduce potential impacts in resource areas such as demands on police and fire services, schools, and water supply and wastewater services. However, Alternative B does not meet the city's long term economic development needs nor the proposed General Plan's objectives related to the mix and balance of land uses. The proposed General Plan has double the acreage of mixed-use developments which can create a livelier city that allows residents and visitors to easily traverse between residential, commercial, and office uses, and encourages the use of public transit along transportation corridors by creating destination points. The urban form created under the proposed General Plan is also potentially more pleasing, with higher density developments at important junctions and lower density developments elsewhere. These are the reasons why Alternative B was not selected for the project even though it is environmentally superior to the proposed General Plan.

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
Land Use		
No Impacts	NA	NA
Transportation		
3.2-1 Implementation of the proposed San Pablo General Plan, in conjunction with anticipated regional growth and development, could cause conflicts with existing MTSOs for Routes of Regional Significance presented in the West County Action Plan.	C-I-7 Apply traffic Level of Service (LOS) standards to signalized intersections on Routes of Regional Significance to be consistent with the Contra Costa Transportation Authority's West County Action Plan. (See Policy GME-I-17 in Chapter 4, Growth Management Element) C-I-8 Accept LOS F at the intersection of San Pablo Dam Road and San Pablo Avenue opposite Lytton Casino and at I-80 ramps at El Portal Drive and San Pablo Dam Road/Amador Street during two hour peak periods (a.m. and p.m.) as an interim standard until feasible traffic improvements can be designed, funded, and constructed. C-I-9 *Design, evaluate, and implement improvements to the intersection of San Pablo Avenue and San Pablo Dam Road, upon collection of more specific data from Caltrans on anticipated (or measured) changes to traffic volumes related to their I-80 ramp improvement projects. Based solely on the CCTA model assumptions, a set of improvements that would mitigate regional growth and proposed project impacts include: • Converting the southbound through lane on San Pablo Avenue to a left-or-through lane to provide a total of one left-turn-only lane, one left-or-through lane and one through-or-right lane; and • Modifying the traffic signal timing to allow "split phases" for the northbound and southbound movements. C-I-10 Manage local residential streets (i.e., streets with direct driveway access to homes) to limit average daily vehicle volumes to 2,000 or less and keeping speeds between 15 and 25 miles per hour. C-I-11 Require new development to provide traffic improvements necessary to accommodate trips generated by the project without violating traffic LOS standards established by Policy C-I-8 or increasing the travel delay index above that established for Interstate 80 unless the City adopts Findings of Special Circumstances. C-I-13 Continue cooperative efforts with CCTA to identify streets and intersections with unacceptable traffic LOS standards and implement programs to upgrade them, consistent	Significant Cumulative Impact; Project Contribution Not Cumulatively Considerable

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	with the Complete Streets policy. See Growth Management Element for additional details.	
3.2-2 Implementation of the proposed San Pablo General Plan could conflict with the adopted Countywide Bicycle Master Plan.	C-I-1 Design and operate city streets based on a "Complete Streets" concept that enables safe, comfortable, and attractive access and travel for pedestrians, bicyclists, motorists, and transit users of all ages and abilities. C-I-2 Include "Complete Street" considerations in the design of all circulation improvement projects. C-I-5 Install traffic calming devices, such as signage, road bulbs (also called curb extensions), chicanes, raised crosswalks, and speed humps, as needed and appropriate in existing neighborhoods. C-I-14 Expand and maintain a safe and comprehensive bicycle system that connects the City's neighborhoods to regional bicycle routes. C-I-15 Acquire land for new bicycle routes along Wildcat Creek, as shown in Figure 5-4, only if land owners are willing to sell such land or provide easements for public access. If landowners object to route designations, seek alternative routes and amend Bicycle Map accordingly. C-I-16 Require the provision of bicycle parking and related facilities in new employment-generating development to facilitate multi-modal commute choices. C-I-18 Adopt a Bicycle Master Plan to enhance bicycle circulation and planning, based on the route network in Figure 5-4 and the Contra Costa Countywide Bicycle and Pedestrian Plan. C-I-20 Work with the City of Richmond and Contra Costa County to develop safe and clearly marked pedestrian and bicycle linkages from downtown San Pablo to the Bay Trail. Improvements should connect Contra Costa College to the Wildcat Creek bikeway west of Davis Park, and also connect the bikeway at Davis Park to Alvarado Park east of the city. (See Figure 8-1.)	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	Regarding rail crossing safety, the proposed Plan offers Policy C-I-32: C-I-32 Promote safety at railroad crossings through the following measures, as necessary: • Improvements to pedestrian warning devices at existin railroad crossings; • Installation of additional warning signage and/or channelization; • Improvements to traffic signaling at intersections adjacent to crossings, e.g. traffic preemption; • Prohibition of parking within 100 feet of crossings to improve the visibility of warning devices and approaching trains; • Where sound walls, landscaping, buildings, etc. would be installed near crossings, maintaining the visibility of warning devices and approaching trains; and • Rail safety awareness programs to educate the public about the hazards of at-grade crossing. Proposed General Plan policies and proposed bicycle linkages and alignments thus do not directly conflict with countywide planning or state agency safety considerations, and therefore this impact is less than significant.	
Air Quality		
3.3-1 Implementation of the proposed San	OSC-I-17 Prepare a Greenhouse Gas Emissions Reduction Plan that focuses on feasible actions the City can take to minimize the adverse impacts of growth and development on climate	Significant, Unavoidable[3]

[3] While the BAAQMD CEQA Guidelines require Plan-level analysis to determine significance to be based on the strict relationship between population and VMT, this determination cannot be modified to reflect the fact that improvements in vehicle fuel efficiency are expected to decrease emissions per vehicle mile traveled over the planning period. As described in the Metropolitan Transportation Commission's Transportation 2035 Plan EIR (2009) air quality analysis, emissions of several criteria pollutants are projected to decrease through 2035, not increase, due to these fuel efficiency gains. As a basis for making a finding of overriding considerations, it is reasonable for the City to find that fuel efficiency, combined with the compact land use and multimodal transportation initiatives represent by proposed Plan policies, would actually result in minimal contribution to the overall regional cumulative impact of criteria pollutant emissions. However, in accordance with BAAQMD requirements, the cumulative impact described in this EIR must still found to be significant and unavoidable based on the assumed strict relationship between population and VMT.

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
Pablo General Plan could result in an increase in VMT at a rate that would exceed the rate of population increase within the City.	change and air quality. The plan would include, but not be limited to: • A baseline inventory of all known or reasonably discoverable sources of greenhouse gases (GHGs) that currently exist in the city and sources that existed in 1990. • A projected inventory of the GHGs that can reasonably be expected to be emitted in the city in the year 2030 in accordance with discretionary land use decisions pursuant to this General Plan update and foreseeable communitywide and municipal operations. • A target for the reduction of emissions from those identified sources reasonably attributable to the City's discretionary land use decisions and municipal operations, in line with site goals and targets established by the Air Resources Board. • A list of feasible GHG reduction measures whose purpose shall be to meet the established local reduction target, including energy conservation and "green building" requirements in municipal buildings and private development. OSC-I-20 Require developers to use best management practices (BMPs) to reduce particulate emissions and dust associated with construction activities as a condition for approval of subdivision maps, site plans, and grading permits. These BMPs include, but are not limited to, regular materials and vehicle tire watering, covering, and dust prevention measures during clearing, grading, earth-moving, or excavation operations. OSC-I-21 Provide incentives for the installation of EPA-certified wood heaters or approved wood-burning appliances, list permitted and prohibited fuels, and create a "no burn" policy on days when air quality is particularly poor. OSC-I-22 Support CCTA's efforts to address climate change and air quality issues on a regional basis as reflected in the 'Principles for Collaborative Development of Sustainable Communities Strategies in Contra Costa County'. OSC-I-23 Continue to support the Bay Area Air Quality Management District's efforts to monitor and control air pollutants from stationary sources. OSC-I-24 Continue to work with surrounding jurisdictions and agencies to establish parallel air quality programs and implementation measures, as necessary, to improve air quality standards. OSC-I-25 Support non-polluting transportation modes and opportunities (i.e. pedestrian, bike,	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	carpooling opportunities and public transit improvements) as specified in the Circulation Element. OSC-I-26 Promote energy efficiency in architectural design for new construction including building orientation to take advantage of wind and sun, and site design features (such as clustering of uses), pre-wiring for optional photovoltaic or solar heating systems, etc. Additionally, the following policies would implement transportation demand management strategies to reduce VMT generated within the City: C-G-10 Promote efficient use of existing transportation facilities through the implementation of transportation demand management concepts. C-I-39 Establish travel demand management programs to reduce peak-hour traffic congestion and help reduce regional vehicle miles traveled. HEA-I-6 Establish an incentive system to encourage land dedication and park development beyond the minimum City requirements. Incentives may include density bonuses, and increased building height at appropriate locations. Tie incentive program to priority areas for parks development. HEA-I-11 Support the use of clean fuel, "climate friendly" vehicles in order to reduce energy use, energy costs, and greenhouse gas emissions by residents, businesses, and city government activities. HEA-I-12 Use zoning and redevelopment programs to establish incentives for locating healthy food grocery stores at the center of neighborhoods and to increase communitywide healthy food access. Approaches may include: • Within the Zoning Ordinance, clearly define "healthy food grocery stores" in order to ensure that businesses meeting that description have access to incentives developed with them in mind. Recommended criteria include: 1) dedicates at least 50 percent of retail space for a general line of food and non-food grocery products intended for home preparation, consumption, and use; 2) dedicates at least 30 percent of retail space for perishable goods that include dairy, fresh produce, fresh meats-poultry-fish, and frozen foods; and 3) dedicates at least 500 square feet of its retail space for fresh produce; • Ensure sites are made available that could be developed as healthy food grocery	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	stores (with a focus on neighborhood areas with little or no access); • Provide expedited permit processing for healthy food grocery store development; • Leverage City staff time, redevelopment funds, and other economic development grant money to help potential new healthy food grocers to consolidate parcels and/or make necessary improvements; • Encourage large healthy food grocers to offer shuttle service and home delivery; and • Develop standards and incentives flexible enough to accommodate "alternative" grocery stores which use less space, require less parking, and focus on the day-to-day needs of nearby residents. C-I-14 Expand and maintain a safe and comprehensive bicycle system that connects the City's neighborhoods to regional bicycle routes. C-I-15 Acquire land for new bicycle routes along Wildcat Creek, as shown in Figure 5-4, only if land owners are willing to sell such land or provide easements for public access. If landowners object to route designations, seek alternative routes and amend Bicycle Map accordingly. C-I-16 Require the provision of bicycle parking and related facilities in new employment-generating development to facilitate multi-modal commute choices. C-I-17 Evaluate multimodal level of service (MMLOS) qualitatively, consistent with the criteria in Table 5.2-4, for the following routes: • For bicyclists, evaluate the routes shown on Figure 5-4, to determine necessary improvements. Bicycle LOS "C" standard is the goal for these streets. • For pedestrians, evaluate streets within Pedestrian Priority Zones (e.g. San Pablo Avenue, 23rd Street). As shown on Figure 5-1, to determine necessary improvements. In these zones, the Pedestrian LOS "C" is the goal. C-I-18 Adopt a Bicycle Master Plan to enhance bicycle circulation and planning, based on the route network in Figure 5-4 and the Contra Costa Countywide Bicycle and Pedestrian Plan. C-I-19 Use brightly-colored paint or a one-foot buffer strip along bicycle routes to provide a visual signal to drivers to watch out for bicyclists and nurture a "share the lane" ethic.	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	Start with areas of town where automobile-bicycle collisions have occurred in the past, based on data from the Statewide Integrated Traffic Records System maintained by the California Highway Patrol.	
	C-I-20 Work with the City of Richmond and Contra Costa County to develop safe and clearly marked pedestrian and bicycle linkages from downtown San Pablo to the Bay Trail. Improvements should connect Contra Costa College to the Wildcat Creek bikeway west of Davis Park, and also connect the bikeway at Davis Park to Alvarado Park east of the city. (See Figure 8-1.)	
	C-I-21 Complete and enhance the pedestrian network with an interconnected system of walkways, continuous sidewalks on both sides of the street, and pedestrian crossings.	
	C-I-22 To maintain walkability and pedestrian safety, consider reducing curb-to-curb road widths and employing roadway design features such as islands, pedestrian refuges, and pedestrian count-down signals.	
	C-I-23 Provide pedestrian facilities that are accessible to persons with disabilities and ensure that roadway improvement projects address accessibility and universal design concepts.	
	C-I-24 In mixed-use areas or other areas with high pedestrian traffic, provide mid-block pedestrian crossings, where feasible, to create more direct walking routes and slow vehicle speeds.	
	C-G-9 Foster practical parking solutions to serve community needs while avoiding excessive amounts of surface parking that disrupt the urban fabric of the city.	
	C-I-33 Amend the Zoning Ordinance to establish "green" parking design standards that have multiple benefits, such as shared parking for mixed use projects, photovoltaic panels on parking structures to generate energy for parking lot lighting, landscaping and trees in surface parking, and pervious paving to improve groundwater recharge and promote innovative surface parking design that avoids the appearance of a "sea of asphalt" and reduces environmental impacts. Strategies will include, but are not limited to: • Require parking to be provided behind buildings, wherever feasible; • Promote the use of time, motion-sensing, and/or solar powered parking lot lights or security lights, wherever feasible; • Establish specific standards for perimeter landscaping, including the type and	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	coverage required along the edges of surface parking areas adjacent to streets; • Require a minimum number of trees per parking stall in surface parking areas (e.g. 1 per 8 stalls for double-loaded bays) to provide shade, and reduce urban heat island effects; • Separate pedestrian pathways from car lanes where possible; • Promote the use of porous paving and a variety of drainage features according to the site; and • Restrict use of vacant lots as vehicle parking and outdoor storage of commercial equipment, construction equipment, and similar items unless screened from view from adjacent streets. ***Housing Element Policies*** H-4 Promote the development of energy efficient homes to help protect the environment and lower the energy costs for San Pablo residents. Program H-2.1.8 Provide by right reductions from the standard parking requirements for new residential projects that are located on San Pablo Avenue and have frequent transit service. Policy H-4.1 Encourage the incorporation of energy conservation design features in existing and future residential developments to conserve resources and reduce housing costs. Program H-4.1.1 Promote the County's and PG&D's weatherization programs to extremely low- to moderate-income homeowners and seniors to improve the energy efficiency of their residence and/or replace existing energy inefficient appliances. Program H-4.1.2 Promote the use of solar energy and other environmentally sound, energy efficient methods for heating and cooling homes, consistent with adopted building, mechanical and plumbing codes. Program H-4.1.3 Require developers to complete a GreenPoint Checklist, Leadership in Energy and Environmental Design Checklist (LEED) or equivalent, as part of their submittal to	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	the Planning Division and encourage them to attain the equivalent of LEED Silver certification or better. Program H-4.1.4 Consider a Green Building Design Ordinance that offers density, FAR, and height bonuses for private projects that meet certain green building thresholds. Program H-4.1.5 Facilitate environmentally sensitive construction practices by: • Restricting the use of chloroflourocarbons (CFCs), hydrochloroflourocarbons (HCFCs), and halons in mechanical equipment and building materials; • Promoting the use of products that are durable and allow efficient end-of-life disposal (recyclable); • Requiring large project applicants to submit a construction waste management plan for City approval; • Promoting the use of locally or regionally available materials; and • Promoting the use of cost-effective design and construction strategies that reduce resource and environmental impacts.	
3.3-2 Implementation of the proposed San Pablo General Plan would result in an implementing document that is consistent with and implements the goals and Control Measures of the Clean Air Plan.	Refer to Table 3.3-6 for details. LU-I-1 Amend the Zoning Ordinance to implement new General Plan land use designations and promote Transit-Oriented Development (TOD) at appropriate locations. GME-I-3 Continue to require new development to pay its fair share of needed transportation improvements through impact fees, community benefit agreements, and other mechanisms. GME I-5 Approve a development project only after making findings that one or more of the following conditions are met: • No revenue from Measure J will be used to replace or provide developer funding that has or would have been committed to any mitigation project; • The development project will fully fund public facilities and infrastructure as necessary to mitigate any impacts arising from the new development; and	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	• The development project will pay mitigation fees for public facilities and infrastructure improvements in proportion to the development's impacts. C-I-12 Schedule public transportation improvement projects in the Capital Improvement Program (CIP). C-G-6 Encourage the expansion of public transportation systems. C-G-7 Facilitate the use of public transportation in San Pablo by making it more comfortable and convenient. C-I-27 Work with public transit providers to advocate the expansion of transit service to underserved areas in the city. C-I-29 Work with public transit providers, Contra Costa College, and property owners to identify and develop a future Major Transit Hub along San Pablo Avenue, near Mission Plaza. C-I-30 In partnership with CCTA and the West Contra Costa Transportation Advisory Committee, pursue funding to study the feasibility of developing a public transit system along the BNSF Railway corridor. C-G-4 Maintain acceptable levels of service for all modes of travel. GME-G-3 Provide new and improved pedestrian, bicycle routes, parking and transit facilities, as envisioned in the Circulation Element C-I-25 Work with public transit providers to upgrade selected bus-stops with advanced traveler information systems (ATIS). C-I-27 Work with public transit providers to develop context-sensitive bus-stop designs that would facilitate traffic flow and passenger safety along 23rd Street and San Pablo Avenue. C-I-1 Design and operate city streets based on a "Complete Streets" concept that enables safe, comfortable, and attractive access and travel for pedestrians, bicyclists, motorists, and transit users of all ages and abilities C-I-13 Expand and maintain a safe and comprehensive bicycle system that connects the City's neighborhoods to regional bicycle routes. C-I-15 Require the provision of bicycle parking and related facilities in new employment-generating development to facilitate multi-modal commute choices.	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	C-I-20 Complete and enhance the pedestrian network with an interconnected system of walkways, continuous sidewalks on both sides of the street, and pedestrian crossings. GME-G-1 Manage the City's growth and protect open space by establishing an Urban Limit Line (ULL). GME-G-3 Provide new and improved pedestrian, bicycle routes, parking and transit facilities, as envisioned in the Circulation Element. GME-G-4 Promote mixed-use, high density infill development and support land use patterns that make more efficient use of the transportation system. LU-I-1 Amend the Zoning Ordinance to implement new General Plan land use designations and promote Transit-Oriented Development (TOD) at appropriate locations. LU-I-16 Support residential infill on vacant lots within existing neighborhoods. H 2.1.8 Provide by right reductions from the standard parking requirements for new residential projects that are located on San Pablo Avenue and have frequent transit service. HEA-I-11 Support the use of clean fuel, "climate friendly" vehicles in order to reduce energy use, energy costs, and greenhouse gas emissions by residents, businesses, and city government activities. OSC-I-17 Prepare a Greenhouse Gas Emissions Reduction Plan that focuses on feasible actions the City can take to minimize the adverse impacts of growth and development on climate change and air quality. The plan would include, but not be limited to: • A baseline inventory of all known or reasonably discoverable sources of greenhouse gases (GHGs) that currently exist in the city and sources that existed in 1990. • A projected inventory of the GHGs that can reasonably be expected to be emitted in the city in the year 2030 in accordance with discretionary land use decisions pursuant to this General Plan update and foreseeable communitywide and municipal operations. • A target for the reduction of emissions from those identified sources reasonably attributable to the City's discretionary land use decisions and municipal operations, in line with State goals and targets established by the Air Resources Board. • A list of feasible GHG reduction measures whose purpose shall be to meet the	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	established local reduction target, including energy conservation and "green building" requirements in municipal buildings and private development. OSC-I-18 Work with the Bay Area Air Quality Management District to develop and implement a Community Risk Reduction Plan (CRRP) to address the exposure of sensitive populations to toxic air contaminant emissions in San Pablo.	
3.3-3 Implementation of the proposed San Pablo General Plan results in an implementing document that includes a land use diagram identifying overlay zones around existing and planned sources of toxic air contaminants (TACs) and address these TAC sources and sensitive receptors in its goals, policies and objectives.	OSC-I-18 Work with the Bay Area Air Quality Management District to develop and implement a Community Risk Reduction Plan (CRRP) to address the exposure of sensitive populations to toxic air contaminant emissions in San Pablo. OSC-I-19 Maintain a 500-foot Air Quality Health Risk Overlay Zone on either side of Interstate 80 within the Planning Area to protect sensitive receptors from toxic air emissions. Within this overlay, avoid approval of new sensitive land uses, and for those projects permitted, require site-specific project design improvements (such as higher performance windows and HVAC systems) in order to reduce public health risks associated with poor air quality in these locations. And policies OSC-I-23 through OSC-I-25, as detailed in Impact 3.3-1.	Less than Significant
Energy and Greenhouse Gases		
3.4-1 Implementation of the proposed Plan would result in a substantial increase in per service population (residents + jobs)	C-I-5 In consultation with PG&E, study the feasibility of a program for converting city-owned street lights to light-emitting diode (LED) technology, and take advantage of rate reductions and rebates, as applicable. C-I-12 Continue coordination efforts with public transit providers to maintain transit service that is safe and efficient with convenient connections to high use and activity intersections in the city.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
energy consumption.	C-I-14 Work with public transit provides to advocate the expansion of transit service to underserved areas in the City. C-I-18 Expand and maintain a safe and comprehensive bicycle system that connects the City's neighborhoods to regional bicycle routes. C-I-20 Require the provision of bicycle parking and related facilities in new employment-generating development to facilitate multi-modal commute choices. C-I-23 Complete and enhance the pedestrian network with an interconnected system of walkways, continuous sidewalks on both sides of the street, and pedestrian crossings. C-I-27 Amend the Zoning Ordinance to establish "green" parking design standards that have multiple benefits, such as shared parking for mixed use projects, passive solar on parking structures to generate energy for parking lot lighting, landscaping and trees in surface parking, and pervious paving to improve groundwater recharge and promote innovative surface parking design that avoids the appearance of a "sea of asphalt" and reduces environmental impacts. OSC-I-26 Promote energy efficiency in architectural design for new construction including building orientation to take advantage of wind and sun, and site design features (such as clustering of uses), pre-wiring for optional photovoltaic or solar heating systems, etc. HEA-I-4 Act as a model to other large employers by selecting and implementing a suite of transportation demand management (TDM) programs designed to reduce single-occupant vehicle trips and overall vehicle emissions generated by trips that start or end in San Pablo. Programs may include, but are not limited to: Installation of showers, lockers, and secure bike parking facilities in city-owned buildings; Designation of preferred parking spaces for carpools, carshare programs, and clean fuel vehicles; and Provision of transit benefits that reduce direct employee public transportation costs. HEA-I-11 Support the use of clean fuel, "climate friendly" vehicles in order to reduce energy use, energy costs, and greenhouse gas emissions by residents, businesses, and city government activities. In addition, several water conservation and waste reduction policies from Chapter 6 of the proposed General Plan would also contribute to per capita and per job energy savings in San Pablo.	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
3.4-2 Implementation of the proposed Plan, combined with forecast countywide growth, would cause San Pablo to exceed the per service population (residents + jobs) GHG emissions threshold of 6.6 MT CO_2e/year established by BAAQMD.	OSC-I-17 Prepare a Greenhouse Gas Emissions Reduction Plan that focuses on feasible actions the City can take to minimize the adverse impacts of growth and development on climate change and air quality. The plan would include, but not be limited to: • A baseline inventory of all known or reasonably discoverable sources of greenhouse gases (GHGs) that currently exist in the city and sources that existed in 1990. • A projected inventory of the GHGs that can reasonably be expected to be emitted in the city in the year 2030 in accordance with discretionary land use decisions pursuant to this General Plan update and foreseeable communitywide and municipal operations. • A target for the reduction of emissions from those identified sources reasonably attributable to the City's discretionary land use decisions and municipal operations, in line with site goals and targets established by the Air Resources Board. • A list of feasible GHG reduction measures whose purpose shall be to meet the established local reduction target, including energy conservation and "green building" requirements in municipal buildings and private development. Furthermore, all policies listed above under Impact 3.4-1 would also reduce GHG emissions as they reduce energy use.	Less than Significant
Hydrology and Flooding		
3.5-1 Implementation of the proposed San Pablo General Plan could adversely affect water quality and drainage patterns in the short term due to erosion	None required.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
and sedimentation during construction activities.		
3.5-2 Implementation of the proposed San Pablo General Plan could result in degradation of water quality and depletion of groundwater supplies by increasing nonpoint source pollutants including sedimentation in stormwater runoff through creation of new impervious surfaces in new development.	PSCU-G-5 Continue to ensure the successful provision, maintenance, and operation of City-owned public infrastructure and utilities. PSCU-G-6 Support the efficient use and conservation of water. PSCU-G-7 Maintain a comprehensive storm drainage system to protect life and property. OSC-G-3 Protect and enhance wetlands, creek systems, and rare and endangered species and their habitats. OSC-G-4 Ensure both access and ecological functionality of the creek system in San Pablo. OSC-G-5 Protect water supply and quality through conservation and good stormwater management practices. PSCU-I-34 Update zoning standards to minimize storm water runoff rates and volumes, control water pollution, and maximize recharge of local groundwater aquifers. New development will be required to include features that reduce impermeable surface area and increase infiltration. Such features may include, but are not limited to: • Canopy trees or shrubs to absorb rainwater; • Grading that lengthens flow paths and increases runoff travel time to reduce the peak hour flow rate; • Removing curbs and gutters from parking areas where appropriate to allow stormwater sheet flow into vegetated areas; • Permeable paving and parking area design; • Stormwater detention and retention basins to facilitate infiltration; and • Integrated or subsurface water retention facilities to capture rainwater for use in landscape irrigation and other non-potable uses. *Detailed recommendations are provided in the Bay Area Stormwater Management Agency's "Start at the Source Design Guidance Manual for Stormwater Quality Protection."*	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	OSC-I-10 Maintain, protect, and enhance San Pablo's creeks, including Rheem, San Pablo, and Wildcat creeks, as local environmental and aesthetic resources, with approaches including, but not limited to: • Establishing a Creek Improvement Program to widen, day-light, and improve San Pablo and Wildcat creeks for the enjoyment of residents; • Strengthening stormwater management requirements for properties adjacent to the creek areas by applying techniques that maintain or restore nature character; • Enforcing restrictions on the planting of invasive species near creek areas; • Identifying and working with property owners to take advantage of unique opportunities where human active use (e.g. through trail development) would enhance creek appreciation without disrupting ecological function; • Working with developers to "daylight" portions of creeks that have historically been channelized underground under existing paved areas (e.g. parking lots); and • Requiring minimum setbacks from the top of the creek bank for development proposed adjacent to creeks, in keeping with City regulations and Best Management Practices. OSC-I-11 Require property owners with properties adjacent to creeks to pay for creek improvement maintenance. OSC-I-12 Continue to work with the Regional Water Quality Control Board (RWQCB) to protect and improve ground- and surface-water quality in the region.	
3.5-3 Implementation of the proposed San Pablo General Plan could result in additional runoff exceeding the capacity of existing stormwater facilities and increasing	In addition to the guiding and implementing policies listed under Impact 3.5-1 above, the following policies also help to reduce this potential impact on the stormwater drainage system: PSCU-I-31 Require, as a condition of project approval, stormwater drainage and sewer improvements in proportion to a project's impacts, including upgrades, replacements, or repairs to older stormwater collection systems, as necessary. PSCU-I-32 Maintain master storm drain system maps that identify locations where easements should be reserved for eventual installation of pipes and structures to ensure appropriate storm drainage management.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
potential flooding of receiving waters and areas in downstream.	PSCU-I-33 Coordinate with the West County Wastewater District to address planning capacity and identify deficiencies in the waste water collection system.	
3.5-4 Implementation of the proposed San Pablo General Plan could result in the placement of housing in the 100-year floodplain or structures that would impede flood flows exposing people to injury or death.	SN-G-2 Minimize the risks to property, life, and the environment due to flooding hazards. SN-I-7 Continue to minimize the risk of flooding to development through the development review process. Require new development within a flood plain to comply with the City's Floodplain Management and Flood Damage Prevention Ordinance and to submit hydrologic studies, identify site development and construction methods, and implement appropriate mitigation measures to minimize surface water run-off. *Developers will be required to provide an assessment of a project's potential impacts on the local storm drainage system as part of the development review process. If development is found to have a negative impact on storm drainage, mitigation measures, such as the creation of permanent or temporary detention or retention basins, provision of additional landscaped areas and green roofs, installation of pump stations, and the use of permeable paving in driveways, walkways and parking areas, may be required.* SN-I-8 Annually review the Land Use Element to identify whether any additional areas subject to flooding have been defined in updated flood plain maps prepared by the Federal Emergency Management Agency (FEMA) or the State Department of Water Resources (DWR) and adopt amendments to the General Plan or the Zoning Ordinance, as warranted. SN-I-9 Continue to participate in the National Flood Insurance Program and ensure that local regulations are in full compliance with Federal. SN-I-10 Periodically review National Flood Insurance Program maps to ensure that the City's zoning and building regulations reduce potential risks from flooding pursuant to the National Flood Insurance Program of 1968. SN-I-11 Inform households and businesses located in flood-prone areas about opportunities to purchase flood insurance. *The City will regularly remind residents of the value of flood insurance for vulnerable properties*	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	through newsletters and other educational materials. Purchase of flood insurance is required for buildings in Special Flood Hazard Areas defined by the Flood Insurance Rate Map when a federally regulated lender holds the mortgage on the building. SN-I-12 Site new essential public facilities outside of the 100-year flood plains, including hospital and healthcare facilities, emergency shelters, police and fire stations, and emergency communications facilities to minimize exposure to 100-year floods. SN-I-13 Cooperate with the County Flood Control District, California Department of Transportation, and the Army Corp of Engineers to mitigate potential flooding risks, including flood control projects on Wildcat and San Pablo creeks and the maintenance of drainage facilities and infrastructure. SN-I-14 Work with railroad operators on minimizing downstream flooding related to limited number of culverts.	
3.5-5 Implementation of the proposed San Pablo General Plan would expose people or structures to risk of flooding due to the failure of a dam.	The policies listed above under Impact 3.5-4 also help to reduce this potential impact.	Less than Significant
3.5-6 Implementation of the proposed San Pablo General Plan in combination with past, present, and foreseeable future development in the surrounding communities and with other agencies in the County, could	The policies listed above under impacts 3.5-1 through 3.5-5 help to reduce this potential cumulative impact.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
adversely affect water quality of regional water bodies.		
Biological Resources		
3.6-1 Implementation of the San Pablo General Plan could result in negative effects, either directly or through habitat modifications, on special-status species.	OSC-G-3 Protect and enhance wetlands, creek systems, and rare and endangered species and their habitats. OSC-G-4 Ensure both access and ecological functionality of the creek system in San Pablo. OSC-G-5 Protect water supply and quality through conservation and good stormwater management practices. OSC-I-4 Require protection of sensitive habitat areas and "special status" species through measures implemented in new development in the following order: 1) avoidance, 2) on-site mitigation, and 3) offsite mitigation, and require assessments of biological resources prior to approval for any development within 300 feet of any creeks, wetlands, or other sensitive habitat areas. *The City will coordinate with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Game, and Regional Water Quality Control Board to ensure City staff is providing developers with the best guidance and standards for project design to avoid impacts to creeks, wetland features, woodlands, or other sensitive natural features.* OSC-I-5 Develop a list of native plants and landscaping guidelines that residents and business owners should use for public and private landscaping plans. Make this list and guidance accessible through the Planning Department, the Public Library, and the City website. *Urban landscaping design and planting choices should be managed to maximize ecological and health benefits for the whole community.* OSC-I-6 Prohibit the use of invasive plant species, such as pampas grass and ivies, adjacent to wetlands, riparian areas, or other sensitive habitat. *Invasive plants are introduced species that can thrive in areas beyond their natural range of dispersal. These plants are characteristically adaptable, aggressive, and have a high reproductive capacity. Their vigor combined with a lack of natural enemies often leads to outbreak populations that overwhelm local plant species.*	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	OSC-I-7 Preserve and protect undeveloped hillside areas for their potential habitat value and as a visual and open space resource. OSC-I-10 Maintain, protect, and enhance San Pablo's creeks, including Rheem, San Pablo, and Wildcat creeks, as local environmental and aesthetic resources, with approaches including, but not limited to: • Establishing a Creek Improvement Program to widen, day-light, and improve San Pablo and Wildcat creeks for the enjoyment of residents; • Strengthening stormwater management requirements for properties adjacent to the creek areas by applying techniques that maintain or restore nature character; • Enforcing restrictions on the planting of invasive species near creek areas; • Identifying and working with property owners to take advantage of unique opportunities where human active use (e.g. through trail development) would enhance creek appreciation without disrupting ecological function; • Working with developers to "daylight" portions of creeks that have historically been channelized underground under existing paved areas (e.g. parking lots); and • Requiring minimum setbacks from the top of the creek bank for development proposed adjacent to creeks, in keeping with City regulations and Best Management Practices. OSC-I-11 Require property owners with properties adjacent to creeks to pay for creek improvement maintenance. OSC-I-12 Continue to work with the Regional Water Quality Control Board (RWQCB) to protect and improve ground- and surface-water quality in the region. OSC-I-20 Require developers to use best management practices (BMPs) to reduce particulate emissions and dust associated with construction activities as a condition for approval of subdivision maps, site plans, and grading permits. These BMPs include, but are not limited to, regular materials and vehicle tire watering, covering, and dust prevention measures during clearing, grading, earth-moving, or excavation operations. SN-I-36 Use the Community Noise Level Exposure Standards, shown in Table 9.6-1, as review	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	criteria for new land uses. Require all new development that would be exposed to noise greater than the "normally acceptable" noise level range to reduce interior noise through design, sound insulation, or other measures. SN-I-37 Require proposed industrial, commercial, and other uses with potential noise and vibration-producing activities to submit a noise study report identifying noise and vibration mitigation measures that would reduce the noise adjacent level to acceptable ranges based on the Community Noise Environment Standards. SN-I-38 Require new, fixed noise sources (e.g. mechanical equipment) to use best available control technology to minimize noise and vibration. *Noise from mechanical equipment can often be reduced by applying soundproofing materials, mufflers, or other controls provided by the manufacturer.* PSCU-I-34 Update zoning standards to minimize storm water runoff rates and volumes, control water pollution, and maximize recharge of local groundwater aquifers. New development will be required to include features that reduce impermeable surface area and increase infiltration. Such features may include, but are not limited to: • Canopy trees or shrubs to absorb rainwater; • Grading that lengthens flow paths and increases runoff travel time to reduce the peak hour flow rate; • Removing curbs and gutters from parking areas where appropriate to allow stormwater sheet flow into vegetated areas; • Permeable paving and parking area design; • Stormwater detention and retention basins to facilitate infiltration; and • Integrated or subsurface water retention facilities to capture rainwater for use in landscape irrigation and other non-potable uses.	
3.6-2 Implementation of the San Pablo General Plan could	OSC-I-8 If site work or construction (i.e., ground clearing or grading, including removal of trees or shrubs) activities are to occur during the nesting bird breeding season (February 1 through August 31), the City will require a pre-construction survey by a qualified wildlife	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact		*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	result in the direct loss of nesting birds.	biologist, assessing potential special-status bird nesting habitat within 500 feet of the project site, no more than two weeks in advance, of the planned activity. All identified nests should be buffered from the construction activity as recommended by the biologist and confirmed by City staff, in accordance with the nature of the construction and nesting activities. *Construction activities scheduled to occur during the non-breeding season (September 1 through January 31) do not require a survey. Construction activities commencing during the non-breeding season and continuing into the breeding season also do not require surveys. Nests initiated during construction activities would be presumed to be unaffected by the activity, and a buffer zone around such nests would not be necessary. However, a nest initiated during construction cannot be moved or altered.* Furthermore, proposed General Plan policies listed under Impact 3.6-1 would also help to reduce this potential impact to a level that is less than significant.	
3.6-3	Implementation of the San Pablo General Plan has the potential to affect migratory and breeding birds through building collisions and increases in nighttime lighting.	Proposed General Plan policies listed under impacts 3.6-1 and 3.6-2 would also help to reduce this potential impact to a level that is less than significant.	Less than Significant
3.6-4	Implementation of the proposed San Pablo General Plan may adversely impact special-status bat species through removal of potential roosting habitat and	OSC-I-9 For any development projects involving removal of mature trees and/or demolition of vacant buildings (both potential habitats for special-status bats), require a pre-construction survey by a qualified wildlife biologist to determine if bats are present using an acoustic detector. Require implementation of feasible recommendations of the biologist on removal of trees with signs of bat activity during a period least likely to adversely affect the bats, or the creation of a "no disturbance" buffer, if a viable alternative.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact		*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	through increases in noise levels during construction.	Furthermore, proposed General Plan policies listed under impacts 3.6-1 through 3.6-3 would also help to reduce this potential impact to a level that is less than significant.	
3.6-5	Implementation of the San Pablo General Plan could result in the filling of wetlands and other waters.	OSC-I-20 Require developers to use best management practices (BMPs) to reduce particulate emissions and dust associated with construction activities as a condition for approval of subdivision maps, site plans, and grading permits. These BMPs include, but are not limited to, regular materials and vehicle tire watering, covering, and dust prevention measures during clearing, grading, earth-moving, or excavation operations. SN-I-6 Require erosion prevention of hillside areas by re-vegetation or other acceptable methods. SN-I-7 Continue to minimize the risk of flooding to development through the development review process. Require new development within a flood plain to comply with the City's Floodplain Management and Flood Damage Prevention Ordinance and to submit hydrologic studies, identify site development and construction methods, and implement appropriate mitigation measures to minimize surface water run-off. *Developers will be required to provide an assessment of a project's potential impacts on the local storm drainage system as part of the development review process. If development is found to have a negative impact on storm drainage, mitigation measures, such as the creation of permanent or temporary detention or retention basins, provision of additional landscaped areas and green roofs, installation of pump stations, and the use of permeable paving in driveways, walkways and parking areas, may be required.* Furthermore, proposed General Plan policies listed under impacts 3.6-1 through 3.6-4 would also help to reduce this potential impact to a level that is less than significant.	Less than Significant
3.6-6	Implementation of the proposed San Pablo General Plan could interfere	SN-I-13 Cooperate with the County Flood Control District, California Department of Transportation, and the Army Corp of Engineers to mitigate potential flooding risks, including flood control projects on Wildcat and San Pablo creeks and the maintenance of drainage facilities and infrastructure.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact		*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	substantially with the movement of native resident or migratory fish or wildlife species.	*Flood control projects will be designed to support the City's efforts to reestablish natural conditions in these creek corridors.* Furthermore, proposed General Plan policies listed under impacts 3.6-1 through 3.6-5 would also help to reduce this potential impact to a level that is less than significant.	
3.6-7	Subsequent development projects associated with the implementation of the San Pablo General Plan in conjunction with other past, present, pending and reasonably foreseeable development in the County of Contra Costa or the City of San Pablo could result in cumulative adverse impacts on special-status species, wetlands, or other waters of the United States.	The San Pablo General Plan and other future projects within the cumulative geographic context are required to comply with local, state, and federal laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on biological resources, including wetlands, other waters of the United States, and special-status species. Additionally, new projects would be required to mitigate significant effects on these biological resources to the extent feasible, although it is possible that some projects may be approved even though they would have significant, unavoidable impacts on biological resources. Existing conditions in the City of San Pablo reflect the results of past development, which has filled or otherwise eliminated much of the original extent of the wet meadow and wetlands once present and resulted in loss and fragmentation of original habitat, as well as the introduction of night lighting and increased noise. Current industrial and residential uses provide little habitat value for the majority of the city. However, the city contains two vegetated riparian corridors that provide valuable wildlife habitat. Unmitigated significant noise and lighting impacts resulting from the implementation of the General Plan and other reasonably foreseeable projects, combined with existing conditions resulting in part from past development, could increase the aggregate effect and be considered cumulatively significant. However, the current impact analysis has shown that the proposed project has the potential for relatively minor impacts on biological resources and that these impacts can be minimized to less than significant levels through the application of the General Plan Policies and proposed mitigation measures. When considered relative to all past, present, and reasonably foreseeable similar projects within the geographic context for this analysis, the incremental contribution of the proposed project to an already existing cumulative impact would not be cumulatively considerable. Therefore, the cumulative effect of the proposed project on biological resources would be less than significant.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
Geology & Seismicity		
3.7-1 Implementation of the proposed General Plan could expose people or property to loss, injury, or death related to seismically-induced surface rupture, ground failure, ground shaking, liquefaction, landslides, or tsunamis.	SN-I-1 Amend the Zoning Ordinance to include provisions for a geologic hazards abatement district for hillside areas at risk of landslides in San Pablo. *The Geologic Hazard Abatement District is a potentially useful tool to effectively abate a landslide hazard that crosses property boundaries. It is a mechanism that responds to the physical realities of landslides, and allows property owners to cooperate in solving a common problem. It removes much of the stigma of legal liabilities among adjacent landowners and allows them to cooperate rather than litigate. It also provides for a cost-effective solution, requiring only one geotechnical engineering firm and one plan to solve the problems of several landowners.* SN-I-2 Pursuant to the requirements of the Alquist-Priolo Earthquake Fault Zone Act, continue to review individual projects to prohibit the development of critical or habitable structures within the Fault Zone. SN-I-3 Continue to maintain and enforce appropriate standards in the Uniform Building Code to ensure new development is designed to meet current safety standards associated with seismic activity. SN-I-4 Continue to identify and catalogue structures that may be subject to serious structural damage in the event of a major earthquake, and provide information to property owners on ways to pay for rehabilitation of existing buildings, including available State and other financing resources. SN-I-5 Support efforts by State and regional agencies to promote public awareness of potential geologic and seismic hazards.	Less than Significant
3.7-2 Implementation of the proposed General Plan could require significant earthwork and road cuts, increasing the potential for short-term and long-term	SN-I-6 Require erosion prevention of hillside areas by re-vegetation or other acceptable methods.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact		*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	soil erosion and slope failure.		
3.7-3	Implementation of the proposed General Plan could cause new development to be built on highly compressible, expansive, or weak, unconsolidated soils, creating substantial risks to life or property from on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	The policies listed under impacts 3.7-1 and 3.7-2 reduce this impact to a level that is less than significant, and are incorporated here by reference.	Less than Significant
3.7-4	Implementation of the proposed General Plan, combined with regional population growth, would result in an increased risk of exposure of people and property to geologic hazards.	None required.	Less than Significant Cumulative Impact

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
Public Services, Facilities, and Utilities		
3.8-1 Implementation of the proposed Plan will require additional police and fire protection services that exceed current staffing and facilities.	SN-I-24 Assess the manpower, training, facility and equipment needs of the Police Department periodically to ensure they meet current and future community needs. *The City will ensure the staffing ratios and response times meet national standards, and hire additional police officers, support training programs, and retrofit police-related facilities and purchase equipment, as needed.* SN-I-26 Explore the feasibility of developing a small police station at Rumrill Boulevard and Market Avenue and/or expansion of existing facility. SN-I-27 Continue to share information and develop joint law enforcement efforts with adjacent jurisdictions and other public safety agencies. SN-I-16 Continue to work with the County Fire Department to make San Pablo more resilient to fire hazards. *The City's Planning Division will work with the County Fire Department to plan for, maintain, and expand local fire service activities. The City's Building Division will consult with the Fire Department on new construction plan checking, building inspections, weed abatement and hazard mitigation activities, and public information resources. The City's Public Works and Planning Division will work with Fire Department to review, hydrant locations, landscaping and other fire safety criteria. The City's Police Department will work with the Fire Department to distribute fire safety information and coordinate public safety education in schools.* SN-I-18 Review the Fire District's fire hazard standards and annual report to determine if there should be a modification or additional types of services based on local population needs.	Less than Significant
3.8-2 Implementation of the proposed Plan will increase enrollment, but this will not exceed the capacity of existing schools.	None required	Less than Significant
3.8-3 Implementation of the proposed Plan	PSCU-I-1 Seek to achieve a standard of 3.0 acres of parkland per 1,000 residents. *In addition to parkland dedication by developers, the City will also acquire or re-develop parkland*	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
would increase the ratio of parkland from the existing ratio but still fall short of the City's goal of 3 acres per thousand residents.	*to meet the goal of 3.0 acres of park per 1,000 residents, subject to availability of funding. Specialized recreational facilities, such as school facilities, may be counted as part of the parkland total if they become publicly accessible.* PSCU-I-4 Require residential developers to contribute to the City's parks and open space system based on their proportional share of needs generated by new residents. PSCU-I-5 Periodically update park impact fees to assure the City's ability to maintain park and recreation infrastructure and facilities. PSCU-I-6 Acquire land for mini-parks in Old Town and other neighborhoods where parks are needed. *The City will acquire and develop a mini-park in the Old Town neighborhood to respond to the recreational needs of that area. A playing field is also being planned on city-owned land for the Rumrill neighborhood. Along San Pablo Avenue, proposed mini-parks are shown as symbols, indicating the general location. Details will be developed in a Parks and Recreation Master Plan (see PSCU-I-2).* PSCU-I-8 Continue joint-use park and recreation agreements with West Contra Costa Unified School District and the Contra Costa College to improve the community's access to park and recreation facilities with minimal or no financial commitments by the City. HEA-I-6 Establish an incentive system to encourage land dedication and park development beyond the minimum City requirements. Incentives may include density bonuses, and increased building height at appropriate locations. Tie incentive program to priority areas for parks development.	
3.8-4 Implementation of the proposed Plan will result in the increase in use of existing parks, such that substantial physical deterioration of the facility could occur	PSCU-I-2 Adopt a Parks and Recreation Master Plan. The Master Plan should include the following components: • An assessment of existing and future parks and recreational needs including neighborhood parks and facilities; • Sustainable construction and park maintenance strategies; • Development of an action plan to prioritize the City's needs, identify preferred sites for new facilities, identify staffing needs, and present a plan for acquisition and	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
or be accelerated.	improvement of future facilities. PSCU-I-3 Develop new park and recreation facilities and continue to upgrade existing ones with universal accessibility, durability, and low maintenance in mind. PSCU-I-9 Involve citizens, especially youths, in maintaining park areas through participating in park watches, citizen-based graffiti watch, and clean up and repair. HEA-I-2 Improve signage directing residents and visitors to public parks and recreational facilities from all parts of the community. Integrate parks signage with bikeway and pedestrian-oriented signage system throughout San Pablo. HEA-I-5 Link park facility improvement priorities to a ranking system keyed to public health and recreational goals. PSCU-I-1, PSCU-I-4, PSCU-I-5, PSCU-I-8, and HEA-I-6 mentioned under Impact 3.8-4 would also help reduce this impact to a level that is less than significant. No additional mitigation is needed.	
3.8-5 Implementation of the proposed Plan will increase the demand for public water which may exceed supply.	PSCU-G-6 Support the efficient use and conservation of water. PSCU-I-23 Coordinate with East Bay Municipal Utilities District (EBMUD) to provide an adequate and clean water supply. *The City will work with EBMUD to update and support compliance with the District's Water Supply Management Program.* PSCU-I-24 Establish water saving and conservation standards for new development. Standards may include, but are not limited to, the following: • Require new residential developments to install low-flush toilets and water saving shower heads; • Require new commercial, retail, and industrial developments to install low-flush toilets and auto shut-off faucets in public bathrooms; and • Require the installation of water meters on all new multifamily residential units, mobile homes, and common interest developments, whether owner-occupied or rented, as well as on existing multifamily units at the time of sale, or at the time of	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	condominium conversion as a part of the subdivision mapping process. *The City will work with property owners to increase awareness of both the environmental and the economic advantages of sub-metering. Properly done, sub-metering of multifamily buildings can cut apartment resident demand by 15 percent.* PSCU-I-25 Reduce water use in municipal buildings and City operations. *The City will develop a schedule and budget for the retrofit of existing municipal buildings with water conservation features, such as auto shut-off faucets and water saving irrigation systems.* PSCU-I-26 Adopt a Water Conservation Ordinance to conserve water and reduce water waste in San Pablo. The Water Conservation Ordinance will establish restrictions on water uses such as lawn and landscape watering and the filling of fountains and swimming pools, as well as penalties for violations. It also will establish consumption reduction measures to be adopted when State or countywide water rationing is in effect. Landscape water conservation standards will apply to new development of more than 10,000 square feet. This ordinance also will: • Require commercial and public right-of-way projects to submit planting plans, irrigation plans, irrigation schedules and water use estimates for City approval prior to issuance of building permits; and • Require industrial projects to submit plans for water recycling and explain how water use will meet requirements of the National Pollutant Discharge Elimination System program during the plan review process. They are also required to submit irrigation plans for proposed landscaping. PSCU-I-27 Promote water conservation through public education, including but not limited to the following: • Encouraging educators to include water conservation in their curriculums; • Promoting the use of drought resistant plants and turf in yards and gardens; • Highlighting the availability of EBMUD water conservation programs to residents, including the free Residential Water Survey Program, Residential Landscape Rebate Program, Low-flush Toilet Replacement Program, High Efficiency Residential Clothes	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	Washer Rebate Program and other programs; and • Providing tips to households and businesses on water conservation. *The City will use its newsletter and website to promote water conservation, and may solicit assistance from EBMUD, environmental groups, and/or concerned citizens to provide education materials or staff time to assist in public outreach efforts.* PSCU-I-28 Consult with EBMUD about starting a recycled water program for San Pablo to irrigate parks, recreational facilities, and landscaping. PSCU-I-29 Provide educational materials to support the development of safe and effective on-site gray water systems for local homes and businesses, consistent with State codes. PSCU-I-30 Provide educational materials to support the development of inexpensive and effective rainwater harvesting systems for local homes and businesses.	
3.8-6 Implementation of the proposed Plan will generate waste water that exceed the treatment capacity of the West County Wastewater District or require additional infrastructure to meet growth demands.	PSCU-I-31 Require, as a condition of project approval, stormwater drainage and sewer improvements in proportion to a project's impacts, including upgrades, replacements, or repairs to older stormwater collection systems, as necessary. PSCU-I-32 Maintain master storm drain system maps that identify locations where easements should be reserved for eventual installation of pipes and structures to ensure appropriate storm drainage management. PSCU-I-33 Coordinate with the West County Wastewater District to address planning capacity and identify deficiencies in the waste water collection system. PSCU-I-34 Update zoning standards to minimize storm water runoff rates and volumes, control water pollution, and maximize recharge of local groundwater aquifers. New development will be required to include features that reduce impermeable surface area and increase infiltration. Such features may include, but are not limited to: • Canopy trees or shrubs to absorb rainwater; • Grading that lengthens flow paths and increases runoff travel time to reduce the peak hour flow rate; • Removing curbs and gutters from parking areas where appropriate to allow	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	stormwater sheet flow into vegetated areas; • Permeable paving and parking area design; • Stormwater detention and retention basins to facilitate infiltration; and • Integrated or subsurface water retention facilities to capture rainwater for use in landscape irrigation and other non-potable uses.	
3.8-7 Implementation of the proposed Plan may generate additional amounts of solid waste that may exceed future annual diversion targets.	PSCU-I-39 Require recycling collection services in all residential and non-residential buildings. PSCU-I-40 Promote the importance of waste reduction and recycling, as well as the safe disposal of hazardous materials, to San Pablo residents and businesses owners. PSCU-I-41 Establish design standards for new multifamily development in the Zoning Ordinance to make provisions for recycling part of the building design. PSCU-I-42 Reduce construction waste in San Pablo by adopting a Waste Reduction and Construction Debris Recycling Ordinance that requires developers to: • Reuse building materials, or use materials with recycled content, to the maximum extent possible; • Submit a 'Construction and Demolition Materials Management Plan' indicating the estimated volume or weight of project construction and demolition materials, by materials type, to be generated; the maximum volume or weight of materials the project will divert; the vendor or diversion facility; and the volume or weight of residual materials that would be transported for disposal in a landfill; • Schedule time for deconstruction and recycling activities to take place during project demolition and construction phases; and • Divert at least 50 percent of recyclable debris (such as paper based boards, ceiling tiles, wood, or aluminum) generated from projects from landfill disposal to reuse or recycling options. PSCU-I-43 Reduce waste production in all City operations by using post-consumer recycled paper and other recycled materials.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	PSCU-I-44 Actively promote reuse by supporting swap meets, flea markets, and providing information on donation pick-up or drop off locations, as well as other waste reduction programs, on the City website.	
Noise		
3.9-1 New development under the proposed General Plan could potentially expose existing noise-sensitive uses to construction-related increases in ambient noise and groundborne vibration.	SN-G-9 Protect public health and welfare by eliminating noise problems and maintaining an acceptable indoor and outdoor acoustic environment. SN-I-40 Work with Caltrans, AC transit and railroad operators to mitigate transportation-related noise impacts on residential areas and sensitive uses. Additionally, continue to limit hours for construction and demolition work to reduce construction-related noises.	Less than Significant
3.9-2 Implementation of the proposed General Plan, combined with regional growth and development, could expose persons to or generate outdoor noise levels in excess of standards found in the existing San Pablo General Plan Noise Element, as well as proposed new standards	SN-I-36 Use the Community Noise Level Exposure Standards, shown in Table 9.6-1 in the proposed General Plan, as review criteria for new land uses. Require all new development that would be exposed to noise greater than the "normally acceptable" noise level range to reduce interior noise through design, sound insulation, or other measures. SN-I-37 Require proposed industrial, commercial, and other uses with potential noise and vibration producing activities to submit a noise study report identifying noise and vibration mitigation measures that would reduce the noise adjacent level to acceptable ranges based on the Community Noise Environment Standards. SN-I-38 Require new, fixed noise sources (e.g. mechanical equipment) to use best available control technology to minimize noise and vibration. *Noise from mechanical equipment can often be reduced by applying soundproofing materials, mufflers, or other controls provided by the manufacturer.* SN-I-39 Establish standards for noise reduction for new housing exposed to DNL noise levels above 65 dB, including but not limited to, the following:	Less the Significant Cumulative Impact

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
based on state recommendations.	• All facades must be constructed with substantial weight and insulation; • Sound-rated windows with enhanced noise reduction for habitable rooms; • Sound-rated doors with enhanced noise reduction for all exterior entries at habitable rooms; • Minimum setbacks and exterior barriers; • Acoustic baffling of vents is required for chimneys, attic and gable ends; and • Installation of a mechanical ventilation system affording comfort and fresh air under closed window conditions is required. *Alternative acoustical designs that achieve the prescribed noise level reduction may be approved, provided a certified Acoustical Engineer submits information demonstrating that the required reductions can be achieved and maintained.* SN—1-41 Require that all new residential building designs for sites where the DNL will exceed 65dBA achieve noise level reductions through acoustical design and construction of the building elements: • Residential building designs must be based upon a minimum interior design noise level reduction of 35dB in all habitable areas (i.e., garages, storage areas, etc. are excepted). The 35dB criteria must provide a minimum constructed noise level reduction of 30dB; and • Residential building designs must also be based upon a minimum design noise level reduction of 40dB in all bedrooms. The 40dB criteria must provide a minimum constructed noise level reduction of 35dB. SN—I-42 Require that all residential building designs for sites where the DNL will exceed 65dBA include supporting information for City review and approval demonstrating that an acoustical design providing the necessary noise level reduction has been prepared by a Board Certified Acoustical Engineer for each dwelling unit prior to construction. Elements of this acoustical review process shall include: • A letter by a Board Certified Engineer approving the acoustical design of each dwelling unit (or group of units, if identical), submitted to the City with building	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	permit applications. This letter must be received and approved prior to the issuance of a building permit; • Following construction, a letter by the Board Certified Engineer showing noise level reduction test results for a minimum of two habitable areas within each dwelling unit (or group of units, if identical), submitted to the City for review and approval prior to the issuance of an occupancy permit. *Acoustical analysis pursuant to General Plan noise standards shall be the financial responsibility of the project applicant. All acoustical engineering and measurement must be conducted under the direction of an Acoustical Engineer who is currently Board Certified by the Institute of Noise Control Engineering, USA. General review and approval of groups of buildings or prototype designs may be sufficient to meet these requirements.*	
Hazardous Materials		
3.10-1 Implementation of the proposed San Pablo General Plan could result in exposure to residents or workers of hazardous materials or wastes from areas where releases of hazardous materials such as from underground fuel storage tanks have occurred.	PSCU-G-8 Enhance waste reduction and recycling in San Pablo. PSCU-I-39 Require recycling collection services in all residential and non-residential buildings. PSCU-I-40 Promote the importance of waste reduction and recycling, as well as the safe disposal of hazardous materials, to San Pablo residents and businesses owners. *Avenues of communication of waste reduction and conservation messages may include articles in local newsletters, advertisements in local newspapers, and the City website.* SN-G-4 Reduce the risk to the health of San Pablo residents from exposure to hazardous materials. SN-G-5 Promote the reduction, recycling, and safe disposal of household and business hazardous wastes through public education and awareness. SN-I-20 Require applicants for development in a potentially contaminated location to perform inspection and cleanup if the site is found to be contaminated with hazardous substances. *The City will require the project applicant to have the site inspected by a registered Environmental Assessor. Reports detailing the results must be submitted for City review. The level of remediation and cleanup will be in compliance with federal and State standards.*	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	SN-I-21 Continue to support West Contra Costa Integrated Waste Management District's Household Hazardous Waste Drop-off Program, and encourage citizens and crime watch organizations to report unlawful dumping of hazardous materials. SN-I-22 Ensure that the production, use, storage, disposal, and transport of hazardous materials conform to standards specified in the County Hazardous Waste Management Plan. SN-I-23 Coordinate with Contra Costa County Health Services, the Contra Costa County Fire District, and other appropriate regulatory agencies in hazardous material emergency response and the review of all proposals that uses hazardous materials, or those properties that may have toxic contamination, such as petroleum hydrocarbons, CAM 17, metals, asbestos, and lead.	
3.10-2 Implementation of the proposed San Pablo General Plan could result in the disturbance of structures containing hazardous building materials, such as lead-based paint, asbestos, and PCBs which could expose and adversely affect workers, the public, or the environment if not handled appropriately.	Policies mentioned under Impact 3.10-1 would also help reduce this impact to a level that is less than significant. No additional mitigation is needed.	Less than Significant
3.10-3 Implementation of the proposed San	Policies PSCU-G-8, SN-G-5, SN-I-22 and SN-I-23 listed under Impact 3.10-1 would help reduce this impact to a level that is less than significant.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
Pablo General Plan could result in new commercial and light industrial uses that would involve the transportation, use, and storage of hazardous chemicals, which could present public health and/or safety risks to facility workers, patients and visitors, and the surrounding area.		
3.10-4 Implementation of the proposed San Pablo General Plan could result in new development that would result in a cumulatively considerable contribution to hazardous materials in the planning area.	None required.	Less than Significant
Cultural Resources		
3.11-1 Implementation of the proposed General Plan would cause a substantial adverse change in	OSC-I-13 Establish and maintain a register of historic and potentially historic resources in San Pablo. *A historic preservation register is the primary planning tool used to identify, record, and evaluate historic properties within a community, neighborhood, project area, or region. The City may use the list of historical buildings in the General Plan Map Atlas as a starting point to create a register of sites/buildings San Pablo may wish to designate as landmarks and/or important historical*	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
the significance of an archaeological or historic resource, or disturb any human remains, including those interred outside of formal cemeteries.	*resources. The register can form an important component of the local preservation program, and can ultimately contribute to community knowledge of local history.* OSC-I-14 Preserve and build upon the historic and multicultural identity of Alvarado District as a defining element of the city. OSC-1-15 Help to ensure that new development analyzes and avoids potential impacts to historic, archaeological, and paleontological resources by: • Requiring a records review for development proposed in areas that are considered archaeologically or paleontologically sensitive; • Requiring pre-construction surveys and monitoring during any ground disturbance for all development in areas of historic or archaeological sensitivity; • Implementing appropriate measures as a condition of project approval—measures such as avoidance, preservation in place, excavation, documentation, and/or data recovery—in order to avoid any identified cultural resource impacts. *In the event that historical, archaeological, or paleontological resources are accidentally discovered during construction, grading activity in the immediate area shall cease and materials and their surroundings shall not be altered or collected. A qualified archaeologist or paleontologist must make an immediate evaluation and avoidance measures or appropriate mitigation should be completed, according to CEQA Guidelines. The State Office of Historic Preservation has issued recommendations for the preparation of Archaeological Resource Management Reports that may be used as guidelines.* OCS-1-16 Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, and to educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape. *Native American cultural resources in the Planning Area have been found near sources of water including perennial and intermittent streams and springs, on midslope terraces and elevated knolls above the floodplain, and near ecotones and other productive environments. There is a high likelihood that additional unrecorded Native American cultural sites also exist in the Planning Area.*	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
3.11-2 Implementation of the proposed General Plan could destroy, directly or indirectly, a unique paleontological resource or site or unique geologic feature.	Policy OSC-I-15 cited under Impact 3.11-1 would help reduce this impact to a level that is less than significant.	Less than Significant
Visual Resources		
3.12-1 Implementation of the proposed San Pablo General Plan could adversely affect visual resources in the short-term during period of construction by blocking or disrupting views.	LU-I-7 Require design review of all new construction and visible exterior alterations of large non-residential buildings. *Any new non-residential construction or remodeling of an existing building where exterior work alters more than 50 percent of a visible building façade, including exterior improvements, such as new windows, doors or signage, will be subject to a design review.* LU-I-11 Enhance the City's unique identity and image by adopting a consistent palette of landscaping, street trees, lighting, and signage within the public right-of-way for neighborhood and street improvements. *Large canopy street trees, such as oaks or the London Plane tree, can create a distinct character for San Pablo. They also provide important environmental benefits.*	Less than Significant
3.12-2 Implementation of the proposed San Pablo General Plan could block views of significant landscape features as seen from public areas.	LU-I-45 Protect the semi-rural character of the hillside area through the integration and balance of usable open space areas and residential uses. OSC-I-2 Continue to identify, preserve, and enhance scenic vistas to and from hillside areas and other visual resources. *New development should be designed to minimize obstructions of scenic vistas and preserve or enhance important attributes of view corridors.* OSC-I-7 Preserve and protect undeveloped hillside areas for their potential habitat value and as a visual and open space resource.	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
3.12-3 Implementation of the proposed San Pablo General Plan could create significant contrasts with the scale, form, line, color and/or overall visual character of the existing landscape in areas with sensitive visual resources or high visual quality, or add a modern element to a historic area.	LU-I-4 Ensure appropriate transitions between single-family neighborhoods and higher intensity uses. LU-I-5 Promote the phasing out of old uses in areas designated for new land use in an orderly fashion, consistent with adopted general plan designations. Promote the continuing viability of old uses during the transition period. LU-I-9 Encourage new residential, commercial and related forms of development in a manner which fosters both day and appropriate night time activity; visual presence on the street level; appropriate lighting; and minimally obstructed view areas. LU-I-12 Enhance and celebrate key entrances to the City with signs, landscaping, street trees, lighting, banners, gateway and/or entry features. LU-I-13 Ensure that new development in or adjacent to established neighborhoods is compatible in scale and character with the surrounding area by: • Promoting a transition in scale and architecture character between new buildings and established neighborhoods; and • Requiring pedestrian circulation and vehicular routes to be well integrated. LU-I-21 Ensure that noise, traffic, and other potential conflicts that may arise in a mix of commercial and residential uses are mitigated through good site planning, building design, and/or appropriate operational measures. LU-I-27 Establish design guidelines to assure high quality design and site planning for large commercial and industrial developments. The guidelines should address: • Architectural finishes, coordinated color palette, massing, and hierarchy in scale; • Pedestrian-scaled amenities, signage, and lighting; • Site improvements, including parking lot landscaping, perimeter landscaping, foundation landscaping, walkways, and passageways; • Ground floor transparency requirements along shopping streets and limitations on blank walls in these areas;	Less than Significant

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	• Anti-theft glass on windows, instead of bars or roll-down metal screens, that are architecturally compatible with building design; • Screening of truck loading, parking, mechanical equipment, transformers, ventilation systems, storage containers, and refuse collection areas from the street; • Building entries; and • Design standards for perimeter walls and fencing. *Where a building exceeds a certain height, the City will evaluate shading created and its relationship and effects on surrounding buildings.* LU-I-38 Develop a distinct design theme with defined design standards and guidelines for each of the special planning areas to foster an identifiable image for each area. OSC-I-3 Recognize the importance of Alvarado Park as a gateway to Wildcat Canyon Regional Park and an important recreational and open space resource. Facilitate access to this open space network. OSC-I-10 Maintain, protect, and enhance San Pablo's creeks, including Rheem, San Pablo, and Wildcat creeks, as local environmental and aesthetic resources, with approaches including, but not limited to: • Establishing a Creek Improvement Program to widen, day-light, and improve San Pablo and Wildcat creeks for the enjoyment of residents; • Strengthening stormwater management requirements for properties adjacent to the creek areas by applying techniques that maintain or restore nature character; • Identifying and working with property owners to take advantage of unique opportunities where human active use (e.g. through trail development) would enhance creek appreciation without disrupting ecological function; • Working with developers to "daylight" portions of creeks that have historically been channelized underground under existing paved areas (e.g. parking lots); and • Requiring minimum setbacks from the top of the creek bank for development proposed adjacent to creeks, in keeping with City regulations and Best Management Practices.	

Table ES-3 Summary of Impacts and Proposed General Policies that Reduce the Impact

Impact	*Proposed General Policies and Mitigation Measures that Reduce the Impact*	*Significance after Mitigation*
	OSC-I-13 Establish and maintain a register of historic and potentially historic resources in San Pablo. OSC-I-14 Preserve and build upon the historic and multicultural identity of Alvarado District as a defining element of the city. SN-I-6 Require erosion prevention of hillside areas by re-vegetation or other acceptable methods. The policies LU-I-7 and LU-I-11cited under Impact 3.12-1 as well as policies LU-I-45, OSC-I-2 and OSC-I-7 cited under Impact 3.12-2 would help to reduce this impact and are incorporated by reference. No additional mitigation is necessary.	
3.12-4 Implementation of the proposed San Pablo General Plan could create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	PSCU-I-7 Provide security lighting to illuminate communal areas and pathways in all parks to ensure safety, and where feasible, select lighting fixtures that will not produce glare or illuminate the night sky. *Whenever possible, the City will select lighting fixtures that will not produce glare or illuminate the night sky, are solar–powered, and/or can turn on automatically in low light conditions.*	Less than Significant

1. Introduction

This program Environmental Impact Report (EIR) has been prepared on behalf of the City of San Pablo in accordance with the California Environmental Quality Act (CEQA). This EIR analyzes the potential significant impacts of the adoption and implementation of the proposed San Pablo General Plan.

1.1 PURPOSE OF THE EIR

This environmental assessment of the proposed San Pablo General Plan fulfills the requirements of CEQA and is designed to inform decision-makers, responsible and trustee agencies, and the general public of the proposed action and the range of potential environmental impacts of that action. The EIR process provides an opportunity to identify environmental benefits of the proposed San Pablo General Plan that might balance some potentially significant adverse environmental impacts. The EIR recommends measures to mitigate significant adverse regional impacts identified in the analysis of the proposed San Pablo General Plan. This EIR also analyzes alternatives to the proposed Plan. The final EIR will include a Mitigation Monitoring Program that identifies who will be responsible for implementing the measures. As the lead agency for preparing this EIR, the City of San Pablo will use it in its review of the proposed San Pablo General Plan prior to taking action on the Plan.

This EIR represents the best effort to evaluate the potential environmental effects of the proposed San Pablo General Plan given its long-term planning horizon. It can be anticipated that conditions will change; however, the assumptions used are the best available at the time of preparation and reflect existing knowledge of patterns of physical and economic development, travel, and technological factors.

RELATIONSHIP TO OTHER EIRS

As a program EIR, the preparation of this document does not relieve the sponsors of specific projects from the responsibility of complying with the requirements of CEQA (and/or NEPA for projects requiring federal funding or approvals). As noted, individual projects are required to prepare a more precise, project-level analysis to fulfill CEQA and/or NEPA requirements. The lead agency responsible for reviewing these projects shall determine the level of review needed, and the scope of that analysis will depend on the specifics of the particular project. These projects may, however, use the discussion of impacts in this EIR as a basis of their assessment of these regional, citywide, or cumulative impacts.

APPROVALS FOR WHICH THIS EIR WILL BE USED

This EIR is being prepared for use by the City of San Pablo in its review and approval of the proposed San Pablo General Plan. The EIR is intended to be solely used for the approval of the proposed Plan and should not be used for the approval of individual projects undertaken subsequent to the Plan's adoption. However, information in this document can be referenced as applicable.

1.2 GENERAL PLAN PROCESS AND PUBLIC INVOLVEMENT

The General Plan update process was initiated by the City of San Pablo in the fall of 2008. To help prepare the General Plan, a General Plan Advisory Committee (GPAC) was formed. The responsibilities of this committee included as serving as representatives of the community during preparation of the new Plan and providing input on evolving policies and products. The committee included representatives from the City Council, Contra Costa County, Doctors Medical Center, local residents and the business community.

The GPAC worked closely with City staff and met on a frequent basis to address concerns raised by the public. Four community-wide meetings were held, one in April 2009 to discuss general planning concerns and conduct a visioning exercise; one in June 2009 to present and discuss the sketch plan designs; one in August 2009 to discuss the preferred plan concept; and one in April 2010 to discuss the Housing Element. In between public workshops and open houses, the City held numerous meetings with GPAC. Public feedback at the workshops and those expressed indirectly through GPAC meetings have been incorporated into the planning process. Additionally, joint City Council/Planning Commission study sessions were also held to formulate draft policies. Finally, in order to update the community on the planning progress, several newsletters were prepared and distributed to residents during the entire General Plan update process. All of the documents, maps, and reports were also made available to the public through the City of San Pablo website, at http://www.ci.san-pablo.ca.us/main/GeneralPlan2030.htm.

The proposed General Plan will be considered by the City Council at public hearings following public review of this Draft EIR. If approved, the proposed Plan will become the City's new General Plan and be used to guide land use decision-making to the year 2030 or until a subsequent General Plan is adopted.

1.3 NOTICE OF PREPARATION

A Notice of Preparation (NOP) for the EIR on the proposed City of San Pablo General Plan was circulated in August 2008 (received at the State Clearinghouse on August 15, 2008) and the City received comments during a 30-day review period. The NOP and comments on that NOP received by the City are in Appendix A of this EIR. An environmental review meeting was held at City Hall on August 28, 2008. NOP comments, along with input received during public workshops and meetings, helped to identify the major planning and environmental issues and concerns and establish the framework of this EIR.

1.4 EIR APPROACH AND ISSUES ADDRESSED

The San Pablo General Plan EIR is a program EIR, defined in Section 15168 of the CEQA Guidelines as: "[An EIR addressing a] series of actions that can be characterized as one large project and are related either: (1) Geographically; (2) A[s] logical parts in the chain of contemplated actions; (3) In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts which can be mitigated in similar ways."

Program EIRs can be used as the basic, general environmental assessment for an overall program of projects such as the San Pablo General Plan, intended to be developed over a 20-year planning horizon. A program EIR has several advantages. First, it provides a basic reference document to avoid unnecessary repetition of facts or analysis in subsequent project-specific assessments. Second, it allows the lead agency to look at the broad, regional impacts of a program of actions before its adoption and eliminates redundant or contradictory approaches to the consideration of regional and cumulative effects.

As a programmatic document, this EIR presents a citywide assessment of the potential impacts of the proposed San Pablo General Plan. It does not separately evaluate subcomponents of the proposed Plan nor does it assess project-specific impacts of potential future projects under the General Plan, all of which are required to comply with CEQA and/or NEPA as applicable.

ENVIRONMENTAL ISSUE AREAS

As provided for in the CEQA Guidelines, the focus of this EIR is on those environmental issues and concerns identified as possibly significant by San Pablo in its Notice of Preparation (see Appendix A). These issue areas of concern include:

- **Land Use:** *Would the San Pablo General Plan:* Conflict with applicable area land use plans, including the County Plan and specific plans? Result in community residential or business disruption or displacement of substantial numbers of existing population and housing? Result in permanent alterations to the characteristics and qualities of an existing neighborhood or community?
- **Transportation:** *Would the San Pablo General Plan:* Conflict with policies in the General Plan establishing level of service (LOS) standards? Conflict with the applicable Congestion Management Program or adopted Action Plan for Routes of Regional Significance? Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?
- **Air Quality:** *Would the San Pablo General Plan:* Cause the rate of increase in VMT or vehicle trips to exceed the rate of increase in population indicated by current ABAG projections (2007 and 2009; transportation model is calibrated to 2007) for the years covered by the proposed General Plan? Be inconsistent with or fail to implement the Air Quality Plan Transportation Control Measures? Fail to identify or establish goals, policies, objectives, and/or overlay or buffer zones for existing and proposed land uses that would emit odors or toxic air contaminants in order to minimize potential impacts of these emissions on sensitive receptors?
- **Energy and Greenhouse Gases:** *Would the San Pablo General Plan:* Cause a substantial increase in energy consumption, or cause GHGs to exceed BAAQMD thresholds? Require a substantial increase in energy supply capacity or infrastructure the construction of which could cause adverse environmental effects? Conflict with any existing local, regional, state, or federal standards for energy production or efficiency or efforts to implement AB 32 or SB 375?
- **Water Resources:** *Would the San Pablo General Plan:* Violate any water quality standards or waste or storm water discharge requirements? Substantially deplete groundwater supplies or

interfere substantially with groundwater recharge? Substantially alter the existing drainage pattern of the area causing flooding or erosion? Expose people or structures to a significant risk of loss, injury, or death involving flooding?

- **Biological Resources:** *Would the San Pablo General Plan:* Would the proposed San Pablo General Plan have the potential to disturb or reduce important habitats for plant and animal species, especially rare and endangered species? Would the proposed San Pablo General Plan obstruct the migration and movement of species within their habitats? Would the Plan be consistent with adopted conservation plans?
- **Geology and Seismicity:** *Would the San Pablo General Plan:* Increase exposure of people or structures to the risk of property loss, injury, or death involving earthquake ground shaking, seismic-related ground failure, liquefaction, or landslides? Result in substantial soil erosion or topsoil loss?
- **Public Services, Facilities, and Utilities:** *Would the San Pablo General Plan:* Result in adverse environmental effects due to necessary increases in staffing, facilities, and equipment for public services? Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? Result in adverse environmental effects due to the provision of necessary new, altered, or expanded water, wastewater, storm drainage, or solid waste disposal systems? Conflict with existing city standards for parks provision?
- **Noise:** *Would the San Pablo General Plan:* Expose persons to or generate construction noise levels and groundborne vibration? Expose persons to or generate noise levels in excess of those considered 'normally acceptable' compared to existing conditions?
- **Hazardous Materials and Wildfire Hazards:** *Would the San Pablo General Plan:* Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions resulting in the release of hazardous materials? Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? Expose people or structures to a significant risk of loss, injury, or death involving wildland fires?
- **Cultural Resources:** *Would the San Pablo General Plan:* Cause a substantial adverse change in the significance of a historic resource? Cause a substantial adverse change in the significance of a unique archaeological resource? Disturb any human remains, including those interred outside of formal cemeteries? Destroy, directly or indirectly, a unique paleontological resource or site or unique geologic feature?
- **Visual Resources:** *Would the San Pablo General Plan*: Block panoramic views or views of significant landscape features or landforms as seen from public viewing areas? Create significant contrasts with the scale, form, line, color and/or overall visual character of the existing landscape in areas with sensitive visual resources or high visual quality? Add a visual element of urban character to an existing rural or open space area or add a modern element to a historic area? Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

TYPES OF IMPACTS

According to CEQA Guidelines, the following general types of environmental impacts need to be considered:

- **Direct or primary impacts,** which are caused by the project and occur at the same time and place as the project.
- **Indirect or secondary impacts,** which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other impacts related to induced changes in the pattern of land use, population density, or growth rate, and related impacts on air and water and other natural systems, including ecosystems. Indirect or secondary impacts may also include cumulative impacts.
- **Short-term impacts,** which are those of a limited duration, such as the impacts that would occur during the construction phase of a project.
- **Long-term impacts,** which are those of greater duration, including those that would endure for the life of a project and beyond.
- **Significant unavoidable impacts,** which cannot be mitigated to a level that is less than significant.
- **Irreversible environmental changes,** which may include current or future irretrievable commitments to using non-renewable resources, or growth-inducing impacts that commit future generations to similar irretrievable commitments of resources. Also, irreversible change can result from risks of accidents and injury associated with the project.
- **Cumulative impacts,** which include two or more individual impacts that when considered together are considerable or which compound or increase other adverse environmental effects. The individual impacts may be changes resulting from a single project or a program of projects. The cumulative effect from several projects is the change in the environment that results from the incremental effect of the proposed project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time.

TIMEFRAME

For analytic purposes in this EIR, the year 2010 is the base year (existing conditions), while the year 2030 is the horizon year (future conditions) when the proposed San Pablo General Plan will be fully implemented. In cases where current data is not available, the default is to use the latest known data to depict the baseline (i.e., existing conditions). The proposed Plan covers approximately a 20-year planning period, and the year 2030 represents the last year of the plan when projects/programs are anticipated to be fully implemented.

ALTERNATIVES

CEQA requires EIRs to evaluate a reasonable range of alternatives to the proposed Project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts. This EIR will evaluate three alternatives, namely

Alternative A: Centers and Nodes; **Alternative B:** Urban Boulevard; and the **No Project Alternative**.

See Chapter 4 for more details about the alternatives.

CUMULATIVE IMPACTS ASSUMPTIONS

Due to the size of planning area, this EIR uses a regional projections approach to assess the cumulative impacts of the proposed San Pablo General Plan. The EIR attempts to distinguish between the impacts of the proposed Plan and the independent impacts of forecasted future population and employment growth in nearby communities, together with assumptions about where this growth will occur. Projections for the proposed Project are based on the regional growth projections prepared by the Association of Bay Area Governments (ABAG). The most recent adopted forecast is used in this EIR: *Projections 2009*. Notably, the transportation, air quality, energy and greenhouse gases, hydrology and water quality, and noise analyses are largely cumulative impact analyses.

1.5 EIR ORGANIZATION

EXECUTIVE SUMMARY

This EIR begins with an executive summary of the environmental analysis, which includes a review of the potentially significant adverse regional environmental impacts of the proposed San Pablo General Plan and the measures recommended to mitigate those impacts. The executive summary also indicates whether or not those measures mitigate the significant impacts to a less than significant level. Finally, the executive summary describes the alternatives and their merits as compared to the proposed San Pablo General Plan, and identifies the environmentally superior alternative among them.

CHAPTER 1: INTRODUCTION AND ORGANIZATION

Chapter 1 (this chapter) describes the relationship between the proposed San Pablo General Plan and the EIR, the organization of the EIR, and the basic legal requirements of a program level EIR. It discusses the level of analysis and the alternatives considered as well as how this EIR is related to other environmental documents and the EIR's intended uses.

CHAPTER 2: PROJECT DESCRIPTION

Chapter 2 introduces the purpose and objectives of the proposed San Pablo General Plan and summarizes specific information to describe the proposed Plan and complete the EIR analysis. This includes a description of the existing project setting, an outline of the projected population and employment growth rates and development patterns through the 2030 planning horizon year, and land use maps, tables, and key policy direction.

CHAPTER 3: SETTINGS, IMPACTS, AND MITIGATION MEASURES

Chapter 3 describes the existing physical and regulatory settings for each of the environmental issue areas analyzed in the EIR, the potential impacts of the proposed San Pablo General Plan on these environmental issue areas, the proposed Plan policies that help to reduce those impacts,

and, if necessary, measures to mitigate potential impacts identified. Each issue area is analyzed in a separate numbered subsection of the chapter. Each subsection is organized as follows:

- Environmental Setting
  - Physical Setting
  - Regulatory Setting
- Impact Analysis
  - Significance Criteria
  - Methodology and Assumptions
  - Summary of Impacts
  - Impacts and Mitigation Measures

CHAPTER 4: ANALYSIS OF ALTERNATIVES

Chapter 4 includes a description of alternatives to the proposed San Pablo General Plan and an assessment of their potential to achieve the objectives of the proposed Plan while reducing potentially significant adverse environmental effects. As required by CEQA, an environmentally superior alternative is identified.

CHAPTER 5: CEQA-REQUIRED CONCLUSIONS

Chapter 5 provides the assessment of impacts of the proposed Plan in several subjects areas required by CEQA, including:

- Significant irreversible environmental changes;
- Significant unavoidable impacts;
- Growth-inducing impacts;
- Cumulative impacts; and
- Effects found to be not significant.

CHAPTER 6: BIBLIOGRAPHY AND APPENDICES

Chapter 6 includes a bibliography and the EIR appendices. Appendix A includes the Notice of Preparation (NOP) of this EIR and the comments received on the NOP, Appendix B includes transportation volume figures and modeling results, while Appendix C shows a list of special status species potentially occurring in and adjacent to the Planning Area.

2. Project Description

The project analyzed in this EIR is the proposed San Pablo General Plan. Under California Government Code Section 65300 et. seq., cities are required to prepare a general plan that establishes policies and standards for future development, housing affordability, and resource protection for the entire planning area. By law, a general plan must be an integrated, internally consistent statement of City policies. Section 65302 requires that a general plan include the following seven elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. Additional elements may be included in the general plan as well, at the discretion of the City. Optional elements in the proposed San Pablo General Plan include Economic Development, Growth Management, Public Facilities and Utilities, and Health. All elements have equal weight, and no one element supersedes another. Cities may amend the general plan four times a year (each amendment may include any number of changes), and cities are encouraged to keep the plan current through regular updates.

This chapter introduces the purpose and objectives of the proposed San Pablo General Plan and summarizes specific information to describe the proposed Plan and complete the EIR analysis. This includes a description of the existing regional and local project setting, an outline of the projected population and employment growth rates and development patterns through the planning horizon year, the proposed land use diagram, key data tables, and key policy direction. This project description provides the basis for the environmental analysis in Chapter 3.

2.1 REGIONAL LOCATION AND PLANNING BOUNDARIES

REGIONAL LOCATION

The City of San Pablo is situated within the western portion of Contra Costa County, inland from the east side of San Pablo Bay. The City is conveniently located off Interstate 80, minutes away from the Bay Area cultural centers of Berkeley, Oakland and San Francisco. The City is nestled between the cities of Pinole and Richmond and the neighboring cities of El Cerrito and Hercules. The unincorporated community of El Sobrante is located to south of the eastern extension of San Pablo. The north tip of Wildcat Canyon Park abuts the City's southeastern border and provides a place of recreation for San Pablo residents. The City has an area of approximately 2.8 square miles. The regional setting is depicted in **Figure 2.1-1**.

Figure 2.1-1
San Pablo
Regional Location
Open Space
Urbanized Land
San Pablo Ave Specific Plan
San Pablo City Limits
BART
Railroad
Interstate Highway
0 1/4 1/2 1
MILES
Pt. Pinole Regional Park
Pinole
Hilltop Bayview
El Sobrante
San Pablo
North Richmond
Richmond
Richmond BART
El Cerrito
El Cerrito Del Norte BART
El Cerrito Plaza BART
Kensington
Wildcat Canyon Regional Park
San Francisco Bay
80
580

PLANNING BOUNDARIES

The City of San Pablo exhibits the characteristics of many Bay Area cities. The city is nearly fully developed with little or no land separating city limits from an adjacent city. Prominent features include ridges of the Wildcat Canyon Park which form a backdrop to the city to the east. The Planning Area for the General Plan includes land located within and adjacent to the city that has relevance for long-term development or conservation. The Interstate 80 Highway passes through the Planning Area in a north-south direction.

City Limits

The City of San Pablo's existing city limits encompasses approximately 1,666 acres (2.6 square miles) of incorporated land or 93 percent of the Planning Area (**Figure 2.2-1**). The city limits include residential, commercial and industrial developments as well as public facilities, including parks and schools.

Sphere of Influence

The Sphere of Influence (SOI) is defined as the ultimate physical boundary and service area of the city, beyond which urban development will not be allowed except for public parks and recreational services. The city's SOI boundary incorporates a total of 1,895 acres (2.9 square miles) or 106 percent of the total land located in the Planning Area. The SOI includes all areas falling within city limits, including the Rollingwood residential area located along El Portal Drive and I-80 at the city's northeastern border, and the Hillside neighborhood, which is adjacent to the northern boundary of Alvarado Park at the eastern edge of the city. Urban and built-up land is the most common land category found within the city SOI.

Planning Area

The Planning Area is defined as the land area addressed by the General Plan, including land within city limits and outside city limits that bears a relation to the City's planning. The Planning Area has been defined with the intention of focusing future growth on land contiguous to the city and encouraging urban infill. Being included within the Planning Area does not necessarily mean that the City is considering annexation.

The proposed Planning Area comprises a total of 1,790 acres (2.8 square miles) of both incorporated and unincorporated land. More specifically, the Planning Area extends north to the northern edge of the Bayview neighborhood touching Richmond Parkway, northeast to the Rollingwood residential area, east towards the Hillside neighborhood near El Portal Drive, west towards Giant Road, and south towards Costa Avenue. The Rollingwood residential area comprising 85 acres of low density residential land is a new addition to the Planning Area. Unless stated otherwise, this area is generally not included in the calculations in this EIR since it is not formally part of San Pablo.

2.2 PURPOSE AND OBJECTIVES OF THE GENERAL PLAN

CEQA Guidelines Section 15124(b) requires a description of project purpose and objectives.

PLAN PURPOSE

The San Pablo General Plan is a document required under State law to address issues related to physical development and conservation of resources. Specifically, the General Plan has the following key purposes:

- Outline a long-range vision that reflects the aspirations of the community;
- Establish goals and policies to guide development and conservation decisions by City Council members and City staff;
- Provide a basis for judging whether specific development proposals and public projects are in harmony with the City's long-range vision;
- Allow City departments, other public agencies, and private developers to design projects that enhance the character of the community, preserve environmental resources, and minimize hazards; and
- Provide the basis for establishing and setting priorities for detailed plans and implementing programs, such as the Zoning Ordinance, subdivision regulations, specific and area plans, and the Capital Improvement Program.

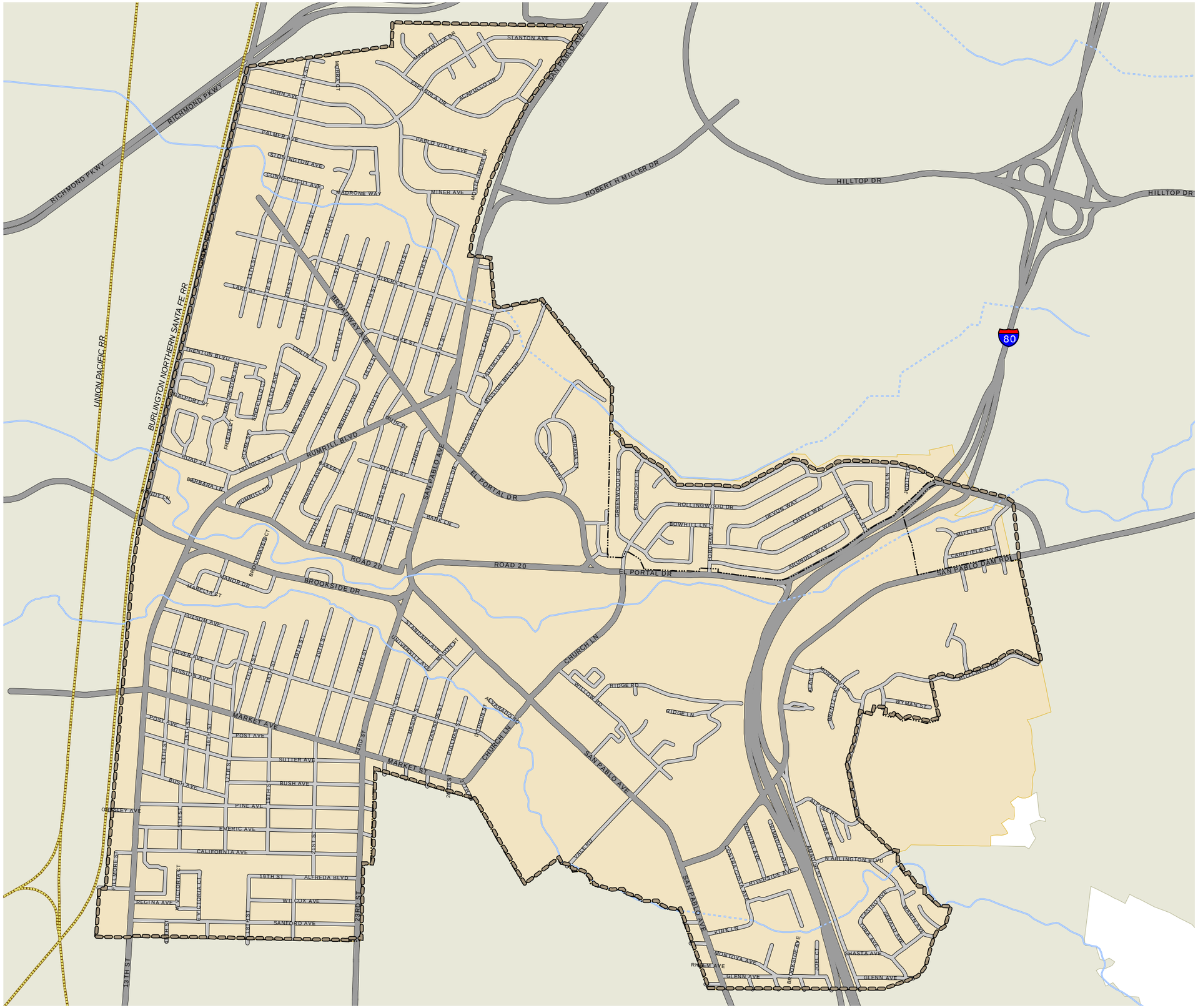
The proposed General Plan is intended to respond directly to changes experienced in San Pablo since the adoption of the current General Plan (1996). New goals and policies are introduced to respond to the City's changing demographics and economic environment, land use demands, as well as State and federal laws. The proposed General Plan has a planning horizon of 20 years and is both general and long-range.

Plan policies and goals respond to key ideas from the community and focuses on current and future community needs, economic development opportunities, how to encourage mixed use and infill development, satisfy housing demand, and improve the quality of life. It also addresses environmental resource conservation and the health and safety needs of residents. Lastly, it responds to resident preferences about where different land uses such as shopping, public services, parks and recreation, housing, and other resources should be located and how best the City could achieve the Plan's goals.

The General Plan integrates plans and programs adopted since 1996, when the last General Plan was adopted. These include the San Pablo 23rd Street Specific Plan, the Wanlass Park Development Plan, and the Housing Element and San Pablo Avenue Specific Plan that are being developed concurrently with the General Plan. The Contra Costa Transportation Authority (CCTA) also updated the Countrywide Transportation Plan as part of the voter approved Measure J, which provides $2 billion in funding for transportation programs for cities.

Figure 2.2-1

Planning Area Boundaries



Planning Area
City Limits
Sphere of Influence
Urban Limit Line

Major Roads
Minor Roads
Railroads

0 0.25 0.5
Miles

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 2.2-2

PLAN OBJECTIVES

Key objectives for the proposed General Plan were identified and considered by the General Plan Advisory Committee, based on input by the public, key stakeholders, and City staff. As the Plan took shape, these ideas were further refined. The maps and policies in the General Plan are structured around the following key initiatives:

- **Economic Development.** The proposed General Plan supports economic development through the redevelopment of vacant and underutilized sites. The General Plan Land Use Diagram supports new employment generating uses along major transportation corridors as well as smaller scale neighborhood commercial centers dispersed throughout the city to provide a range of employment opportunities for local residents.
- **Pedestrian and Bicycle-Friendly Community.** The creation of a pedestrian and bicycle-friendly community is a chief objective of the Plan. Plan policies aim to enhance San Pablo's urban character with diversified, mixed-use neighborhoods and pedestrian and bicycle access to parks, schools and neighborhood retail.
- **Community Facilities.** The San Pablo community feels strongly that activities that serve the community are important to them. The General Plan responds to community desires for family-oriented community facilities through new land use designations, such as Mixed Use Center South that allows community uses to develop among residential and retail development, and direction for impact fees to fund improvements.
- **Safety and Health.** In response to community feedback, the Plan aims to improve health and safety through greater cooperative efforts with the Police Department as well as by transportation planning, encouraging healthy-living through food strategies, equitable job and housing opportunities, and safety through community design.
- **Parks and Open Space.** Parks and open space are a critical part of the city's livability, but currently do not meet the needs of the city's population. The Plan calls for future parks and public open space throughout the planning area and the development of a network of trails along San Pablo, Wildcat, and Rheem creeks to provide recreational areas in close proximity to neighborhoods.

2.3 THE PROPOSED GENERAL PLAN LAND USE DIAGRAM AND LAND USE CLASSIFICATIONS

The proposed General Plan includes goals and policies that give direction to land use, transportation, conservation, and other issue areas that affect city growth and development over the 20 years. These goals and policies, however, are only meaningful when informed by a map that shows the locations of different land uses and a land use framework that describes allowable uses and ranges of intensity/density. The General Plan Land Use Diagram and the

General Plan Land Use Classifications fulfill these requirements and are described in turn in the proceeding section.

THE GENERAL PLAN LAND USE DIAGRAM

The General Plan Land Use Diagram, illustrated in **Figure 2.3-1,** shows the planned future land use pattern for the San Pablo Planning Area. The Diagram is the product of a community driven design process that began in early 2008. It is shaped by ideas from the public and developed by City staff in consultation with the GPAC and City Council. As the General Plan took shape, the Diagram has evolved to more accurately depict a workable land development pattern, responding to development opportunities, environmental resources constraints, and the needs and desires of the community.[1]

The General Plan Land Use Diagram combines the most desirable aspects of Alternative Plans A and B with additional new ideas and input from the community. The basic premise of the Plan is to increase housing opportunities and revitalize San Pablo's economy by proposing new mixed use land uses along transportation corridors, particularly San Pablo Avenue, 23rd Street and Rumrill Boulevard. Most of the future growth is expected to occur on vacant or currently underutilized sites. The new mixed uses will allow developments with a variety of intensities to emerge in different locations. The defining elements of the Plan are described below (refer to **Figure 2.3-1**).

Student Oriented Mixed Use Center at Mission Plaza. A triangle-shaped block of land at the junction of El Portal Drive, Rumrill Boulevard and San Pablo Avenue will be developed as a Mixed Use Center to provide high density student-oriented housing with ground floor retail and entertainment. The area will complement the planned College Center development along San Pablo Avenue and create an extended mixed-use student-oriented district with direct access to Contra Costa College.

Residential and Office Oriented Corridor along San Pablo Avenue. A Residential Mixed Use corridor with a mix of office, residential and retail uses is planned immediately south of Mission Plaza, along San Pablo Avenue between El Portal Drive and Road 20. The proposed uses will capitalize on the site's central location and high visibility to serve as San Pablo's new office corridor. Further down the corridor along 23rd Street, lower-scale commercial and neighborhood retail are proposed to serve the surrounding neighborhoods and provide an employment base for small retailers.

Community Oriented Mixed Use Center at Circle S. A high-intensity Mixed Use Center will be developed between Church Lane, San Pablo Avenue, Vale Road, and Wildcat Creek. This 18 acre site (the former location of the Circle S and Alvarado mobile home parks and the Walgreens Supermarket) will allow a broad variety of mixed uses. Proposed uses include a small park that capitalizes on the location's proximity to Wildcat Creek, "destination retail" such as fine dining and boutique shopping, a multi-purpose, community-oriented amphitheatre or event space, community health-related services, and multifamily residential development. The Mixed Use Center will establish a strong a continuous retail street frontage

[1] The Diagram is not parcel-specific, and uses on sites less than one acre in size are generally not depicted.

along San Pablo Avenue to create a vibrant and walkable community destination in San Pablo.

Regional Oriented Retail-Entertainment District. The Plan calls for the redevelopment of the existing FoodMaxx, San Pablo Towne Center and Big Lots sites into a new pulsating entertainment-cum-retail district near the junction of San Pablo Avenue and San Pablo Dam Road. This new district will provide better visual and circulation linkages with the existing Lytton Casino, with a mix of higher intensity retail and entertainment uses that establish San Pablo as the region's entertainment destination. Additionally, office space will also be provided along San Pablo Avenue to accommodate the expansion of medical offices in the vicinity.

Industrial Mixed Use along Rumrill Boulevard. Light industrial development is proposed along Rumrill Boulevard south of Market Avenue. Existing factories and junk yards will be replaced with modern industrial complexes with well-designed facades and landscaped areas. The goal of the Plan is to remove blight and revitalize the Rumrill Boulevard corridor. Existing residential uses west of Rumrill Boulevard will be allowed to remain but no new residential uses will be built here. Streetscape improvements will complete the facelift for this area.

New Parks and Trails. The Plan calls for the development of new parks and proposes a network of trails alongside creeks that link activity nodes together. Trails will accommodate both pedestrians and cyclists, and will offer amenities such as benches, mileage markers, exercise stations, and/or water fountains.

LAND USE CLASSIFICATIONS

While the General Plan Land Use Diagram shows the proposed location, distribution, and the extent of land uses desired at buildout in 2030 (the plan horizon year), the land use classifications—shown as color/graphic patterns, letter designations, or labels on the diagram—provide a range for housing density and building intensity for each type of designated land use. For residential uses, the density/intensity standards are expressed as the number of housing units per gross acre. For non-residential uses, a measure known as Floor Area Ratio (FAR) is specified. In design terms, FAR is defined as the permitted ratio of gross floor area to site area. The land use classifications are to be used and interpreted in conjunction with the General Plan Land Use Diagram. The land use classifications are described in detail below.

Total acreage for each land use classification is presented in **Table 2.3-1.** The land use classifications are meant to be general enough to give the City flexibility in implementing policy, but clear enough to provide sufficient direction to carry out the proposed Plan. The City's Zoning Ordinance, which will be amended to become consistent with the General Plan once the Plan is adopted, will contain more detailed provisions and standards. More than one zoning district may be developed within a single General Plan land use classification.

Residential

Low Density Residential. This designation is intended for single family detached residential development. The minimum lot size is 5,000 square feet (6,000 square feet for a corner lot). The typical residential density for this designation ranges from 1 to 12 units per gross acre. Residential buildout is assumed at 8 units per gross acre.

Medium Density Residential. This designation is intended for a mix of housing types and may accommodate small lot single family, attached single family and apartments, duplexes, triplexes, fourplexes, or townhomes. The minimum lot size is 7,000 square feet. The typical residential density for this designation ranges from 13 to 24 units per gross acre. Residential buildout is assumed at 18 units per gross acre.

High Density Residential. This designation is intended for multifamily apartments and townhomes. Developments in this category are typically two to four stories high and located along major roads. Common area open space and shared amenities are required within a development. The minimum lot size is 10,000 square feet. Typical residential density for this designation ranges from 25 to 60 units per gross acre. Residential buildout is assumed at 30 units per gross acre.

Mixed Use

Mixed Use Centers. This designation is intended for high density mixed use development. There are two mixed use center subcategories with different land use intentions, housing densities and typical FARs.

Mixed Use Center North. Mixed use development on Mission Plaza, at the junction of Rumrill Boulevard, San Pablo Avenue, and Broadway Avenue, will be primarily residential with retail or other active commercial uses at the ground floor. The residential units will be small in size (averaging 600 square feet) to cater to students of the College. Typical height is expected to be four stories. The maximum permitted FAR is 2.5. The residential buildout is assumed at 60 units per gross acre and the non-residential buildout is assumed at an FAR of 0.50.

Mixed Use Center South. Mixed use development at the former Circle S site, bounded by San Pablo Avenue, Church Lane, and Wildcat Creek, will include retail, commercial, office (including medical offices), residential, public/institutional, and hotel development. Active uses that promote pedestrian activity are required on the ground floor. Typical height is expected to be three to five stories. The maximum permitted FAR is 2.5. The residential buildout is assumed at 32 units per gross acre and the non-residential buildout is assumed at an FAR of 0.70.

Commercial Mixed Use. This is a mixed-use designation that includes office, retail, commercial, and public uses. Typical height is expected to be two to three stories. The maximum permitted FAR is 1.5. The residential buildout is assumed at 20 units per gross acre and the non-residential buildout is assumed at an FAR of 0.50. Residential uses are allowed only when the commercial FAR is 0.50 or greater.

Residential Mixed Use. This designation is intended for mix use that includes residential, office, and retail. Residential Mixed Use development that fronts onto San Pablo Avenue must have active commercial uses at the ground floor; elsewhere, residential uses are permitted on the ground floor. Non-residential uses may include administrative, financial, business, professional, medical, dental and public uses. The typical height is expected to be two to three stories. The maximum permitted FAR is 1.5. The residential buildout is assumed at 14 units per gross acre and the non-residential buildout is assumed at an FAR of 0.20.

Commercial

Neighborhood Commercial. This designation is intended for small-scale commercial uses that primarily provide convenience, personal services and social services such as retail and specialty shops, eating and drinking establishments, and commercial recreation. It is designed to foster a pedestrian atmosphere along public streets. Buildout is assumed at an FAR of 0.32. The maximum permitted FAR is 1.0.

Regional Commercial. This designation is intended for large-scale commercial development that serves local and regional needs. It is easily accessible by freeways and regional roadways, and contains a range of goods and services such as retail, eating and drinking establishments, hotels and motels. Residential uses are not permitted. Buildout is assumed at an FAR of 0.32. The maximum permitted FAR is 0.75.

Entertainment District Overlay. This overlay district allows for intensification of an underlying commercial or mixed use designation. The entertainment district is easily accessed by freeways and regional roadways, and serves community and regional needs with a focus on entertainment, retail, health/medical, and recreation uses. This includes nightlife venues, various types of theaters, arcades/game rooms, and eating and drinking establishments. Typical height is expected to be three to five stories. Buildout is assumed at an FAR of 0.60. The maximum permitted FAR is 0.5 above the FAR of the base district.

Industrial

Industrial Mixed Use. This designation is intended for light manufacturing, distribution, sales and services with ancillary commercial and office space; including single and multi-story office, flex-space, and industrial building for single and multiple users, warehouse uses, and research and development activities. Retail is not permitted. Buildout is assumed at an FAR of 0.40. The maximum permitted FAR is 0.60.

Public

Public/Institutional. This designation is intended for uses that serve a public purpose, including public and private schools, administrative offices, corporation yards, and public facilities such as hospital and medical centers, police stations, and fire stations. There is no assumed buildout for non-residential development.

Parks/Recreation. This designation is intended for improved and unimproved park facilities, including neighborhood, community, and regional parks; and recreational facilities that provide visual open space and serve the outdoor recreational needs of the community. No FAR is assumed.

Proposed Parks. This symbol is intended to show the general location of proposed mini-parks and other parks on San Pablo Avenue. They are not site-specific designations, and the future park may be at a different location in the vicinity.

Other

Air Quality Management Health Risk Overlay Zone. The purpose of the 500-foot overlay zone on both sides of Interstate 80 is to protect sensitive receptors from toxic air emissions, consistent with Bay Area Air Quality Management District guidelines. The City will avoid siting new sensitive uses, such as hospitals and medical facilities, schools, senior centers, child care centers, and residential development, in this zone, and will require new development to provide project-level mitigation measures to reduce vulnerability to toxic air emissions from the highway. The Air Quality section in the Open Space and Conservation Element provides details.

Table 2.3-1 General Plan Additional Land Use Acreages at Plan Buildout

Land Use	*Development Projects*	*Land Use Opportunity Sites*	*Total GP Buildout Acres*	*Percent of Total*
Residential				
Low Density Residential	-	4.8	526.5[1]	41%
Medium Density Residential	2.7	0.6	170.5	13%
High Density Residential	-	17.3	66.4	5%
Mixed Use				
Mixed Use Center North	-	2.7	2.7	0%
Mixed Used Center South	-	16.1	16.1	1%
Commercial Mixed Use	-	28.6	57.3	4%
Residential Mixed Use	-	9.6	13.9	1%
Commercial				
Neighborhood Commercial	11.4	2.2	41.1	3%
Regional Commercial	0.8	24.8	58.3	5%
Entertainment District Overlay	-	10.1	22.1	2%
Industrial				
Industrial Mixed Use	-	23.7	26.4	2%
Public				
Public Institutional	-	-	231.6	18%
Parks, Recreation and Open Space	-	23.3	57.3	4%
Total[2]	**14.8**	**163.9**	**1,290.2**	**100%**

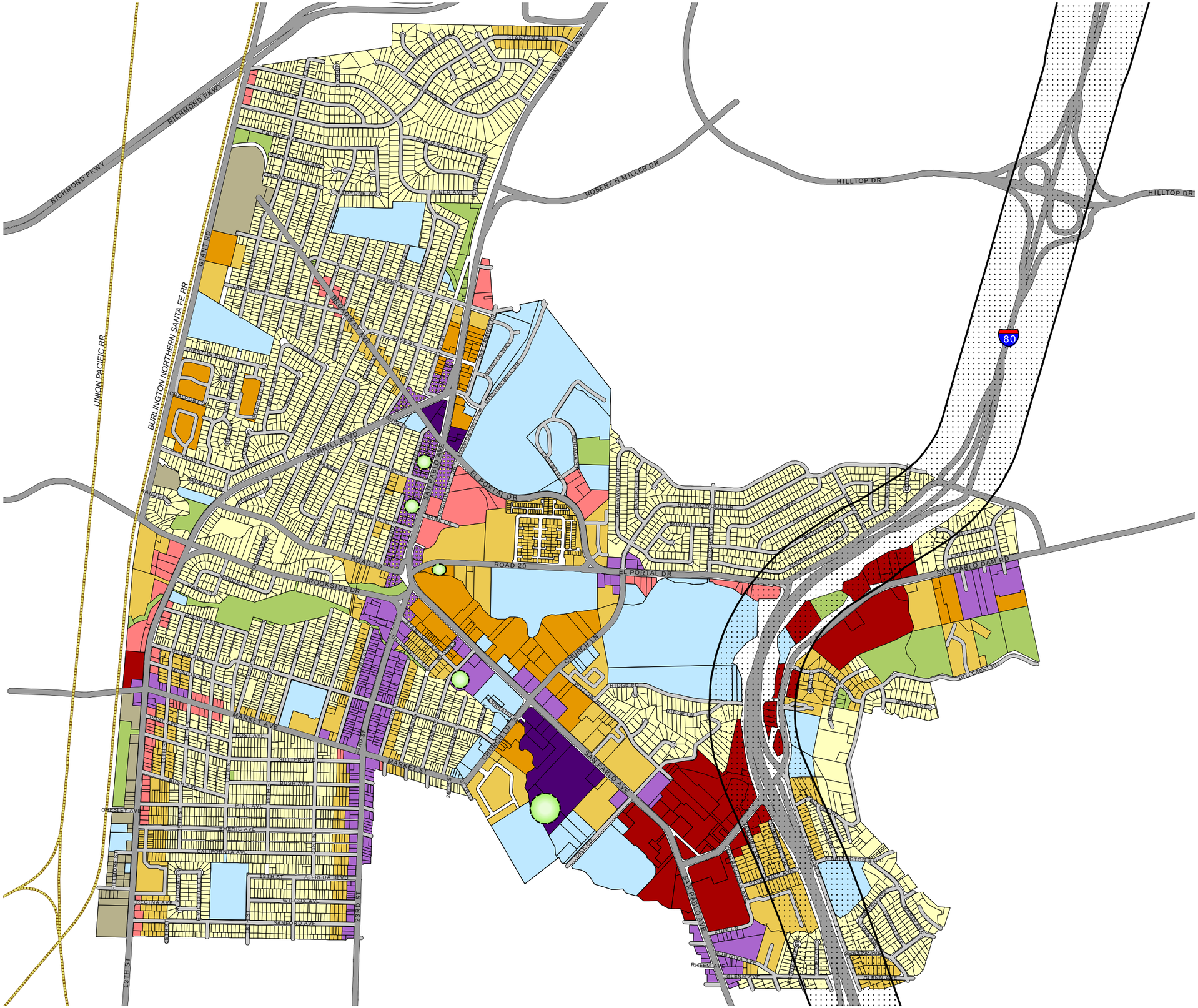
[1]Does not include 85 acres of the Rollingwood residential area. This area is not within the existing city limits and has not been annexed into San Pablo.

[2]Totals may not add up due to rounding, and does not include roads or other right-of-ways.

Source: City of San Pablo, 2010; Dyett & Bhatia, 2010.

Figure 2.3-1

General Plan Land Use Diagram



- Mixed Use Centers*
- Residential Mixed Use
- Commercial Mixed Use
- Regional Commercial
- Neighborhood Commercial
- High Density Residential
- Medium Density Residential
- Low Density Residential
- Industrial Mixed Use
- Public/Institutional
- Parks/Recreation
- Potential Park Location
- Air Quality Health Risk Overlay Zone
- Major Roads
- Minor Roads
- Railroads

*Please see the General Plan for designation description.

0 0.25 0.5
Miles

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 2.3-1

2.4 BUILDOUT UNDER THE PROPOSED GENERAL PLAN

Full development under the proposed General Plan is referred to as "buildout." Although the proposed General Plan horizon is the year 2030, the Plan is not intended to specify or anticipate when buildout will actually occur; nor does the designation of a site for a certain use necessarily mean the site will be used in such a way within the next 20 years. This section describes the implications of the proposed General Plan buildout in terms of future housing units, population, and jobs.

SUMMARY OF DENSITY AND INTENSITY

The density and intensity (FAR) standards used in the proposed General Plan are shown in **Table 2.4-1.**

Table 2.4-1 San Pablo General Plan Land Use Density and Intensity Standards

	Floor Area Ratio (FAR; includes all uses—non-residential and residential)		*Density (units per gross acre)*
Land Use Classification	*Minimum*	*Maximum*	*Range or Maximum*
Low Density Residential	-	-	up to 12
Medium Density Residential	-	-	12.1 - 24
High Density Residential	-	-	24.1 - 60
Mixed Use Center North	0.30[2]	2.5	up to 80[1]
Mixed Use Center South	0.50[2]	2.5	up to 60[1]
Commercial Mixed Use	0.40[2]	1.5	up to 50[1, 4]
Residential Mixed Use	-.[5]	1.5	up to 50[1]
Neighborhood Commercial	0.30	1.0	-
Regional Commercial	0.30	0.75	-
Entertainment District Overlay		0.5 above base district maximum[3]	-
Industrial Mixed Use	0.30	0.60	-
Public Institutional	-	-	-
Parks/Recreation	-	-	-

[1] Included within the FAR limit.

[2] The frontage of a site along San Pablo Avenue is required to be devoted to active uses. Residential is not permitted at the ground level along San Pablo Avenue.

[3] Additional FAR available for entertainment uses only.

[4] Residential uses only allowed when commercial FAR is 0.5 or greater.

[5] While no minimum FAR is specified, development along San Pablo Avenue must have active uses on the ground floor.

Source: City of San Pablo, 2010; Dyett & Bhatia, 2010.

POPULATION GROWTH AND HOUSING

Buildout Population

Based on past development trends, regional growth forecasts, and applying assumptions on future growth[2], the San Pablo Planning Area will accommodate approximately 34,950 residents at buildout, an increase of about 8.5 percent over the current population estimate of32,200.[3] Over a 20 year period, this represents an annual growth rate of 0.4 percent. The population increase will be driven primarily by regional economic growth and migration. **Table 2.4-2** summarizes buildout for the proposed General Plan by population, households, and housing units.[4]

Table 2.4-2 Population, Housing Units, Households and Jobs at Buildout[1]

	Existing (2010)	*Additional*	*Buildout (2030)*	*Annual Growth (percent)*
Population[2]	32,200	2,750	34,950	0.4
Households	9,680	940	10,620	0.5
Housing Units	10,520	990	11,510	0.5
Jobs	5,900	2,610	8,510	1.8

[1] All numbers rounded to the nearest tenth.

[2] Buildout population calculated assuming 3.1 persons per household and 1.5 persons per Secondary Unit.

Source: Association of Bay Area Governments, 2009; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Residential Development

As shown in **Table 2.4-2**, approximately 10,520 housing units (9,680 households) currently exist in the San Pablo Planning Area. The proposed General Plan will accommodate a further 990 housing units (940 households) through new development and infill development. Most of the new residential developments are expected to be high density residential and mixed use residential developed along major roads, notably San Pablo Avenue and 23rd Street. In total, buildout of the proposed General Plan will result in approximately 11,510 housing units (10,620 households) in San Pablo. The mix of new housing units by land use type during the planning period is presented in **Table 2.4-3**.

[2] For details about assumptions taken and methodology, please refer to the General Plan.

[3] This population estimate is higher than the Association of Bay Area Governments (ABAG) population projection based on year 2007 data and lower than the same projection based on 2009 data. ABAG 2007 projections estimates that San Pablo will have a population of 32,600 in 2030, while ABAG 2009 projections estimate that San Pablo will have a population of 36,700 in 2030. The General Plan's projection is 34,440, approximately in the middle of the two ABAG projections.

[4] Unless stated otherwise, all tables in this EIR does not include the Rollingwoods residential area. Although it is shown as part of the Planning Area, it is still considered by ABAG and other regional authorities that provided the 'existing' baseline population and job numbers as part of Contra Costa County, since it has not been officially annexed and is outside San Pablo's city limits.

Table 2.4-3 Additional Housing Units by Land Use Type

Housing Type	*Existing Units*	*Additional Units*	*Total Units*	*Percent of Total Units*
Low Density Residential	4,520	50	4,570	40
Medium Density Residential	1,870	-	1,870	16
High Density Residential	4,130	210	4,340	38
Mixed Use Center North	-	120	120	1
Mixed Used Center South	-	130	130	1
Commercial Mixed Use	-	360	360	3
Residential Mixed Use	-	120	120	1
Total[2]	**10,520**	**990**	**11,510**	**100**

[1] The additional units shown here is the net increase. It includes units created by proposed development and redevelopment projects, after subtracting existing underutilized units that need to be removed for redevelopment to take place.

[2] Totals may not add up due to rounding

Source: Dyett & Bhatia, 2010.

JOBS

As shown in **Table 2.4-2**, San Pablo will accommodate approximately 8,510 jobs at buildout, an increase of approximately 44 percent from the current number of jobs. The total additional jobs accommodated by the proposed General Plan is about 2,610. Over a 20 year period, this represents an average annual growth rate of about 2 percent.

The mix of new jobs by land use type during the planning period is shown in **Table 2.4-4**. The Mixed Use Center South land use category (at the Circle S site) would accommodate about 36 percent of the new jobs while the Commercial Mixed Use land use category would accommodate about 26 percent of the new jobs. The other land uses under the proposed General Plan would accommodate the remaining 38 percent of the new jobs.

Table 2.4-4 Additional Jobs by Land Use Type

Land Use Category	*Jobs*	*Percent of Total*
Mixed Use Center North	100	4
Mixed Used Center South	950	36
Commercial Mixed Use	670	26
Residential Mixed Use	140	5
Neighborhood Commercial	100	4
Regional Commercial	130	5
Entertainment District Overlay	440	17
Industrial Mixed Use	80	3
Total	**2,610**	**100**

Note: Totals may not add up due to rounding

Source: Dyett & Bhatia, 2010.

JOBS/EMPLOYMENT BALANCE

Jobs/employment balance is defined as the ratio of the number of jobs to the number of employed residents in a given area. San Pablo's jobs to employed residents ratio would be 1:1 if the number of local jobs in the City equaled the number of employed residents. In theory, a perfect 1.1 ratio could result in no one commuting in or out of the City to find work. In reality, this balance is more of a planning technique than a regulatory tool, and successful plan implementation must ultimately recognize the myriad considerations that influence where people choose to live and work.

As shown in **Table 2.4-5**, the current jobs to employed residents ratio in San Pablo is 0.46, which means most working adults have to travel out of the City to find work. At buildout, the proposed General Plan will add more jobs than population, the jobs/employment ratio should improve to 0.51, thereby reducing the need to travel outside the City for work and ameliorating peak hour traffic congestion.

Table 2.4-5 Jobs per Employed Residents Ratios

	Existing	*Buildout*
Jobs	5,900	8,510
Employed Residents	12,880	16,630
Ratio	**0.46**	**0.51**

[1] Jobs here refer to local jobs only.

[2] An employed resident is defined as a resident with a job regardless of where the job is.

Source: ABAG 2009, Dyett & Bhatia 2010.

2.5 KEY PLAN GUIDING POLICIES

Important guiding policies for each of the proposed San Pablo General Plan elements are reviewed in this section. Implementation policies are included in the Plan itself. All policies are incorporated by reference into this project description and analyzed in this EIR.

ECONOMIC DEVELOPMENT

Economic development initiatives that help the city promote job growth and attract and retain new businesses and development include:

Ensuring Strategic Readiness

- Review, assess, and respond to the changing economic conditions.

Sectorial Targeting

- Recruit community-serving retail, neighborhood-serving commercial, healthcare, and entertainment businesses and activities that meet the needs of residents.

Cultivating and Attracting a Skilled, Educated, and Well-Trained Work Force

- Provide employers with access to a skilled, educated, and well-trained resident work force.
- Attract professionals and skilled workers with local jobs to live in San Pablo.

Improving the Business Climate

- Preserve and enhance qualities that make San Pablo an ideal place to do business.

Working Regionally

- Work cooperatively with other agencies and cities to achieve regional development goals.

Marketing

- Promote a positive image of San Pablo as a desirable place to shop, live, or do business.

Supporting Local Businesses

- Support local businesses and foster a positive relationship between the business community and the City government.

Maintaining Fiscal Health

- Foster a fiscally healthy City government and enlarge the City's revenue base as necessary to sustain and support the community.

Improving the City's Image

- Support and contribute to a clean, attractive, and safe environment for residents, business owners, employees, and shoppers.

LAND USE

Land use initiatives include:

- **Economic Development and Jobs.** New mixed use land uses and the regional commercial and neighborhood commercial land use classifications provide development opportunities for small businesses as well as large commercial, office and industrial to flourish.
- **Mixed Use Development.** A major initiative in the General Plan is to introduce the concept of "mixed use" to San Pablo. This is a land use that allows more than one single use to occur, either on the same lot (such as residential units above a grocery store), or on lots that are next to each other. Mixed use developments bring jobs close to places where people live. In turn, this increases the convenience of shopping or going to work and reduces the need for automobiles.
- **Enhanced Neighborhoods and Pedestrian-Oriented Design**. Policies are written with an eye toward promoting walkable neighborhoods. New developments along the city's transportation corridors will accommodate a diverse range of housing types and be designed with pedestrian-oriented circulation and community-centered spaces.
- **More Parks and Open Space**. Responding to community feedback, a major goal of the Plan is to increase the amount of park and recreation area in the City. The Plan proposes to add six new park locations and create a network of greenways so future residents can enjoy parks and open spaces within walking distance of their homes.
- **A Complete Roadway System**. The land uses presented on the diagram are structured around the proposed roadway network, and the two components are interactive and interrelated. The types, location, capacity, and use of these roadways are presented in Chapter 4: Circulation.
- **A Range of Commercial and Retail Opportunities.** The General Plan provides for the full range of commercial and retail uses needed for the future population and business community. Regionally-oriented establishments are placed on major roadway corridors; while neighborhood-oriented uses are placed within planned communities and neighborhoods.

A summary of key guiding policies is as follows:

Urban Form

- Promote a sustainable, balanced land use pattern that responds to existing and future needs of the City, as well as physical and natural constraints.
- Ensure planned land uses are compatible with existing uses and provide for appropriate transitions or buffers for new uses, as needed.

Community Design

- Preserve and strengthen the City's overall image and create a safe, walkable and attractive urban environment for the current and future generations of residents.

Residential Neighborhoods

- Protect and enhance quality of life in the city's residential neighborhoods.
- Promote a variety of housing types and prices within neighborhoods to serve the economic needs of all segments of the community.

Mixed Use

- Promote site sensitive design and pedestrian-oriented activities in mixed-use developments.

Neighborhood Retail, Regional Retail, and Industrial Mixed Use

- Retain and enhance existing commercial, industrial, educational and entertainment land use areas to strengthen San Pablo's economic base.
- Foster high quality design, diversity, and a mix of amenities in new commercial, industrial, and entertainment development.

Civic and Institutional

- Provide for the development of civic and institutional land uses to meet the educational, medical, social, economic, cultural, and religious needs of the community.
- Protect civic and institutional areas from incompatible uses that could affect their vitality and contributions to the City.

Special Planning Subareas

- Recognize the importance of the mixed-use areas along San Pablo Avenue, San Pablo Dam Road, 23rd Street, and Rumrill Boulevard to the vitality and quality of life in San Pablo.

GROWTH MANAGEMENT ELEMENT

A summary of growth management guiding policies include:

Urban Limit Line

- Manage the City's growth and protect open space by establishing an Urban Limit Line (ULL).

Development Review and Mitigation

- Provide adequate infrastructure and facilities to meet the demands of new development and population growth.
- Provide new and improved pedestrian, bicycle routes, parking and transit facilities, as envisioned in the Circulation Element.

Transportation Planning

- Promote mixed-use, high density infill development and support land use patterns that make more efficient use of the transportation system.

- Continue to support a cooperative inter-jurisdictional growth monitoring and decision making process and coordinated planning between San Pablo and its neighboring cities, the County, and other public and regional agencies.
- Continue to support efforts to establish a regional approach to transportation and land use planning.
- Coordinate circulation system plans with other jurisdictions' and agencies' plans, including but not limited to Richmond, Pinole and the Contra Costa Transportation Authority, and Caltrans

Housing Options

- Periodically demonstrate reasonable progress in providing housing opportunities for all income levels.

CIRCULATION

The proposed General Plan includes a number of roadway improvements and programs intended to ensure the continued safe and efficient operation of San Pablo's circulation system in year 2030. A summary of key policies is as follows:

Overall Transportation System

- Develop a transportation system that meets the needs of all segments of the community, including residents, businesses, visitors, and the region.
- Protect the character of local residential streets.
- Ensure that new development pays its fair share of the costs of new and improved transportation facilities.

Measurement Standards

- Maintain acceptable levels of service for all modes of travel.

Bicycle and Pedestrian Standards

- Develop a safe and comprehensive bicycle and pedestrian network.

Public Transit

- Encourage the expansion of public transportation systems.
- Facilitate the use of public transportation in San Pablo by making it more comfortable and convenient.

Truck Routes and Freight Rail

- Balance commercial goods movement with the health and quality of life priorities of the community.

Parking

- Foster practical parking solutions to serve community needs while avoiding excessive amounts of surface parking that disrupt the urban fabric of the city.

Transportation Demand Management

- Promote efficient use of existing transportation facilities through the implementation of transportation demand management concepts.

PARKS, SCHOOLS, COMMUNITY FACILITIES AND UTILITIES

The proposed General Plan includes policies and programs that are designed to improve the recreational, educational and community needs of San Pablo's residents. It also includes policies and programs related to public utilities and services. Key policies include:

Parks and Recreation

- Provide an expanded, high quality, and diversified park system which allows varied recreational opportunities for the entire community.

Schools and Community Facilities

- Facilitate the provision of a broad range of community-serving facilities to meet local needs, including, but not limited to, schools, community centers, and libraries.
- Support sustainable standards and practices in the City's community-serving facilities.
- Promote equitable distribution of and access to community-serving facilities throughout San Pablo.

Public Utilities

- Continue to ensure the successful provision, maintenance, and operation of City-owned public infrastructure and utilities.
- Support the efficient use and conservation of water.
- Maintain a comprehensive storm drainage system to protect life and property.
- Enhance waste reduction and recycling in San Pablo.

OPEN SPACE AND CONSERVATION

The proposed General Plan includes policies and programs related to Open Space and Conservation, including those relating to open space protection, water conservation, biological resources, air quality and historical resources. Key policies include:

Open Space Resources

- Acquire, protect, and enhance open space, including hillsides, for future generations.
- Use open space to meet multiple needs, including bike and pedestrian linkages, stormwater drainage, wildlife habitat, and active and passive recreation opportunities.

Biological Resources

- Protect and enhance wetlands, creek systems, and rare and endangered species and their habitats.

Water Resources

- Ensure both access and ecological functionality of the creek system in San Pablo.
- Protect water supply and quality through conservation and good stormwater management practices.

Cultural Resources

- Identify and preserve the cultural resources that are found within the City of San Pablo.

Air Quality and Climate Change

- Protect and improve the air quality in San Pablo.
- Reduce emissions of greenhouse gases that contribute to global climate change.

HEALTH

The proposed General Plan includes policies and programs that are designed to improve the healthy-living standards of San Pablo's residents through food strategies, equitable job and housing opportunities, and safety through community design. Key policies include:

Healthy Transportation and Physical Activity

- Ensure that all San Pablo residents have access to a variety of transportation and physical activity options that enhance health and that work for diverse lifestyles, incomes, and abilities.
- Achieve more walkable, livable, neighborhoods by expanding the multimodal transportation system and creating a safe, pedestrian-oriented environment.

Healthy Food Access and Equity

- Create a healthy, balanced, functional, and equitable food system for the entire San Pablo community, by:
  - Reducing barriers and increasing access to locally-grown fruits and vegetables;
  - Increasing communitywide knowledge of healthy food choices and behaviors; and
  - Encouraging San Pablo schools to take part in, and benefit from, healthy food initiatives.

Access to Services and Planning for People First

- Promote health equity in San Pablo, including equal access to health facilities, goods, services, and economic and educational opportunities, helping to ensure wellbeing for residents of all ages, abilities, and incomes.
- Create complete neighborhoods with access to a range of day-to-day goods and services within walking distance, including medical facilities, community services, youth programs, and employment opportunities, and to increase the sense of social cohesion among residents.

Crime Reduction and Perceptions of Safety

- Use the built environment and city planning tools to deter crime, increase respect for neighbors and property, and improve the public perception of safety throughout the community.
- Encourage a sense of ownership, community pride and civic respect as a means of improving the safety and image of the City.

SAFETY AND NOISE

The proposed General Plan includes policies and programs related to safety and noise. In addition, the noise section includes noise contours associated with General Plan buildout. The key policies include;

Seismic and Geologic Hazards

- Minimize risks of property damage and personal injury posed by geologic and seismic hazards.

Flood Hazards

- Minimize the risks to property, life, and the environment due to flooding hazards.

Fire Hazards

- Protect San Pablo residents and businesses from potential fire hazards.

Hazardous Materials

- Reduce the risk to the health of San Pablo residents from exposure to hazardous materials.
- Promote the reduction, recycling, and safe disposal of household and business hazardous wastes through public education and awareness.

Safety Services and Emergency Response

- Provide a comprehensive, "urban" service approach for police services, composed of public education, outreach, and partnerships with the public.
- Foster an efficient and coordinated response to emergencies and natural disasters.
- Proactively advocate public safety services which respond to the emergency and rescue needs of San Pablo residents and employees.

Noise

- Protect public health and welfare by eliminating noise problems and maintaining an acceptable indoor and outdoor acoustic environment.

IMPLEMENTATION OF THE PROPOSED GENERAL PLAN

The proposed General Plan provides specific policy guidance for implementation of plan concepts. Implementing these policies will involve coordinated actions by the City Council, the Planning Commission, other City boards and commissions, and City departments. The City also will need to work with Contra Costa County and other public agencies to implement policies that involve cooperation or would affect the region. The principal responsibilities that City officials and staff have for Plan implementation are briefly summarized below; details on their powers and duties are provided in detail in the San Pablo Municipal Code.

CITY COUNCIL

The City Council is responsible for the overall management of municipal affairs; it acts as the legislative body and is responsible for adoption of the General Plan and any amendments to the General Plan. The City Council selects a Mayor annually, who serves as presiding officer during all City Council/Redevelopment Agency meetings and study sessions. The City appoints the City Manager who is the chief administrator of the City and has overall responsibility for the day-to-day implementation of the General Plan. The City Council also appoints other boards and commissions established under the Municipal Code.

The City Council's role in implementing the General Plan will be to set implementation priorities and approve zoning map and text amendments, consistent with the General Plan, and a Capital Improvement Program and budget to carry out the Plan. Council members serve four-year staggered terms and are elected in November of even-numbered years.

PLANNING COMMISSION

The Planning Commission is responsible for preparing and recommending adoption or amendment of the General Plan, zoning and subdivision ordinances, and other regulations, design guidelines, resource conservation plans, and programs and legislation needed to implement the General Plan. The Planning Commission also may prepare and recommend adoption of specific plans, neighborhood plans or special plans, as needed for Plan implementation.

PLANNING DIVISION

The Planning Division is responsible for the general planning and development review functions undertaken by the City. Specific duties related to General Plan implementation include preparing zoning and subdivision ordinance amendments, design guidelines, reviewing development applications, providing advice to project applicants, conducting investigations and making reports and recommendations on planning and land use, zoning, subdivisions, development plans and projects. Among other responsibilities, the Division reviews projects for compliance with the CEQA, and is responsible for preparing environmental documents such as Negative Declarations, Mitigated Negative Declarations and Environmental Impact Reports. Finally, the Division has the primary responsibility for preparing the annual report on the General Plan and conducting the five-year review. These reporting requirements are described in Chapter 1 of the General Plan.

PUBLIC WORKS/ENGINEERING DIVISION

The Public Works/Engineering Division provides overall administration and support for General Plan policies related to infrastructure. Engineering staff is responsible for providing assistance and guidance to the general public and developers in regard to requirements and regulations for street, sidewalk, storm drainage, paving, grading, and other capital improvements. The division is also charged with the task of maintaining and improving all City-owned street trees, park trees, and all other trees considered to be publicly owned trees. In addition to these responsibilities, the Division provides building review and inspections, issues and monitors encroachment and grading permits, maintains traffic counts and speed studies on major arterial and collector streets throughout the city, and oversees the proper operation of the city-wide traffic signal system. It also plans and administers municipal capital improvements, storm water pollution control, and pavement management programs within the City. To carry out the General Plan, the Division is tasked with preparing the Capital Improvement Program. Other specific responsibilities are established in the Land Use & Physical Design, Circulation, Housing, and Public Utilities elements of the proposed General Plan.

RECREATION DIVISION

The Recreation Division is responsible for managing the City's recreation services, its parks and open spaces, and various public facilities such as the Art Gallery, Maple Hall, Museums and others. It also manages youth activities and senior services. Specific implementing responsibilities are established in the Parks and Open Space Element of the proposed General Plan. The division is also charged with the task of maintaining and improving all City-owned street trees, park trees, and all other trees considered to be publicly owned trees.

REDEVELOPMENT AGENCY

The San Pablo Redevelopment Agency (RDA) is governed by the City Council, which acts as Executive Board, and the City Manager, who acts as Executive Director. The RDA is responsible for implementing economic development strategies to remove blight. It does this by providing services and financial programs to breathe new life into areas which are negatively impacted by physical, environmental, and economic conditions and encouraging private enterprise investment. In the context of implementing the General Plan, the RDA is responsible for ensuring opportunity sites in the General Plan Land Use Diagram and the Housing Land Inventory are made available for redevelopment, and maintaining and making available a list of available sites to interested developers.

POLICE DEPARTMENT

The San Pablo Police Department is responsible for the protection of life and property within the City. The Department is tasked with the preservation of peace and order, suppression of crime, regulation and control of traffic and enforcement of State laws and local codes intended to reduce public hazards. Its specific responsibilities in the General Plan are established in the Health, Housing and Land Use elements of the General Plan.

OTHER COMMISSIONS, COMMITTEES AND BOARDS

The City has a number of commissions, committees, and boards. Of particular relevance to the General Plan are:

Safety Commission

The five member Safety Commission studies present and future traffic and general safety problems of the City and makes recommendations to the City Council and the City Manager (via the Public Works Department. and Police Department.), concerning the same, including such matters as location of stop signs, and stop lights, creation of one-way streets, street paving, location of red zone parking, special left turn lanes, etc. The Commission also reviews police accident reports as needed in an effort to identify accident trends and to recommend improvements to reduce those accidents. The Commission also acts in an advisory capacity to the City Council and City Manager, including as an optional contact point for residents with complaints on traffic and general safety problems.

Youth Commission

The Youth Commission acts as an advisory body in matters of youth needs, concerns, problems and social awareness.

Beautification Board

The Beautification Board acts in the capacity of the City Council and the Planning Commission in matters relating to beautifying the City.

San Pablo Advisory Committee on Aging

The Advisory Committee on Aging acts to identify and document unmet needs of older persons and resources available by providing a means for local area-wide planning, cooperation, and coordination of individuals and groups interested in improving and developing services and opportunities for the elderly.

San Pablo Community Foundation

The San Pablo Community Foundation is an independent, legally cognizable non-profit corporation with the exclusive purpose of funding and supporting charitable and public service activities or organizations for the benefit of San Pablo residents.

San Pablo/Manzanillo Sister City Committee

The purpose of the San Pablo/Manzanillo Sister City Committee is to engage in the promotion of international relations and good will by adopting a sister city in the Country of Mexico, to wit: Manzanillo, and to promote understanding, literary and education ties between said sister city and the City of San Pablo on a charitable basis.

3.1 Land Use

This section presents the environmental setting and impact analysis of land use in the San Pablo Planning Area. Effects on nearby land uses created by other potential effects of the proposed Plan, such as noise and air quality, are dealt with in those sections.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

The City of San Pablo is situated at the western portion of Contra Costa County, inland from the east side of San Pablo Bay. The City can be reached by I-80 and by I-580 across the Richmond-San Rafael Bridge. It is bounded predominantly by the City of Richmond, the unincorporated community of El Sobrante, and other unincorporated areas in Contra Costa County. The city has an area of approximately 2.86 square miles and its boundaries are depicted on **Figure 2.2-1** in the Project Description.

The city is divided into two sections by I-80 – a western, larger section and an eastern, smaller section. The two sections are linked by San Pablo Dam Road. The commercial corridors are located in the center of the city, along San Pablo Avenue and 23rd Street. Surrounding these corridors are residential neighborhoods and schools. The residential areas can be grouped roughly into six major neighborhoods defined by roads, natural features, age, and pattern of development. Industrial areas are located to the west of the city, next to Giant Road.

Existing Land Use

The existing land use pattern is shown in **Figure 3.1-1** and summarized in **Table 3.1-1**. Low Density Residential is the most prominent existing land use located within the Planning Area, occupying 601 acres or 34 percent of the land. Most of this use is concentrated between San Pablo Avenue and the city's western border, away from commercial areas and major streets. There are also pockets of low-density residential homes along San Pablo Dam Road, I-80, and 23rd Street. Medium Density Residential occupies 125 acres or 7 percent of the land and is mostly concentrated along Rumrill Boulevard, Broadway Avenue, and 23rd Street. High Density Residential consists of 111 acres or 6 percent of the land and is mostly found along San Pablo Avenue. San Pablo has a high proportion of older homes, with about 37 percent of them built before 1950. The median age of all occupied housing units is 41 years.

Table 3.1-1 Existing Land Use

	Incorporated		Unincorporated		Total Planning Area	
Land Use	*Acreage*	*Percentage*	*Acreage*	*Percentage*	*Total Acres*	*Percent of Total*
Low Density Residential	521	31%	80	65%	601	34%
Medium Density Residential	125	8%	-	-	125	7%
High Density Residential	110	7%	1	-	111	6%
Residential Subtotal	*756*	*45%*	*81*	*65%*	*837*	*47%*
Commercial	106	6%	-	-	106	6%
Service Commercial	22	1%	-	-	22	1%
Neighborhood Commercial	3	<1%	-	-	3	<1%
Office	11	1%	-	-	11	1%
Medical Facilities	21	1%	-	-	21	1%
Commercial/Office Subtotal	*162*	*10%*	*-*	*-*	*162*	*9%*
Heavy Industrial	1	<1%	-	-	1	<1%
Light Industrial	17	1%	-	-	17	1%
Warehouse	13	1%	-	-	13	1%
Industrial Subtotal	*31*	*2%*	*-*	*-*	*31*	*2%*
Public/Institutional	247	15%	3	2%	250	14%
Parks/Recreation	22	1%	-	-	22	1%
Parking	4	<1%	-	-	4	<1%
Vacant	58	4%	<1	-	58	3%
Open Space	11	1%	-	-	11	1%
Roads or Other Right-of-Ways	375	23%	40	32%	415	23%
Other Subtotal	*717*	*43%*	*43*	*35%*	*760*	*43%*
TOTAL	**1,666**	**100%**	**124**	**100%**	**1,790**	**100%**

Note: Due to rounding, subtotals may not equal individual row counts.

Source: Contra Costa County, 2008; City of San Pablo, 2009; Dyett & Bhatia, 2009.

Existing commercial areas make up 106 acres or 6 percent of the total Planning Area. Commercial uses range from shopping centers and offices to fast food franchise and storage facilities; these uses are concentrated along San Pablo Avenue, El Portal Drive, Rumrill Boulevard, 23rd Street, and San Pablo Dam Road. The city has four community retail centers: San Pablo Town Center, Princeton Plaza, Big Lots/Food Maxx, and College Center Shops. There are also major retail centers at El Portal Drive and Diaz Plaza. Under existing land use classifications, the Lytton Casino located at the intersection of San Pablo Dam Road and San Pablo Avenue is also classified as a commercial use.

Figure 3.1-1 Existing Land Use

Back of Figure 3.1-2

Public/Institutional is another prominent land use in San Pablo, comprising 250 acres or 14 percent of the land. The largest public uses are three regional facilities; they are Contra Costa College, St. Joseph's Cemetery, and Doctors Medical Center. Other public uses include schools and community centers.

The industrial district is located west of Rumrill Boulevard and occupies 31 acres or about 2 percent of the land. The city has one industrial park, Giant Trade Center, located along Giant Road.

Park land is scarce in San Pablo due to the urbanized nature of the city. In total, 22 acres of parks can be found, not including school fields and other joint-use facilities not owned by the city. The city's largest park is Davis Park, located south of Wildcat Creek near Folsom Avenue. Other areas of park and open space are scattered throughout the city.

Vacant land comprises only 58 acres or 3 percent of the total land. Most of the vacant land is composed of scattered parcels located along San Pablo Avenue, Rumrill Boulevard, and San Pablo Dam Road. Some of the larger parcels located on the slopes along San Pablo Dam Road are not developable due to seismic or land slide hazards.

Surrounding Land Uses

San Pablo is bounded by the City of Richmond to the north and south, the unincorporated area of North Richmond to the west, and the unincorporated area of El Sobrante to the east. Surrounding land uses are described below:

Hilltop Area. Located north of the Planning Area, the Hilltop area is primarily residential, with pockets of neighborhood retail at intersections and regional retail along the San Pablo Avenue and Hilltop Mall. The area lies within the boundary of the City of Richmond. Under the proposed Richmond General Plan, the Hilltop residential area is planned for attached and detached single family housing and clustered multifamily residential. Mixed-use developments are allowed at neighborhood nodes, including industrial/office flex and regional shopping/retail at Hilltop West. The Hilltop area can be reached via San Pablo Avenue and I-80.

El Sobrante Area. Located east of the Planning Area, the northern part of this area is within Richmond city limits while the southern part is within the unincorporated area of the County. Both areas are characterized by very low density residential with large lots. Under the Richmond General Plan and the Contra Costa County General Plan, very low density rural residential would occur on a limited number of large, undeveloped lots. The emphasis is infilling empty lots while keeping the rural atmosphere intact. The southern tip of the area is rural open space and contains Alvarado Park.

North Richmond Area. Located west of the Planning Area, the North Richmond area is characterized by industrial land use. Most of the industries in this area are more than 20 years old and some lots are currently disused. A narrow strip of land immediately adjacent to the San Pablo Planning Area lies within Richmond city limits. Further west, where the industries are, the area lies within the unincorporated area of Contra Costa County. The Contra Costa County General

Plan states an intention to retain the industrial quality of the area and gradually encourage greater research, engineering, product development and testing, distribution centers, and other modern industry uses. The plan also includes a policy to upgrade the visual appearance of the area by requiring architectural and landscape design.

South of Rheem Street Area. Located south of the Planning Area, this area is characterized by land uses very similar to those in south San Pablo. There are commercial/retail and high density residential and mixed uses along 23rd Street and San Pablo Avenue and lower density residential in areas further away from those two corridors. The Richmond General Plan describes the land use designation along San Pablo and 23rd Street as "Medium Intensity Mixed Use (Commercial Emphasis)". This land use type would allow up to 50 du/acre of residential use and 0.25 to 1.0 FAR of non-residential use.

Agricultural Land Use

A records search on California Department of Conservation indicates that there are no farmlands, Williamson Act lands, or land protected for agriculture uses in San Pablo.

Population and Housing

Existing demographic data for the City of San Pablo are shown in **Table 3.1-2.** According to ABAG, the city has a population of 32,200 in 2010.[1] City records show that 10,520 housing units can be found in the city, out of which 43 percent are single-family detached units, 9 percent are duplex units, 40 percent are multifamily units, and 8 percent are mobile homes. The average household size is 3.2 persons per household, which includes persons living alone, family households, and unrelated persons sharing living quarters.

Table 3.1-2 Existing Demographic Data

Demographic	*2008*	*2010*
Population		
Persons	31,720	32,200
Household	9,540	9,990
Persons per Household[1]	3.2	3.2
Housing Units[1]	10,050	10,520
Jobs	5,920	5,900

[1] Population and jobs data are from ABAG's P2009 tables.

Source: Association of Bay Area Governments, 2010.

Table 3.1-3 summarizes San Pablo's projected growth. Future demographic projections from ABAG indicate that San Pablo would grow by about 2 to 4 percent annually between 2005 and 2030 to reach a population of 36,700 in 2030. During the same span of time, it is anticipated that households will grow at about the same pace as population. Job growth is expected to be negative

[1] Association of Bay Area Governments, *Projections 2009*, 2010.

between 2005 and 2010. Between 2010 and 2020, job growth will continue to lag behind population growth before picking up pace and reaching 7,940 in 2030.

Table 3.1-3 ABAG Projections for the City of San Pablo

Year	*2005*	*2010*	*2015*	*2020*	*2025*	*2030*
Population	31,000	32,200	32,800	34,100	35,400	36,700
Percent Growth	-	3.9%	1.9%	4.0%	3.8%	3.7%
Households	9,340	9,680	9,860	10,210	10,570	10,900
Percent Growth	-	3.6%	1.9%	3.5%	3.5%	3.1%
Jobs	5,950	5,900	5,970	6,040	6,900	7,940
Percent Growth	-	-0.8%	1.2%	1.2%	14.2%	15.1%

Source: Association of Bay Area Governments, 2010.

REGULATORY SETTING

The regulatory setting includes federal and State agencies and laws, local regulatory bodies, and local control mechanisms guiding land use decisions.

Federal Regulations

Department of Housing and Community Development

The State Department of Housing and Community Development (HCD) is responsible for determining the regional housing need for all jurisdictions in California and ensuring the availability of affordable housing for all income groups.

California Community Redevelopment Law

California's Community Redevelopment Act (CRA) was enacted in 1945 to address blight and decay in California cities. California Health and Safety Code sections 33000-34160 contain the Community Redevelopment Law. Redevelopment is a process authorized under California law that enables local government entities to identify deteriorated and blighted areas in their jurisdictions in need of revitalization. "Redevelopment" means the planning, development, replanning, redesign, clearance, reconstruction, or rehabilitation, or any combination of these, of all or part of a survey area, and the provision of those residential, commercial, industrial, public, or other structures or spaces as may be appropriate or necessary in the interest of the general welfare, including recreational and other facilities incidental or appurtenant to them. In addition, redevelopment agencies are required to deposit 20 percent of the property tax revenues generated from their activities into a special fund called a "Low- and Moderate-Income Housing Fund." These funds can only be used for the purpose of increasing, improving, and preserving the community's supply of affordable housing for very low-, low- or moderate-income households.

Regional/Local Regulations

Association of Bay Area Governments (ABAG)

Through its role as the Bay Area's council of governments, ABAG has been designated by the State and federal governments as the official comprehensive planning agency for the Bay Area. ABAG reviews projects of regional significance for consistency with regional plans and is also responsible for preparation of the Regional Housing Needs Assessment (RHNA), pursuant to California Government Code Section 65584(a). ABAG's locally adopted Regional Housing Needs Allocation and the San Francisco Bay Area Housing Needs Plan, provide a policy guide for planning the region's housing, economic development, environmental quality, transportation, recreation, and health and safety.

Contra Costa County Local Agency Formation Commission

Under State law, each county must have a local agency formation commission (LAFCO), which is the agency that has the responsibility to create orderly local government boundaries, with the goals of encouraging the orderly formation of local governmental agencies and the preservation of open space lands, and discouraging urban sprawl. While the commission in Contra Costa County has no direct land use power, its actions determine which local government will be responsible for planning new areas. Additionally, the commission addresses a wide range of boundary actions, including the creation of a county-wide sphere of influence, adjustments to boundaries of special districts, annexations, and incorporations of cities.

Local Control Mechanisms

San Pablo General Plan

The City's current General Plan was adopted in 1996. The Plan includes four elements: The Land Use, Physical Design and Economic Development Element, the Public Safety and Related Service Element, the Circulation and Public Facilities and Services Element, and the Environmental Resources Management Element. The Plan provides a land use framework for the pattern of development within city limits. The primary land use designation under the current General Plan is low-density residential intended for single-family homes. Higher density residential uses are primarily located along San Pablo Avenue between Church Lane and 23rd Street. The principal employment generating use is the commercial land use designation, located along 23rd Street, San Pablo Avenue, and at major road junctions. The 1996 General Plan includes a Planning Area of 1,658 acres, and its boundary does not include the Rollingwood residential area which is included under the proposed General Plan.

San Pablo Growth Management Element

The City's last Growth Management Element was adopted in 1992, pursuant to the Contra Costa Transportation and Growth Management Program (Measure C). The Element establishes policies and standards for traffic Levels of Service (LOS), and performance standards for fire, police, parks, sanitary facilities, water and flood control in order to ensure generally that public facilities are provided consistent with adopted standards. The Element includes comprehensive policies that require new development contribute to capital improvement programs and mitigate their development impacts. The intent of the Element is to ensure growth takes place in a manner that will protect the health, safety, and welfare of both existing and future residents.

The 23rd Street Specific Plan

The 23rd Street Specific Plan was adopted in 2008 to provide for more focused policy guidance and development standards tailored to the 23rd Street corridor area. The Specific Plan calls for a pedestrian friendly shopping environment along 23rd Street, with businesses fronting on the sidewalk, transparent storefronts and pedestrian scaled streetscape elements. It also calls for non-commercial uses above the ground floor of buildings, including residential units. The objectives are to reinforce the unique desirable characteristics of the area; provide development standards to help revitalize the commercial corridor; and prioritize reinvestment in public infrastructure.

San Pablo Zoning Ordinance

The San Pablo Zoning Ordinance can be found under Title 17 of the Municipal Code. The Zoning Ordinance was originally adopted in 1958. Since then, it has been amended many times (most recently in 2003), to address changes to San Pablo's growth and planning legislation. The Zoning Code provides development standards, identifies allowable land uses, and specifies other regulations related to development within the city.

Zoning designations in the city fall into four main categories:

Residential. There are four residential zoning designations, R-1 (Single-Family Residential District), R-2 (Two-Family Residential District), R-3 (Multifamily Residential District), and R-4 (High Density Multifamily Residential District). R-1 primary land uses include detached single-family dwellings, accessory uses (e.g., garages, flower or vegetable gardens), and mobile homes. R-2 primary land uses include single- and two-family dwellings, accessory buildings and uses, duplexes, and mobile homes. R-3 primary land uses include those allowed in R-2 districts plus multifamily family units. R-4 primary land uses include townhomes, apartments, and condominiums, and other high density land uses along main transportation corridors. The Zoning Ordinance specifies uses allowed in these districts as well as allowable maximum densities, height limit, allowable parcel coverage, setbacks and parking requirements for each designation.

Commercial. There are two commercial zoning designations, C-1 (Light Commercial) and C-2 (Heavy Commercial). Primary land uses include a broad range of retail stores, service establishments and offices, wholesale establishments, parking lots, fast food restaurants, amusement and entertainment related uses, and convenience stores. The Zoning Ordinance also specifies the height limit, building site area, setbacks, and parking requirements for each designation.

Industrial. There is one industrial zoning designation, M. Primary land uses in this designation include research and development, incubator industries, repair services, wholesale activities, distribution centers, and small manufacturing and fabrication. In some situations, other types of uses, such as single- and multifamily housing, are allowed with a use permit.

Public and Semi-Public. There are two public and semi-public zoning designations, I (Institutional), and OS (Open Space). Primary land uses in the I district include parks, government administrative offices, schools and school playgrounds, hospitals, convalescent homes, fire stations, public utility stations, post offices, and various types of state and federal

facilities. Primary land uses in the OS district include non-recreational open space, active recreational open space, creeks, and passive recreational open space. This district is also applied to lands owned by a public agency.

The proposed General Plan calls for the creation of several new zoning districts. Regulations for these districts will be established as part of the comprehensive zoning update being undertaken after the General Plan is adopted. The use regulations and development standards for existing zoning districts will need to be amended to conform to Plan policies.

Plans from Surrounding Jurisdictions and Other Agencies

Contra Costa County General Plan

Last amended in 2005, the Contra Costa County General Plan guides development in the unincorporated areas of the county. The communities of North Richmond and El Sobrante are within its jurisdiction. According to the Plan, hundreds of acres of vacant industrial land in the North Richmond Area will be redeveloped in the near future, now that "the completion of a major flood control and expressway project has made the area more attractive to investors."

For the El Sobrante area, the Contra Costa General Plan states that the "overall goal of the area is to retain and reinforce the semi-rural and suburban character of the community with its strong emphasis on single-family residences". The Plan calls for residential development to be directed primarily to areas where infilling of previously "passed over" property can occur, as well as to discourage strip commercial development in the community.

Measure J – Growth Management Program (GMP)

The Growth Management Program (GMP) is an important component of Measure J, and builds upon the GMP for Measure C. It is intended to ensure that new developments are served with adequate infrastructure and services. Measure J also requires cooperative, multi-jurisdictional planning while maintaining local autonomy over land use decisions.

Local jurisdictions must comply with the requirements of the GMP to receive funds from the Local Street Maintenance and Improvement program and to be eligible for Transportation for Livable Communities (TLC) program. The GMP requires a local jurisdiction to:

- Adopt a Growth Management Element, as part of its General Plan, that outlines the jurisdiction's goals and policies for managing growth and requirements for achieving those goals. The Growth Management Element must show how the jurisdiction will comply with the other requirements;
- Adopt, or maintain in place, a development mitigation program that ensures that new growth pays its fair share of the costs associated with that growth;
- Participate in cooperative planning with other jurisdictions and agencies, the RTPCs and the CCTA to create a balanced, safe and efficient transportation system and to manage the impacts of growth in Contra Costa;
- Prepare and maintain a five-year capital improvement program that outlines the capital projects needed to implement the goals and policies of the jurisdiction's General Plan for at

least the following five-year period to meet or maintain traffic service and performance standards as well as implement the goals and policies of the jurisdiction's General Plan;

- Adopt a transportation system management ordinance or resolution that complies with the direction of the Authority;
- Demonstrate reasonable progress in providing housing opportunities for all income levels as part of a report on the implementation of the actions outlined in its adopted Housing Element, and incorporate standards and policies into the review of new developments that support transit, bicycle and pedestrian access; and
- Continually comply with either a new "Countywide mutually agreed upon voter approved ULL" or the "local jurisdiction's voter approved ULL."

Measure L – Urban Limit Line

In 2006, the County passed Measure L with 63 percent of the vote to extend the life of the present Urban Limit Line (ULL) to 2026. Consistent with Measure J, the ULL was intended to establish the limit of urban development and preserve the 65/35 land preservation standard that limits urban development to no more than 35 percent of the County. In December 2006, the San Pablo City Council adopted the County ULL as its own. Adoption of the ULL allows San Pablo to obtain its share of Measure J funds that is earmarked for local transportation maintenance and improvements. The ULL includes all land within the City's Planning Area.

Richmond General Plan

The City of Richmond is located immediately north and south of San Pablo. The main transportation connections between San Pablo and Richmond are San Pablo Avenue, 23rd Street, Rumrill Boulevard, and Interstate 80. Richmond is currently in progress of developing a new General Plan. The new General Plan is expected to be adopted in early 2011. Its last General Plan was adopted in 1994. Both plans describe planning intentions and policies for areas near San Pablo, including El Sobrante Valley, North Richmond, and the Hilltop area.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed Project would have a potentially significant adverse impact if it would:

Criterion 1: Conflict with applicable area land use plans, including the County Plan and specific plans.

Criterion 2: Result in community residential or business disruption or displacement of substantial numbers of existing population and housing.

Criterion 3: Result in permanent alterations to the characteristics and qualities of an existing neighborhood or community by separating residences from community facilities

and services, restricting access to commercial or residential areas, or eliminating community amenities.

METHODOLOGY AND ASSUMPTIONS

This analysis considered current and proposed General Plan policies and goals, existing and proposed land use conditions within San Pablo, and applicable regulations and guidelines. It also compared the proposed General Plan land use diagram to existing land use conditions to determine whether implementation of the Plan will trigger any impacts. Farmland resources were checked on the California Department of Conservation to determine if any farmland would be affected. None were.

The impact analysis considered the full buildout of the proposed General Plan; although it is uncertain when or if this full development would occur. For the purposes of comparing the different land use designations between the existing and proposed General Plans, generalized land use categories were used. **Table 3.1-4** summarizes these categories.

Table 3.1-4 Correspondence of Generalized Land Use Categories to Current and Proposed Designations

	Current General Plan Designation	*Proposed General Plan Designation*
Residential		
	Low Density Residential	Low Density Residential
	Medium Density Residential	Medium Density Residential
	High Density Residential	High Density Residential
Mixed Use		
	–	Commercial Mixed Use
	–	Residential Mixed Use
	–	Mixed Use Center
Commercial		
	Commercial	Neighborhood Commercial
	–	Regional Commercial
Industrial		
	Industrial	Industrial Mixed Use
Parks, Open Space, and Conservation		
	Public/Semi Public/Institutional	Public/Institutional
	Open Space	Parks and Recreation
Other		
	–	Air Quality Management Health Risk Overlay Zone (Overlay to establish a buffer next to Interstate 80, as required by the Bay Area Air Quality Management District).

Source: City of San Pablo, Dyett & Bhatia, 2010.

IMPACT SUMMARY

The intent of the General Plan is to create a city in which planned land uses exist and function without imposing a nuisance, hazard, or unhealthy condition upon an adjacent use. Uses within areas designated for mixed use development are expected to be compatible with one another because General Plan policies establish requirements for compatible development. Implementation of the General Plan will create specific regulatory standards and review procedures to ensure compatible land uses.

The proposed General Plan does not physically divide any established community. Rather, by providing better connectivity within the city, the plan provides more linkages within and between existing neighborhoods.

Redevelopment caused by new permitted land uses or different densities may temporarily remove housing in certain areas, but overall the proposed plan will increase the number of housing units in San Pablo so anyone displaced will be able to find accommodation in the same area.

No farmland would be affected or lost as there are none in the Planning Area.

The proposed General Plan will be the guiding document in San Pablo. Adopted policies, specific plans, programs, the zoning code, and other implementing tools will be amended to conform to the adopted General Plan.

The proposed General Plan does not contain policies that conflict with the Contra Costa County General Plan or the Richmond General Plan. Its Sphere of Influence does not overlap those from surrounding jurisdictions. The General Plan adopts the County Urban Limit Line as its own, and is consistent with provisions under Measure J.

There is an overlap in the planning areas of the proposed General Plan and the County's General Plan in relation to the Rollingwood neighborhood. However, no change of land use is proposed and policies for that neighborhood are consistent with existing County policies. The City has plans to annex Rollingwood in the future and the area is within the City's LAFCO-approved Sphere of Influence.

This page intentionally left blank.

3.2 Transportation

This section provides a programmatic assessment of the impact of the proposed San Pablo General Plan on the circulation system, including facilities for vehicles, bicycles, and pedestrians.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Existing Transportation System

The transportation system in San Pablo is comprised of state highway and local road systems, express and local bus services, and bicycle and pedestrian networks. This section begins with a discussion on the modes being used, followed by a description of the different components of the existing transportation system.

Mode Split

The transportation system facilitates trips to and from the city. **Table 3.2-1** presents the estimated mode share to and from San Pablo according to the Contra Costa Transportation Authority's (CCTA) travel demand model. As with other parts of the Bay Area, most trips to and from the city are undertaken in single-occupancy vehicle, which constitutes about 60 percent of the trips. Carpool represents 26 percent of total trips; while transit share is five percent and walk or bike trips are eight percent overall, including trips within the city as well as trips to locations outside the city. However, walk and bicycle trips made up about 20 percent of the trips within the city limit. This percentage is relatively high when compared to other cities in the region and signifies an opportunity for pedestrian and bicycle improvements as well as for smart, compact growth; thereby further fostering alternative mode use.

Table 3.2-1 Mode Share

	Mode Share as a Percent of Total Person Trips					
	Drive Alone	*Carpool (2 Person)*	*Carpool (3+ Person)*	*Transit (walk to stop)*	*Transit (drive to stop)*	*Walk/Bike*
Originating from San Pablo						
Within San Pablo	57%	12%	9%	2%	1%	20%
Outside San Pablo	56%	18%	12%	5%	3%	5%
Destined to San Pablo						
Within San Pablo	57%	12%	9%	2%	1%	20%
Outside San Pablo	65%	16%	9%	3%	1%	6%
TOTAL	**60%**	**16%**	**10%**	**3%**	**2%**	**8%**

Source: CCTA Travel Demand Model, Year 2000 Base.

Roadways

Regional roadway access to and from San Pablo is provided by Interstate 80 (I-80) and San Pablo Avenue. I-80 runs from the San Francisco-Oakland Bay Bridge through the City of San Pablo to the Carquinez Bridge to Sacramento and farther east. In San Pablo, I-80 carries 198,000 vehicles on average on a daily basis.[1] Access to San Pablo from I-80 is provided at the El Portal Drive and San Pablo Dam Road interchanges. According to the 2009 West County Action Plan, I-80 continues "to experience a severe level of congestion throughout the day and an extreme amount of congestion during the morning (6am – 9am) and evening (3pm – 7pm) peak periods.[2]

The roadway network in San Pablo is illustrated in **Figure 3.2-1**. These roadways have been classified as major roads (arterials, collectors, or parkways) and minor roads (local streets) in the current General Plan or designated as the Congestion Management Program (CMP) network by the Contra-Costa Transportation Authority (CCTA) and Routes of Regional Significance by CCTA and the West Contra Costa Transportation Advisory Committee (WCCTAC). Major roads are regional and local-serving routes while minor roads are neighborhood roadways that connect residences to local roadways. The Routes of Regional Significance, which are roadways that provide regional connections, facilitate access to one or more regional highways or transit facilities, and carry high volume of through traffic. **Table 3.2-2** lists existing Average Daily Traffic (ADT) volumes at selected locations.

Table 3.2-2 Average Daily Traffic (ADT) Volumes for Selected Locations, 2007

No.	*Location*	*ADT*
1	Broadway Ave from 15th St to 16th St	6,200
2	San Pablo Ave from River St to Lake St	27,800
3	San Pablo Ave from Stone St to International Market Pl	20,500
4	Giant Rd from s/o Trenton Blvd to Parr Blvd/Rd 20	5,100
5	Rumrill Blvd from Rd 20 to Brookside Dr	12,800
6	San Pablo Ave from 23rd St to Campo Verde Circle	14,600
7	El Portal Dr from Mission Bell Dr to Castro Rd	14,900
8	23rd St from Pine Ave to Emeric Ave	12,300
9	San Pablo Ave from Church Ln to Pinewood Terrace	47,500
10	San Pablo Dam Rd from Marrow Dr to Amador St	25,900
11	San Pablo Dam Rd from Marrow Dr to Millin Ave	24,900

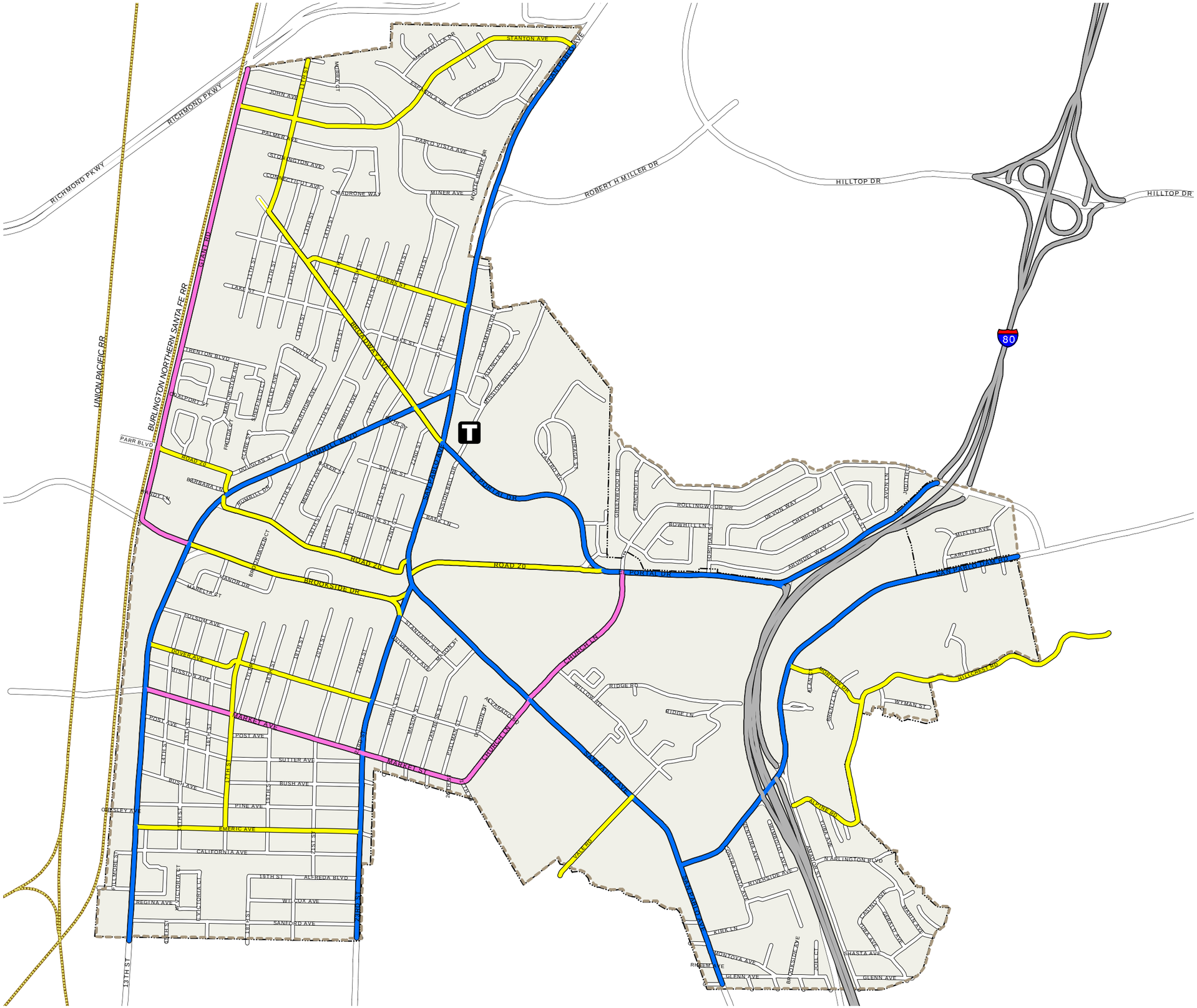
Source: City of San Pablo, 2007.

[1] Caltrans. Traffic Operations Program. 2008 AADT counts for I-80 between El Portal and San Pablo Dam Road, http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2008all/r071-80i.htm

[2] 2009 West County Action Plan Update, p. 6.

Figure 3.2-1

Existing Roadway System



Legend

- State Highway
- Parkway
- Major Arterial
- Collector
- Local
- Major Transit Hub
- Planning Area
- City Limits
- Railroads

0 0.25 0.5
Miles

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.2-1

Existing Intersection and Freeway Conditions

Selected intersections and freeway segments were assessed to determine the existing operating conditions.

Study Intersections

A total of 24 signalized intersections, as shown in **Table 3.2-3**, were selected for evaluation. Traffic volumes counts collected at these locations between February 2004 and August 2006 were used as the basis for analysis. These counts were conducted prior to the economic downtown that started in 2008 and were considered to be representative of current traffic conditions or may, in fact, reflect higher volumes than current 2010 conditions.

Table 3.2-3 Study Intersections

No.	*Location*	*Count Month/Year*
1	San Pablo Avenue / Robert Miller Drive	April 2005
2	San Pablo Avenue / River Street	February 2004
3	San Pablo Avenue / Rumrill Boulevard	October 2005
4	San Pablo Avenue / El Portal Drive-Broadway Avenue	February 2004
5	Giant Road / Parr Boulevard-Road 20	December 2006
6	San Pablo Avenue / Road 20	February 2004
7	San Pablo Avenue / Church Lane	August 2006
8	San Pablo Avenue / Vale Road	October 2005
9	San Pablo Avenue / San Pablo Dam Road	December 2005
10	San Pablo Avenue / Rheem Avenue	October 2005
11	23rd Street / Dover Avenue	August 2006
12	23rd Street / Market Avenue	August 2006
13	23rd Street / Rheem Avenue	August 2006
14	Rumrill Boulevard / Broadway Avenue	February 2004
15	Rumrill Boulevard / Brookside Drive	February 2006
16	Rumrill Boulevard / Market Avenue	September 2004
17	Rumrill Boulevard / Rheem Avenue	August 2006
18	El Portal Drive / Road 20	October 2005
19	Church Lane / El Portal Drive	March 2004
20	I-80 WB off-ramp / El Portal Drive	March 2004
21	I-80 EB ramps / El Portal Drive	March 2004
22	El Portal Drive / San Pablo Dam Road	March 2004
23	San Pablo Dam Road / Amador Street-I-80 EB on-ramp	October 2005
24	I-80 WB off-ramp / San Pablo Dam Road	October 2005

Source: Dowling Associates, 2010.

Intersection Level of Service Methodology

Level of service (LOS) is a qualitative assessment of the motorists and passengers' perceptions of traffic conditions. It is generally described in terms of travel time and speed, freedom to maneuver, traffic interruptions, comfort and convenience. LOS applies quantifiable traffic measures such as average speed, intersection delays, and volume-to-capacity ratios to approximate driver satisfaction. These measures differ by roadway type because the user's perceptions and expectations vary by roadway type.

The CCTALOS methodology was used to calculate the level of service at intersections. The CCTALOS methodology applies a modified Circular 212 analysis method. The signalized intersection level of service was determined based on the critical volume-to-capacity ratio (V/C) and assigned a level of service grade based on the definitions and ranges shown in **Table 3.2-4**.

Table 3.2-4 Definition of Level of Service for Signalized Intersections

Level of Service	*Expected Delay*	*Range of Volume to Capacity (V/C) Ratios*
A	Little or no delay	≤0.60
B	Short traffic delays	0.61 to 0.70
C	Average traffic delays	0.71 to 0.80
D	Long traffic delays	0.81 to 0.90
E	Very long traffic delays	0.91 to 1.00
F	Extreme delays; potentially affecting other traffic movements in the intersections	> 1.00

Source: Contra Costa Transportation Authority (CCTA), Technical Procedures Update, July 2006.

Intersection Operations

Peak hour intersection operations were assessed and the results are presented in **Table 3.2-5 and Figure 3.2-2**. All study intersections operate at LOS D or better during the AM and PM peak hours.

Table 3.2-5 Intersection Existing Conditions Level of Service Summary

No.	*Location*	*Traffic Control*	*Peak Hour*	*Existing*[1]	
				LOS[2]	*V/C*[3]
1	San Pablo Av/Robert Miller Dr	Signal	AM	A	0.32
			PM	A	0.47
2	San Pablo Av/Rivers St	Signal	AM	A	0.52
			PM	A	0.58
3	San Pablo Av/Rumrill Blvd	Signal	AM	A	0.44
			PM	B	0.63
4	San Pablo Av/El Portal Dr-Broadway Av	Signal	AM	A	0.54
			PM	A	0.58

Table 3.2-5 Intersection Existing Conditions Level of Service Summary

No.	*Location*	*Traffic Control*	*Peak Hour*	*Existing*[1]	
				LOS[2]	*V/C*[3]
5	Giant Rd/Parr Blvd-Rd 20	Signal	AM	A	0.24
			PM	A	0.25
6	San Pablo Av/Rd 20	Signal	AM	A	0.54
			PM	B	0.65
7	San Pablo Av/Church Ln	Signal	AM	C	0.76
			PM	A	0.58
8	San Pablo Av/Vale Rd	Signal	AM	A	0.45
			PM	A	0.43
9	San Pablo Av/San Pablo Dam Rd	Signal	AM	A	0.49
			PM	B	0.63
10	San Pablo Av/Rheem Av	Signal	AM	A	0.46
			PM	A	0.40
11	23rd St/Dover Av	Signal	AM	A	0.39
			PM	A	0.31
12	23rd St/Market Av	Signal	AM	A	0.54
			PM	A	0.51
13	23rd St/Rheem Av	Signal	AM	B	0.64
			PM	A	0.56
14	Rumrill Blvd/Broadway Av	Signal	AM	A	0.52
			PM	A	0.54
15	Rumrill Blvd/Brookside Dr	Signal	AM	A	0.46
			PM	A	0.42
16	Rumrill Blvd/Market Av	Signal	AM	A	0.59
			PM	A	0.54
17	Rumrill Blvd/Rheem Av	Signal	AM	A	0.45
			PM	A	0.40
18	El Portal Dr/Rd 20	Signal	AM	A	0.35
			PM	A	0.33
19	Church Ln/El Portal Dr	Signal	AM	A	0.57
			PM	A	0.50
20	I-80 WB off-ramp/El Portal Dr	Signal	AM	C	0.77
			PM	C	0.79
21	I-80 EB ramp/El Portal Dr	Signal	AM	C	0.73
			PM	D	0.83
22	El Portal Dr/San Pablo Dam Rd	Signal	AM	C	0.73
			PM	B	0.68
23	San Pablo Dam Rd/Amador St/I-80 EB on-ramp	Signal	AM	B	0.63

Table 3.2-5 Intersection Existing Conditions Level of Service Summary

No.	Location	Traffic Control	Peak Hour	Existing[1] LOS[2]	Existing[1] V/C[3]
			PM	B	0.60
24	I-80 WB off-ramp/San Pablo Dam Rd	Signal	AM	C	0.75
			PM	B	0.62

[1] Existing intersection traffic volumes were collected between February 2004 and August 2006.

[2] LOS - Level of service - calculated using CCTALOS methodology and based on volume-to-capacity (v/c) ratio.

[3] V/C - critical volume-to-capacity ratio

Source: Dowling Associates, Inc., January 2010.

Freeway Operations

Existing peak hour volumes were obtained from Caltrans Census data[3], as well as PeMS[4] database. Based on definitions in Highway Capacity Manual 2000, if the distance between an on-ramp and a succeeding off-ramp is less than 2,500 feet, it is considered a weaving section. Freeway interchanges within the study area rather closely-spaced, and a majority of the mainline segments selected for evaluation are considered weaving segments rather than basic freeway segments.

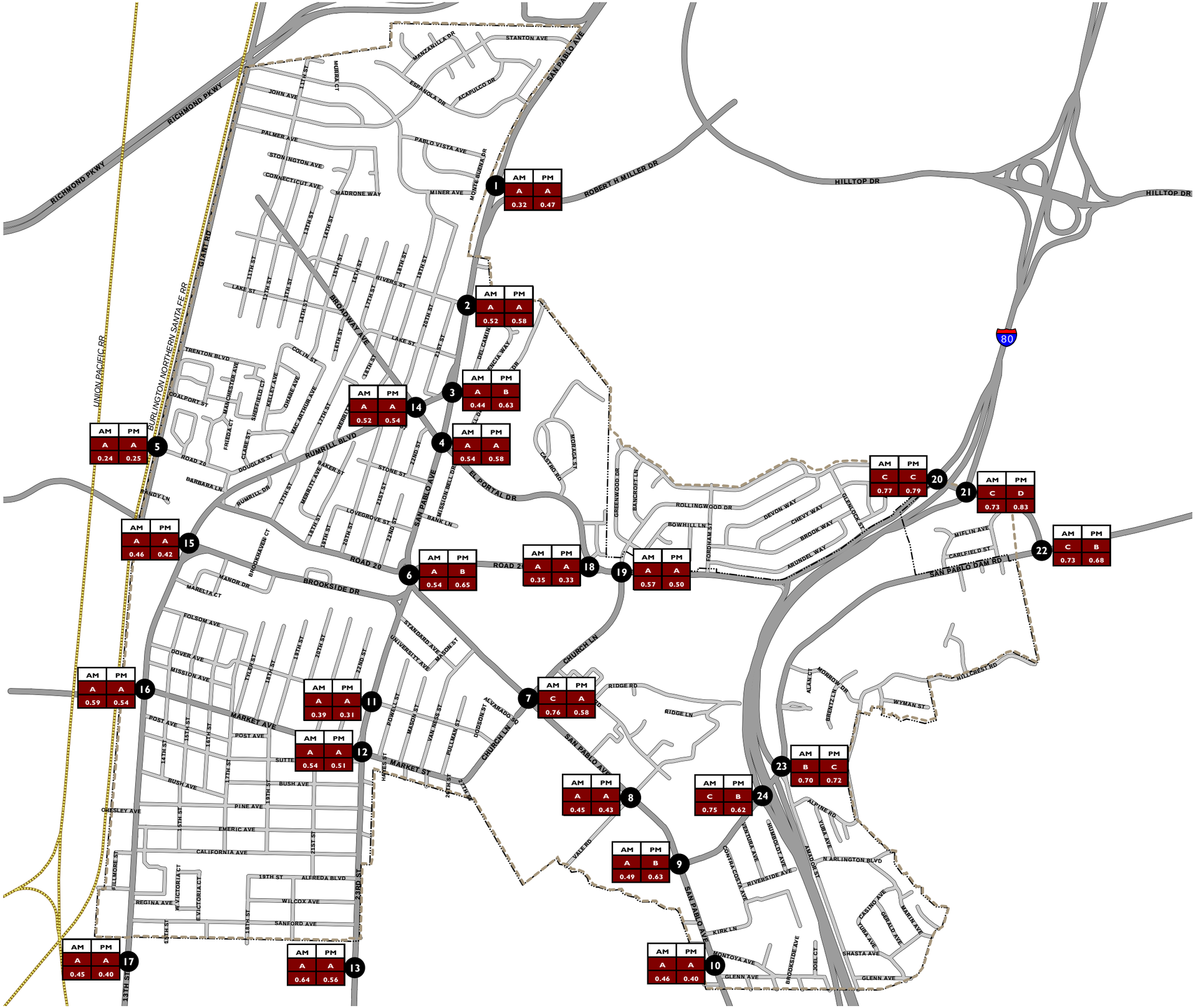
The HCM LOS was determined using density. Density is the number of passenger car per mile per lane for a transportation facility. Density is computed based on freeway geometrics, traffic volume, free- flow speed, and traffic composition of the facility. **Table 3.2-6** contains the density thresholds for freeway mainline LOS.

[3] Counts were obtained from California Department of Transportation District 4, Office of Highway Operations.

[4] PeMS (Performance Measurement System) is a project conducted by the Department of Electrical Engineering and Computer Sciences at the University of California, at Berkeley, with the cooperation of the California Department of Transportation, California Partners for Advanced Transit and Highways, and Berkeley Transportation Systems.

Figure 3.2-2

Existing Level of Service



Intersection Analyzed

AM/PM
Level of Service
Volume/Capacity

Planning Area

City Limits

Major Roads

Minor Roads

Railroads

0 0.25 0.5

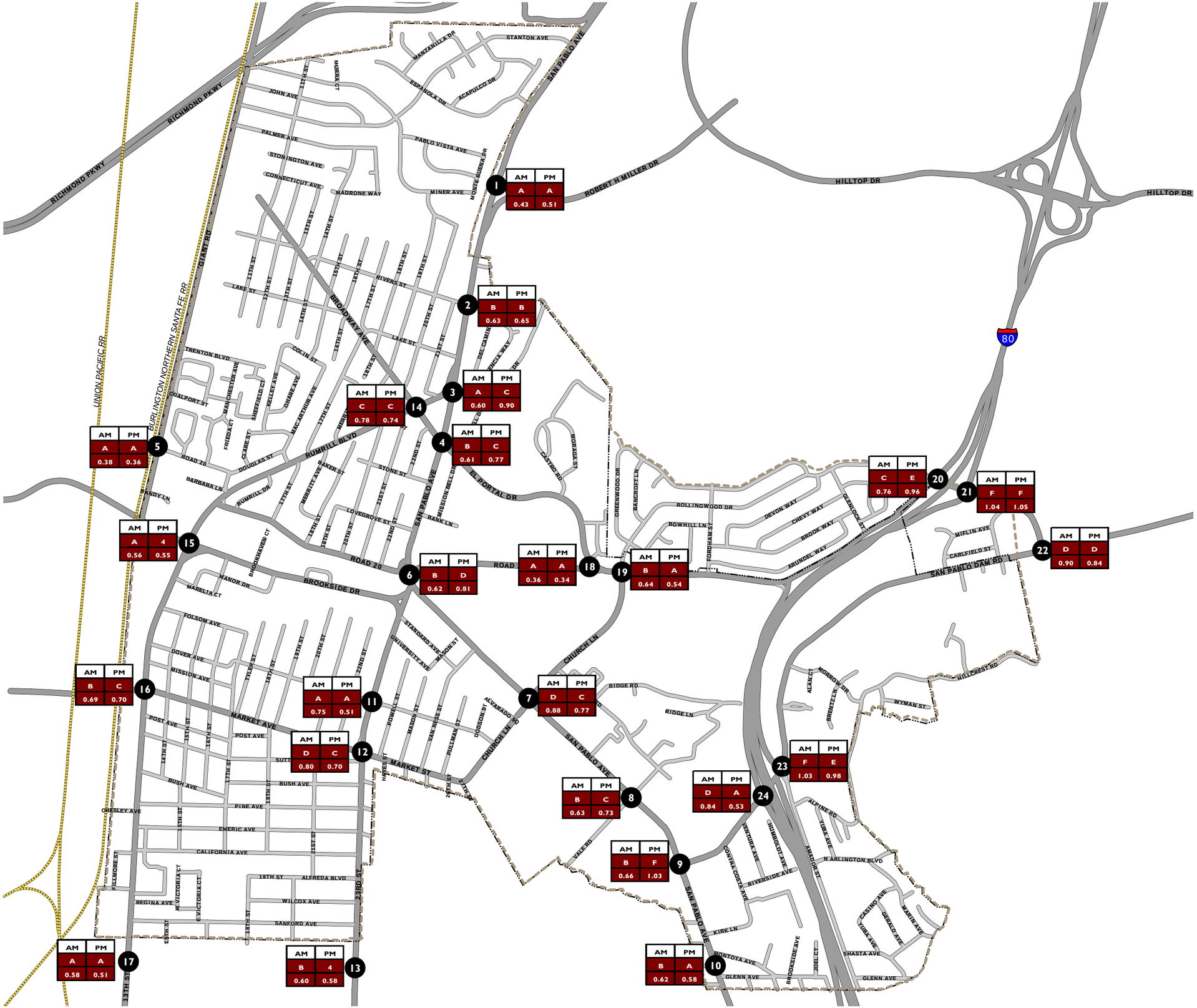
Miles

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.2-2

Figure 3.2-3

Future Level of Service



Intersection Analyzed

AM/PM
Level of Service
Volume/Capacity

Planning Area

City Limits

Major Roads

Minor Roads

Railroads

0 0.25 0.5

Miles

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.2-3

Table 3.2-6 Level of Service Criteria – Freeway Mainline

	Maximum Density (passenger vehicle/mile/lane)	
Level of Service	*Basic Segment*	*Weaving Segment*
A	11	10
B	18	20
C	26	28
D	35	35
E	45	43
F	>45	>43

Source: Transportation Research Board, Highway Capacity Manual, Washington, D.C., 2000, pages 23-3, 23-4, and 24-3.

Results of existing freeway operations are shown in **Table 3.2-7.** I-80 westbound is the peak commute direction during AM peak hour, and I-80 eastbound is the peak commute direction during the PM peak hour. As noted, a majority of existing traffic counts in the study area were constrained due to mainline bottlenecks and queues in the peak direction of travel, during both AM and PM peak hours. Since freeway operations in the study area are affected by downstream bottleneck outside of the study area, existing freeway LOS reported for the peak direction of travel are reported based on observed freeway speeds and counts. In the eastbound direction, I-80 operates at LOS E on mainline sections within the study area during PM peak hour, and operates at LOS C or better during AM peak hour

In the westbound direction, the freeway operates at LOS E east of San Pablo Dam Road, and at LOS F between San Pablo Dam Road and McBryde Avenue during AM peak hour. The freeway operates at LOS C or better during the PM peak hour.

Table 3.2-7 Existing Year 2007 - Freeway Mainline LOS Summary (Observed)

		AM Peak Hour			PM Peak Hour		
Freeway Segment	*Type*	*Volume [1]*	*Density [2]*	*LOS[3]*	*Volume [1]*	*Density [2]*	*LOS[3]*
I-80 Eastbound							
West of San Pablo Dam Rd [4]	Basic	4,476	18.1	C	5,167	**43.1**	**E**
Between San Pablo Dam Road and El Portal Dr [4]	Basic	4,418	17.9	B	5,182	**39.3**	**E**
Between El Portal Dr and Hilltop Dr [4]	Weave	4,456	23.6	C	5,318	**40.3**	**E**
I-80 Westbound							
Between Hilltop Dr and El Portal Dr [4]	Weave	5,051	**42.1**	**E**	4,975	25.6	C
Between El Portal Dr and San Pablo Dam Rd [4]	Weave	5,522	**41.8**	**E**	4,878	24.6	C
Between San Pablo Dam Rd and McBryde Ave [4]	Weave	6,018	**53.7**	**F**	5,150	27.3	C

[1] Volume for mixed-flow lanes only, HOV lane volumes are excluded from analysis

[2] Density = passenger cars per mile per lane

[3] LOS = Level of Service

[4] Bold cells highlighted in grey indicate existing bottleneck and queuing conditions downstream of study area. LOS is reported based on observed speeds and volumes.

Source: Dowling Associates, Inc., 2010.

Transit Services

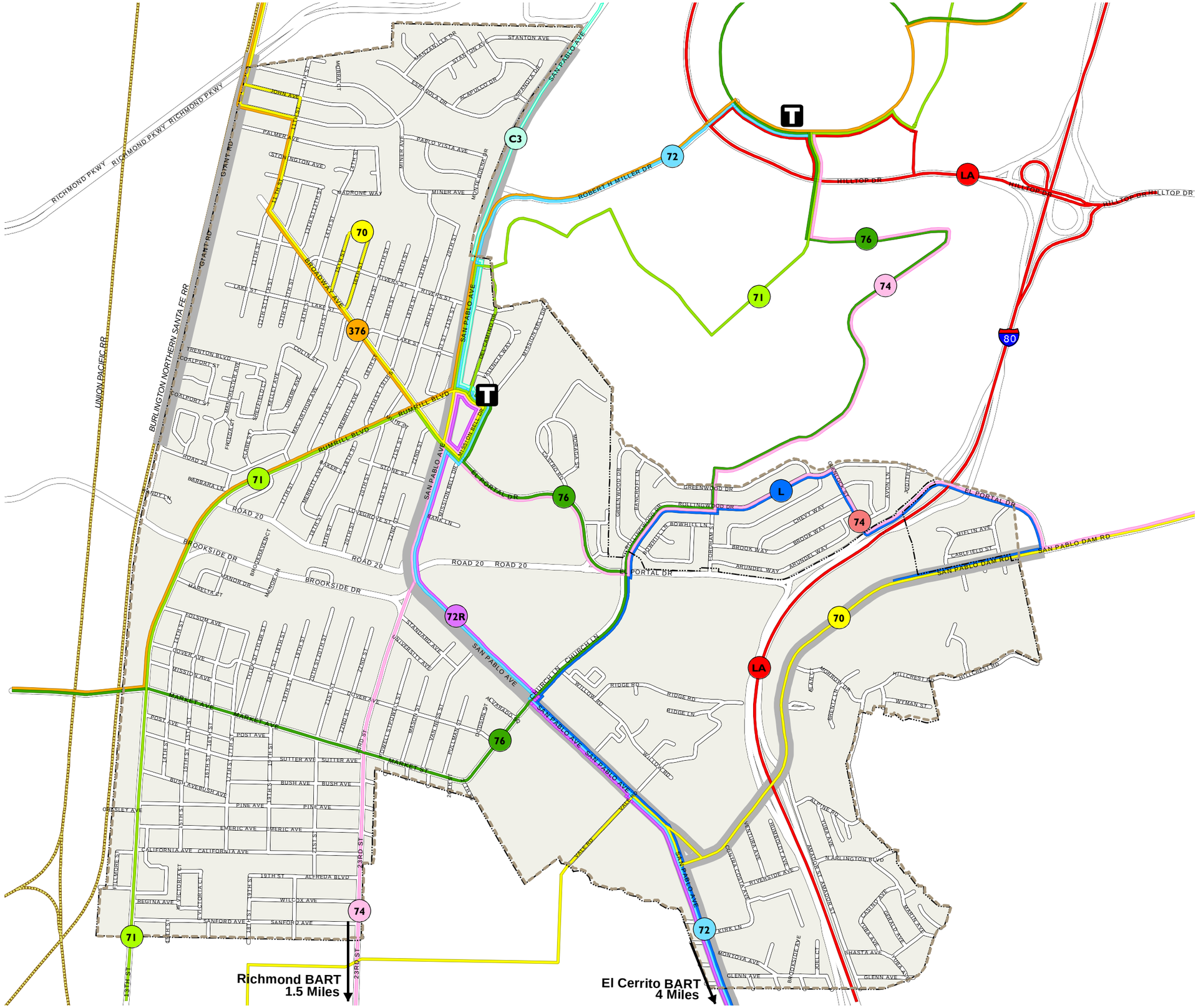
Regional and local bus services in the City of San Pablo are provided by the Alameda-Contra Costa Transit District (AC Transit) and Western Contra Costa County Transit (WestCAT). Heavy and commuter rail services are provided by the Bay Area Rapid Transit (BART) and Amtrak via the Richmond station about 1.5 miles south of San Pablo. Bus routes are illustrated on **Figure 3.2-4**.

AC Transit

AC Transit serves 13 cities and adjacent unincorporated areas in Alameda and Contra Costa counties from Richmond/Pinole in the north, to Fremont in the south, to Castro Valley in the east, and west into and from San Francisco. It provides fixed-route bus service on weekdays, weekends, and holidays, linking San Pablo users to major retail, institutional, and governmental activity centers located within the service area. There is a major Bus Terminal established in the campus of Contra Costa College, near the Student Association (SA) Building and the Vocational (VA) Building. This stop is a "Timed Transfer Stop" which provides synchronized bus-to-bus transfers.

Figure 3.2-4

Transit and Truck Routes



Local Transit Lines

- 376
- 70
- 71
- 72
- 72R
- 74
- 76
- C3

Transbay Transit Lines

- L
- LA

Truck Routes

Public Transit Hubs

Planning Area

City Limits

Railroads

0 0.25 0.5
Miles

SOURCE: Dowling, 2010; Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.2-4

Major routes that originate or passes through San Pablo include the following[5]:

- *Route 70:* A daily regional transit route going through San Pablo, North Richmond, El Sobrante, and Richmond.
- *Route 71:* A daily regional transit route serving the cities of San Pablo, Richmond, and El Cerrito.
- *Route 72/72R:* A daily regional transit route connecting the cities of San Pablo, Richmond, El Cerrito, Albany, Berkeley, Emeryville, and Oakland. A "Rapid" version of the bus is denoted by 72R.
- *Route 74:* A daily regional transit route serving the cities of San Pablo and Richmond. This bus has route variations that also reach the Orinda BART station.
- *Route 76:* A daily regional transit route going through San Pablo, Richmond, and stopping at El Cerrito.
- *Route 376*: A daily regional transit route going through San Pablo, Richmond, and stopping at El Cerrito.

WestCAT

WestCAT primarily serves the cities of Pinole and Hercules but one of its service route (C3) starts from the bus terminal at Contra Costa College. This weekday-only service passes through the City of Pinole and ends at the City of Hercules.

BART/Amtrak

The Bay Area Rapid Transit (BART) provides service to San Francisco as well as Contra Costa, Alameda, and San Mateo counties. BART operates in 15- to 20-minute intervals between 4:00 a.m. and midnight Monday through Friday; 6:00 a.m. to midnight on Saturdays; and 8:00 a.m. to midnight on Sundays and major holidays. The closest BART stations to San Pablo residents are the Richmond and El Cerrito Del Norte stations. The stations are well connected via AC Transit bus routes from San Pablo. Patron parking is available at both stations; however, according to the Spring 2008 BART Station Access Inventory, there was high demand for parking and the spaces were taken up by 8:00 a.m. at El Cerrito Del Norte station and were 98 percent full by 9:00 a.m. at Richmond station.

The Richmond BART station is also the connecting point for two Amtrak routes. The Capitol Corridor, which serves Sacramento and Auburn to the east and Oakland and San Jose to the south, operates sixteen eastbound and sixteen westbound trains on weekdays and eleven trains per direction on weekends. The San Joaquins, which serves the Central Valley corridor of Stockton, Fresno and Bakersfield, operates four trains per direction through the Richmond station on a daily basis.

---

[5] Compiled from AC Transit website on February 25, 2010.

Bicycle and Pedestrian Facilities

Given the topography of San Pablo, bicycling and walking are viable alternatives to vehicle use for both recreational and non-recreational trips. Bicycle facilities are defined as the following three classes according to Chapter 1000 of the Caltrans Highway Design Manual:

- **Class I** – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
- **Class II** – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.
- **Class III** – Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.

San Pablo currently has a limited number of bicycle facilities as illustrated in **Figure 3.2-5**. Class I bike paths are found between the eastern end of the John Hubert Davis Park and Rumrill Boulevard along the Wildcat Creek. Class II bike lanes are found along Rumrill Boulevard between San Pablo Avenue and Brookside Drive and along San Pablo Avenue between Brookside Drive and Evens Avenue. There are currently no clearly designated Class III bike routes within the city.

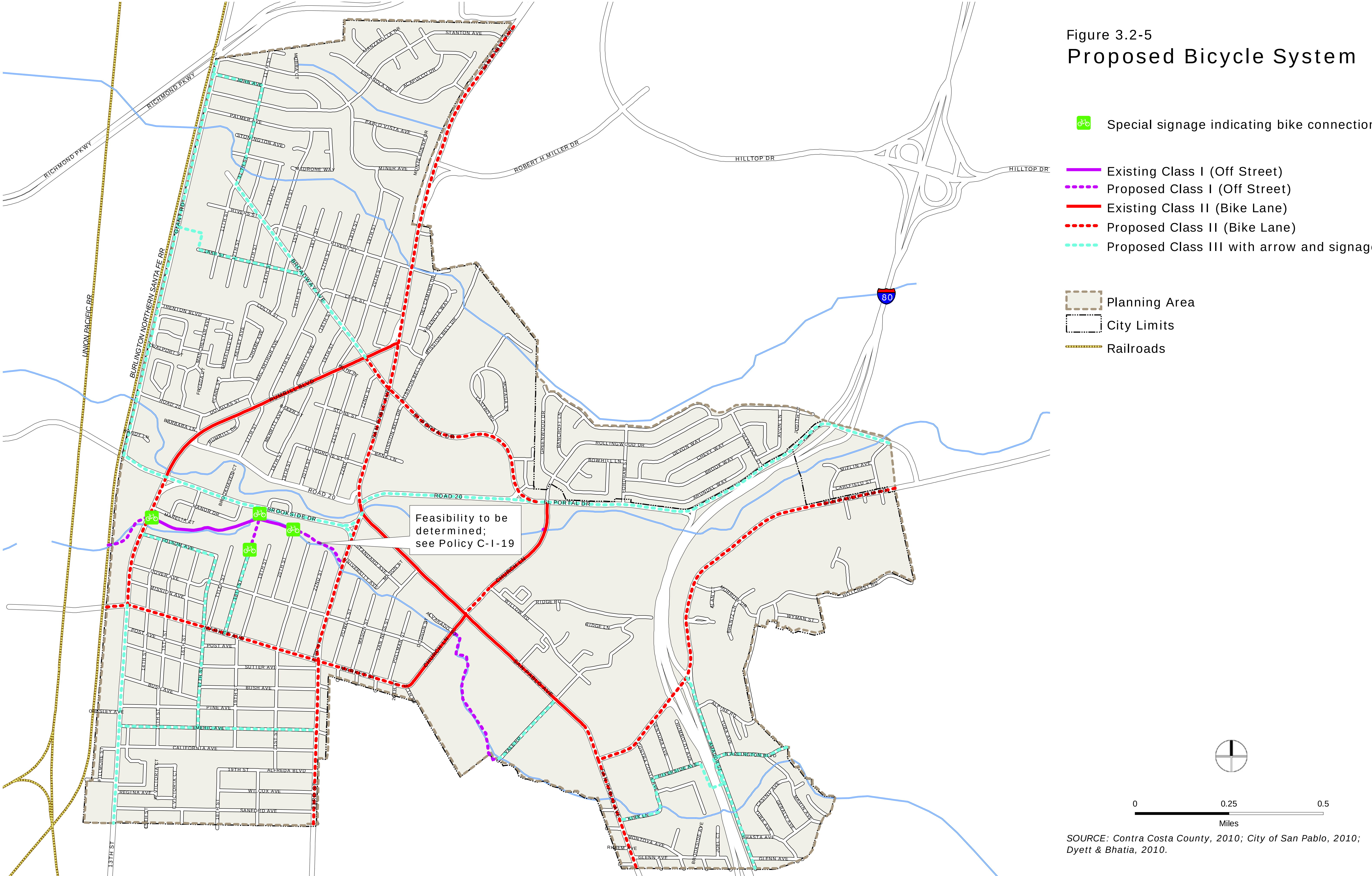
Sidewalks are typically provided along arterials and residential roadways. However, some of the sidewalks in the older neighborhoods are narrow and are sometimes obstructed by vehicles parking partially on the sidewalks. Pedestrian crosswalks are marked and signals are provided at most major intersections within the city. The City's 2009 Americans with Disabilities Act (ADA) Transition Plan Update indicated that only 2 percent of the 997 locations surveyed have accessible curb ramps that are in full compliant with current ADA regulations; while 27 percent lack curb ramps entirely.

Goods Movement Facilities

Freight Service

The Burlington Northern Santa Fe and the Union Pacific Railway own and operate freight rail services along the tracks that runs parallel to Giant Road to the west of the Planning Area. Several roadways cross the tracks at-grade, including Chesley Avenue, Market Avenue, Brookside Drive, Parr Boulevard, John Avenue, and Griffin Drive-Giant Road. At grade rail crossings and the potential for train-vehicle and train-pedestrian conflicts are of particular concern to the California PUC. The Market Street crossing, just outside of San Pablo to the west, is ranked 32 in all of California in terms of predicted collisions per year.

Figure 3.2-5
Proposed Bicycle System



SOURCE: *Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.*

Back of Figure 3.2-5

Truck Routes

The City aims to prevent truck through-traffic from affecting residential streets by restricting certain trucks to Routes of Regional Significance and designated truck routes. The City has identified Rumrill Boulevard, Giant Road (north of Road 20), San Pablo Avenue, and San Pablo Dam Road as designated truck routes in the existing General Plan. These routes are shown in **Figure 3.2-4**.

The City of San Pablo participated in the North Richmond Truck Route Study, which covered the preliminary feasibility and identified route design concepts for a truck route through the unincorporated area of North Richmond directly west of the City of San Pablo.

Parking

The City's Municipal Code Section 17.32 establishes off-street parking requirements for residential and non-residential uses. The requirements are calculated based on square footage or unit counts such as employees, students, and dwelling units. They make little distinction based on proximity to transit or retail amenities or between downtown and suburban locations. One exception is for multi-family dwellings located within 1,500 feet of a transit stop, the number of parking spaces may be reduced subject to use permit approval. The Code also allows reduction in off-street parking requirement provided that a parking study provides evidence that such reduction is warranted and a use permit application is submitted.

Planned Improvements

Planned transportation improvement projects are illustrated on **Figure 3.2-6** and in **Table 3.2-8**. These transportation projects consist of street and other projects intended to improve transportation infrastructure for all modes and accommodate increasing traffic volumes.

Table 3.2-8 Major Transportation Improvements

No.	*Project*	*Location and Description*	*Status*
1	Broadway Traffic Calming and Resurfacing	Paving, striping, tree grate replacement, new traffic signal and raised pedestrian crossings on Broadway from El Portal Drive to 11th Street.	Design Completed. Construction to begin in Fall 2010
2	23rd Street Rehabilitation	Localized section replacements and overlay, and sidewalk and curb ramp upgrade; Dover Ave to southern city limits.	Design/ROW
3	El Portal Gateway	Utility undergrounding, construct roadway safety improvements, streetscape and bicycle/pedestrian path between Church Lane and I-80.	Completed in March 2010
4	I-80 / San Pablo Dam Road Interchange Reconstruction	Reconstruction of freeway interchange and bridge overcrossing. Specifically, the project include: • Adding turn lanes on San Pablo Dam Road to I-80 on-ramps; • Replacement and relocation of pedestrian overcrossing serving Riverside Elementary School; • Relocation of El Portal Drive westbound on-ramp to the north to form a diamond interchange ramp configuration; • Construction of new one-way limited access frontage road to the south side of I-80 between San Pablo Dam Road and McBryde Avenue and elimination of existing McBryde off-ramp. McBryde-bound traffic would use San Pablo Dam Road exit. • Widening of I-80 westbound exit to San Pablo Dam Road to two lanes from one lane; • Replacement of San Pablo Dam Road overcrossing with a 6-lane bridge with shoulders and sidewalks; • Relocation of the Amador Street/San Pablo Dam Road intersection to the east and add a westbound left-turn lane; Realignment of I-80 eastbound ramps to create a diamond interchange.	Design & ROW. Construction to begin in 2013
5	Wildcat Creek Trail, Davis Park to 23rd Street	Construct a paved trail along Wildcat Creek for pedestrians and bicyclists between Davis Park and 23rd Street.	Design Completed. Construction to begin in 2011
6	Rumrill Blvd Bridge Replacement	Replacement of bridge over San Pablo Creek and associated improvements at the Rumrill/Brookside intersection immediately adjoining the bridge.	Construction to begin in 2010
7	Road 20 / El Portal Dr Intersection Reconfiguration	Redesign and reconfigure intersection.	Suspended

Table 3.2-8 Major Transportation Improvements

No.	*Project*	*Location and Description*	*Status*
8	San Pablo Dam Rd Upgrade & Sidewalk Path & Gap Fix	Reconstruct and upgrade San Pablo Dam Road, sidewalks, curbs and gutters.	Not Begun
9	23rd Street Revitalization Phase III	Improvements to enhance safety for all modes including road diet, new medians, wider sidewalks, parking reconfiguration, traffic signal and streetscape.	Design. Construction to begin in 2010
10	San Pablo Avenue Overlay	San Pablo Avenue Overlay: overlay between San Pablo Dam Road and 23rd Street, including sidewalk repairs, curb and gutter replacement, median island upgrades and street tree replacement.	In Construction
11	Old Town Traffic Calming	Implementation of traffic calming measures such as curb extensions, raised crosswalks, traffic circles, striping and signage (pending public input).	Design. Construction to begin in 2010
12	Wildcat Creek Trail: 23rd Street to eastern San Pablo city limit	Construct segments of Wildcat Creek Trail, to connect the Bay Trail and Ridge Trail, between 23rd Street and the eastern limit of the City of San Pablo.	Not Begun
13	San Pablo Dam Road Medians and Landscaping	Construct median islands with landscaping between I-80 to El Portal Drive.	Not Begun
14	Church Lane Bridge: Widening at San Pablo Creek	Widen bridge to allow for sidewalk and bike lane at San Pablo Creek south of El Portal Drive.	Not Begun
15	San Pablo Avenue Sidewalk Construction	Complete gaps in sidewalks on San Pablo Avenue between Rivers Street and Lancaster Street.	Not Begun
16	San Pablo Ave Bridge Sidewalk Elevation	Elevate walkway (on west side) to roadway level for safety and improved access.	Not Begun
17	Giant Road Improvements	Improvements to enhance safety on Giant Road from Brookside Drive to Miner Ave.	Not Begun
18	Rumrill Gateway	Improvements to improve safety on Rumrill Boulevard from Costa Ave to Brookside Drive.	Not Begun
19	San Pablo Dam Rd – Ventura Ave Intersection Reconfiguration	Redesign and reconfigure existing intersection to eliminate safety hazard and enhance traffic flow on San Pablo Dam Rd entering onto I-80 westbound.	Design/ROW
20	School Zone Traffic Safety Improvements	Traffic calming measures, sidewalk repairs, curb ramp installations, crosswalk lights, signage, etc.	Not Begun
21	ADA Traffic Signal & Crosswalk Modifications	Traffic signal upgrades, crosswalk modifications and curb ramps to enhance mobility.	Under Construction

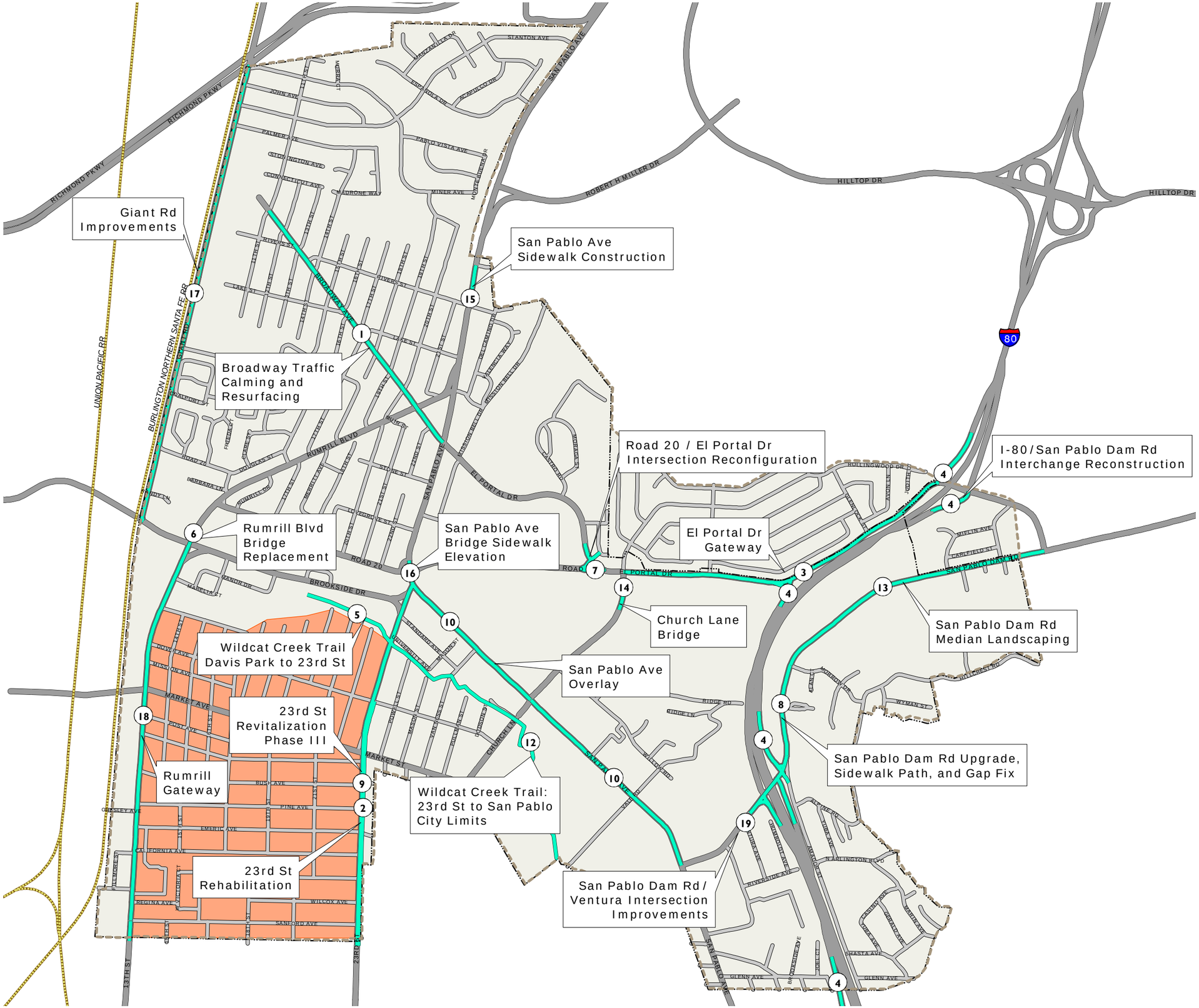
ROW = Right-of-Way acquisition.

Sources: Contra Costa County Transportation Authority, 2009 Countywide Comprehensive Transportation Plan, adopted June 17, 2009; City of San Pablo website: http://www.ci.san-pablo.ca.us/main/capitalprojects.htm Accessed July 6, 2010.

This page intentionally left blank

Figure 3.2-6

Planned Improvements



Planned Improvements (see Table)

Old Town Improvement Area

Planning Area

City Limits

Major Roads

Minor Roads

Railroads

SOURCE: Dowling, 2010; Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.2-6

REGULATORY SETTING

State Regulations

California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, and maintaining all State highways. Caltrans has guidelines for traffic operations on State Highway facilities. Caltrans recommends a target LOS at the threshold between LOS C and LOS D. If the location under existing conditions operates worse than the appropriate target LOS, then the existing LOS should be maintained. Through its Bicycle Transportation Account, Caltrans sets the requirements for the content of bicycle master plan and requires an adopted plan to be eligible for state bicycle funding.

California Public Utility Commission (PUC). PUC is the state agency which regulates railroad, rail transit, and passenger transportation companies in California.

Regional Regulations

Metropolitan Transportation Commission (MTC) is the regional organization responsible for prioritizing transportation projects in a Regional Transportation Improvement Program (RTIP) for federal and state funding. The process is based on evaluating each project for need, feasibility, and adherence to federal transportation policies and the local county Congestion Management Program (CMP).

Contra Costa Transportation Authority (CCTA). Standards for roadway operations in San Pablo are defined on a countywide basis. In 1988, Contra Costa County voters passed Measure C, which raised the sales tax to provide funding for regional transportation improvements. Measure C requires local jurisdictions to adopt and implement a growth control program in order to receive their share of funds for transportation projects including maintenance. Measure C also included the Growth Management Program, which established a cooperative, multi-jurisdictional planning process requiring participation of all cities, towns, and the County in managing the impacts of growth in Contra Costa County. The CCTA was established to implement Measure C and its overall goals.

Measure J, approved by the voters in 2004, authorized the extension of Measure C and establishes Transportation Sales Tax Expenditure Plan that extends the transportation sales tax initially authorized by the passage of Contra Costa Measure C. It provides for $2 billion in funding for programs and projects. These expenditures are "for the construction and improvement of state highways, the construction, maintenance, improvement, and operation of local streets, roads, and highways, and the construction, improvement, and operation of public transit systems", including paratransit services (California Public Utilities Code Section 180205), and for specific efforts supporting such investments. Measure J's Growth Management Program simplifies Measure C's requirements; it also requires a binding Urban Limit Line for the county and all of the cities within the county.

CCTA also serves as the Congestion Management Agency responsible for the CMP. The CMP requires each jurisdiction to identify existing and future transportation facilities that would operate below an acceptable service level and provide mitigation where future growth would degrade that service level. Local jurisdictions work through their respective Regional Transportation Planning Committees (RTPCs). As part of western Contra Costa County, the City

of San Pablo works with other west county jurisdictions through the West Contra Costa Transportation Advisory Committee (WCCTAC) to develop the West Contra Costa Action Plans for Routes of Regional Significance. WCCTAC approved the *West County Action Plan for Routes of Regional Significance–2009 Update* in July 2009. The Action Plan identified Multi-Modal Transportation Service Objectives (MTSOs) to measure the effectiveness of regional freeway, arterial routes, and alternative mode use such as transit, ridesharing and bicycling. The Action Plan identifies multimodal traffic service objectives (MTSOs) for Routes of Regional Significance, which in San Pablo include the freeway (I-80) and arterial streets (23rd Street, El Portal, San Pablo Avenue, and San Pablo Dam Road). On these arterials, the MTSO sets a target level of service.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan Update would have a potentially significant adverse impact if it would:

Criterion 1: Cause a signalized intersection on Basic Routes (all roads not designated as a Route of Regional Significance) to operate below LOS D (or v/c 0.90 for urban areas and v/c 0.85 for suburban areas).

Criterion 2: Conflict with the applicable Congestion Management Program or adopted Action Plan for Routes of Regional Significance, including, but not limited to level of service standards and multimodal transportation service objectives (MTSOs) or other standards established by the county congestion management agency for designated roads or highways. Specifically:

- Cause the Delay Index on I-80 from the Carquinez Bridge to the Alameda County line to exceed 3.0 during weekday morning or evening peak hours.
- Cause a signalized intersection along San Pablo Avenue or San Pablo Dam Road to operate below LOS E.
- Cause a signalized intersection along 23rd Street or El Portal Drive to operate below LOS D.

Criterion 3: Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities.

Given the nature of the project and the distance to nearest airport, San Rafael Airport about 10 miles west, and the fact that the airport facility does not provide commuter or connecting services, the proposed General Plan Update is not expected to result in any change to air traffic patterns or safety. No criterion for this issue is proposed, and it is analyzed no further in this EIR.

METHODOLOGY AND ASSUMPTIONS

The transportation impact analysis is focused on potential level of service impacts on freeways and intersections that would occur from increased travel demand associated with new land development and roadway network modifications under the proposed General Plan. The assessment of these components of the transportation systems was conducted quantitatively using the process outlined in the Analysis Methodology section below. For the transit, bicycle and pedestrian systems, the policies and implementation measures were evaluated qualitatively for conflicts with current adopted policies, plans, or programs.

Analysis Methodology

The Contra Costa Transportation Authority's Travel Demand Model was used to develop future traffic volume forecasts. The model was used to forecast the daily roadway volumes as well as the AM and PM peak hour intersection turning movement data. The following steps were taken in the analysis:

1. **Roadway Networks.** The latest available CCTA Model was reviewed to ensure that future regional roadway improvements are included as part of the future 2030 condition. The Model includes the following network modifications for the 2030 baseline conditions:

    a. Grade separation at the intersection of San Pablo Avenue and Richmond Parkway outside the city limit, and

    b. Appian Way widening from two lanes to four lanes between San Pablo Dam Road and Manor Road outside the city limit.

    However, the network does not include the planned San Pablo Dam Road interchange improvement project. The full extent of the improvement, which includes modifications to the El Portal Drive, San Pablo Dam Road and McBryde Avenue interchanges, and the preferred project configuration was not available at the time the model forecasts were prepared.

    For the General Plan Update, modifications included the proposed narrowing of 23rd Street between San Pablo Avenue and the southern city limits. Upon implementation of this project, 23rd Street would have one travel lane per direction and turn lanes would be provided.

2. **Land Use Data.** The CCTA model includes future development throughout the region. The 2030 forecasts are consistent with regional totals for growth projected by the Association of Bay Area Governments (ABAG) in their *Projections 2005* report. Therefore, the traffic forecasts reflect traffic from growth in San Pablo as well as traffic in the region that may use the local roadways.

    The land use data for the proposed General Plan Update were developed. The land use data was categorized into total households, single-family dwelling units, multi-family dwelling units, total employment, and employment by sector (retail, service, agriculture, manufacturing, wholesale, and other) by traffic analysis zone (TAZ) for input to the model.

3. **Model Forecasts.** The model was used to produce traffic volume forecasts for 2030 No Project conditions and 2030 proposed General Plan Update conditions. The Gateway Capacity Constraint Methodology was applied in projecting the peak hour volumes. This methodology, consistent with the West County Action Plan for Routes of Regional Significance – 2009 Update (West County Action Plan), limits future peak hour volumes based on the capacity of major corridors (or gateways) that serves the area. The Bay Bridge serves as the gateway for the West Contra Costa County including San Pablo. Both base year and future year forecasts were extracted and used to estimate the growth, which was applied to the existing counts.

4. **Impact Analysis.** The performance measures (LOS and delay index) described in the significance criteria were used to identify potential roadway network deficiencies. For the intersections, the future (2030) volumes were adjusted following the process established in the CCTA Technical Procedures, using the Furness method. Free-flow and congested speeds from the model were used to calculate the delay index.

IMPACT SUMMARY

Implement of the proposed General Plan, in conjunction with regional growth and development and intersection reconfigurations by Caltrans increase traffic volumes on local streets by 2030 and affect intersection operations.

Modeling suggests that all signalized intersections on Basic Routes would operate at LOS D or better. Therefore, the proposed General Plan would not cause the level of service at signalized intersections on Basic Routes to exceed the LOS standard, and there is no impact under this criterion. This potential impact is discussed no further in this analysis.

The proposed General Plan would maintain the freeway delay index at less than 3.0 during both AM and PM peak hours on both travel directions. Therefore, the impact on the I-80 MTSO for freeway delay index is considered less than significant.

Modeling and existing environmental assessments suggest that one intersection in the city may experience a future LOS below current MTSOs for Routes of Regional Significance—that of San Pablo Avenue and San Pablo Dam Road. However, because a substantial portion of this impact is a result of regional growth in traffic volumes, and because another portion of that impact could be a result of Caltrans improvements on other related nearby intersections, and because the multimodal goals of the proposed General Plan consistent with regional transportation planning preclude a simple "expansion" improvement designed for vehicles only, the proposed General Plan offers interim standards that allow vehicle LOS at this intersection to fall to F until such time as an adequate, multimodal solution is found. A mitigation measure is offered that could potentially reduce the impact using just lane designation and signal timing changes. However, the effectiveness of this measure is uncertain due to the uncertainty around traffic flow changes expected to result from the Caltrans ramp improvements. This impact remains cumulatively significant, though the project's contribution to the significant cumulative effect is found to be less than considerable with this mitigation measure implemented.

Finally, proposed General Plan land uses, policies, and bicycle linkages and alignments do not ultimately conflict with adopted policies, plans, or programs regarding public transit, bikeways,

or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities. In particular, Plan policies ensure that potential conflicts associated with countywide bicycle planning and impacts to rail safety are less than significant.

IMPACTS AND MITIGATION MEASURES

Cumulative Impact

3.2-1 Implementation of the proposed San Pablo General Plan, in conjunction with anticipated regional growth and development, could cause conflicts with existing MTSOs for Routes of Regional Significance presented in the West County Action Plan. ***(Significant Cumulative Impact; Project Contribution Not Cumulatively Considerable)***

Delay Index

The MTSO outlined in the West County Action Plan for Interstate 80 is to maintain the delay index at less than 3.0. Delay index is measured by computing the ratio of off-peak hour travel time to peak hour travel time from the Carquinez Bridge to Alameda County Line. As shown in **Table 3.2-9**, the delay index for I-80 with the implementation of the Proposed General Plan Update would be maintained at less than 3.0 during both AM and PM peak hours on both travel directions. Therefore, the impact on I-80 is considered less than significant.

Table 3.2-9 Freeway Delay Index for I-80 between Alameda County Line and Carquinez Bridge

Scenario	*Direction*	*Distance (miles)*	*AM Delay Index*	*PM Delay Index*
Proposed General Plan Update	I-80 NB	13.802	1.64	2.51
	I-80 SB	13.807	2.63	1.87

Source: Dowling Associates, Inc. June 2010.

Intersections on Regional Routes

As shown in **Table 3.2-10** and in **Figure 3.2-3**, the proposed General Plan coupled with projected regional growth would cause four intersections on Routes of Regional Significance to operate below the acceptable MTSO standard during one or both peak hours:

- San Pablo Avenue/San Pablo Dam Road (PM peak hour)
- I-80 Westbound off-ramp/El Portal Drive (AM and PM peak hours)
- I-80 Eastbound ramp/El Portal Drive (PM peak hour)
- San Pablo Dam Road/Amador Street/I-80 Eastbound ramps (AM peak hour)

The San Pablo Avenue/San Pablo Dam Road intersection and three freeway ramp intersections are all junctions of two Routes of Regional Significance indicating their utilization not only by local San Pablo traffic but also by through-travelers from and to destinations outside the city. Each of these intersections would be adversely affected by projected regional growth with or

without the addition of trips generated by the proposed General Plan, as the modeling suggests several of these intersections will perform below acceptable LOS in the No Project condition.

Results for proposed General Plan buildout (and all alternatives depicted in Chapter 4) do not account for Caltrans-proposed reconfiguration of interchanges at El Portal, San Pablo Dam Road, and McBryde. Based on the results of the traffic analysis for the I-80/San Pablo Dam Road Interchange Project IS/EA prepared by Caltrans, reconfiguration would result in the three intersections at interchanges I-80 westbound off-ramp/El Portal Drive, San Pablo Dam Road/Amador Street/I-80 eastbound ramps, and the I-80 eastbound ramp/El Portal Drive operating at an acceptable LOS (D or better) during AM and PM peak hours.[6] With the marginal addition of traffic associated with the proposed General Plan, the intersection operations are not expected to drop below LOS E at the two San Pablo Dam Road intersections and LOS D at the El Portal Drive intersection.

Table 3.2-10 Level of Service Forecast for Signalized Intersections

	Intersection	*Peak Hour*	*Existing[1]*		*GP Update (2030)*		*No Project (2030)*	
			LOS[2]	*V/C[3]*	*LOS[2]*	*V/C[3]*	*LOS[2]*	*V/C[3]*
1	San Pablo Av/Robert Miller Dr	AM	A	0.32	A	0.43	A	0.43
		PM	A	0.47	A	0.51	A	0.54
2	San Pablo Av/Rivers St	AM	A	0.52	B	0.63	B	0.64
		PM	A	0.58	B	0.65	B	0.67
3	San Pablo Av/Rumrill Blvd	AM	A	0.44	A	0.60	B	0.61
		PM	B	0.63	C	0.80	C	0.79
4	San Pablo Av/El Portal Dr-Broadway Av	AM	A	0.54	B	0.61	C	0.71
		PM	A	0.58	C	0.77	D	0.84
5	Giant Rd/Parr Blvd-Rd 20	AM	A	0.24	A	0.38	A	0.41
		PM	A	0.25	A	0.36	A	0.33
6	San Pablo Av/Rd 20	AM	A	0.54	B	0.62	C	0.72
		PM	B	0.65	D	0.81	D	0.85
7	San Pablo Av/Church Ln	AM	C	0.76	D	0.88	D	0.83
		PM	A	0.58	C	0.77	C	0.71
8	San Pablo Av/Vale Rd	AM	A	0.45	B	0.63	A	0.55
		PM	A	0.43	C	0.73	B	0.63
9	San Pablo Av/San Pablo Dam Rd	AM	A	0.49	B	0.66	B	0.64
		PM	B	0.63	**F**	**1.03**	E	0.92
10	San Pablo Av/Rheem Av	AM	A	0.46	B	0.62	B	0.61
		PM	A	0.40	A	0.58	A	0.57
11	23rd St/Dover Av	AM	A	0.39	A	0.57	A	0.50

[6] Caltrans. I-80/San Pablo Dam Road Interchange Project: Initial Study with Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact, February 2010.

Table 3.2-10 Level of Service Forecast for Signalized Intersections

	Intersection	*Peak Hour*	*Existing*[1]		*GP Update (2030)*		*No Project (2030)*	
			LOS[2]	*V/C*[3]	*LOS*[2]	*V/C*[3]	*LOS*[2]	*V/C*[3]
		PM	A	0.31	A	0.51	A	0.34
12	23rd St/Market Av	AM	A	0.54	D	0.80	B	0.63
		PM	A	0.51	C	0.70	A	0.50
13	23rd St/Rheem Av	AM	B	0.64	B	0.60	B	0.66
		PM	A	0.56	A	0.58	A	0.58
14	Rumrill Blvd/Broadway Av	AM	A	0.52	C	0.78	C	0.70
		PM	A	0.54	C	0.73	C	0.74
15	Rumrill Blvd/Brookside Dr	AM	A	0.46	A	0.56	A	0.52
		PM	A	0.42	A	0.55	A	0.45
16	Rumrill Blvd/Market Av	AM	A	0.59	B	0.69	B	0.60
		PM	A	0.54	C	0.70	B	0.62
17	Rumrill Blvd/Rheem Av	AM	A	0.45	A	0.58	B	0.63
		PM	A	0.40	A	0.51	A	0.46
18	El Portal Dr/Rd 20	AM	A	0.35	A	0.36	A	0.36
		PM	A	0.33	A	0.34	A	0.34
19	Church Ln/El Portal Dr	AM	A	0.57	B	0.64	B	0.62
		PM	A	0.50	A	0.54	A	0.55
20	I-80 WB off-ramp/El Portal Dr	AM	C	0.77	**F**	**1.04**	**F**	**1.02**
		PM	C	0.79	**F**	**1.05**	**F**	**1.04**
21	I-80 EB ramp/El Portal Dr	AM	C	0.73	C	0.76	C	0.74
		PM	D	0.83	**E**	**0.96**	**F**	**1.04**
22	El Portal Dr/San Pablo Dam Rd	AM	C	0.73	D	0.90	D	0.89
		PM	B	0.68	D	0.84	D	0.85
23	San Pablo Dam Rd/Amador St/I-80 EB on-ramp	AM	B	0.70	**F**	**1.03**	E	1.00
		PM	C	0.72	E	0.98	E	0.92
24	I-80 WB off-ramp/San Pablo Dam Rd	AM	C	0.75	D	0.84	E	0.97
		PM	B	0.62	A	0.53	C	0.73

[1] Existing intersection traffic volumes were collected between February 2004 and August 2006.

[2] LOS - Level of service - calculated using CCTALOS methodology and based on volume-to-capacity (v/c) ratio.

[3] V/C - critical volume-to-capacity ratio

Bold only items signify modeled potentially significant impacted intersections which are mitigated by the I-80/San Pablo Dam Road Interchange Project IS/EA.

Shaded and bold item signifies the remaining potentially significant impacted intersection.

Source: Dowling Associates, Inc., June 2010.

However, according to the I-80/San Pablo Dam Road Interchange Project IS/EA, the San Pablo Avenue/San Pablo Dam Road intersection would operate at LOS F in the future with no project, as well as with Caltrans' proposed reconfiguration of the interchanges. This means that while the

Caltrans interchange reconfigurations may improve traffic flow overall, those improvements do not substantively change performance of this intersection under future local and regional growth conditions. The cumulative impact at this intersection of regional growth, Caltrans efforts, and the proposed General Plan is therefore considered potentially significant.

Widening this intersection to provide increased capacity and to accommodate the additional traffic would improve the vehicle LOS at this intersection. However, as one of the key intersections in the city, it not only serves as a gateway to the city from I-80 and the south, but also is categorized as a Mixed Use Boulevard serving bicyclists and transit and identified as a Pedestrian Priority Zone on the General Plan Proposed Roadway Network. Any additional improvements designed to ease the flow of automobile traffic could conflict with the Complete Streets policy, but restrictions on traffic flow could have adverse economic consequences that may be similarly unacceptable to the City.

Ultimately, the design and operation of this intersection should reflect the needs of all users and not be dictated solely by the vehicle LOS performance standard. The following proposed General Plan policies acknowledge this balance, and offer several approaches to mitigation of traffic impacts. Policies that specifically improve the pedestrian and bicycle system are listed under Impact 3.2-2.

Proposed General Plan Policies that Reduce the Impact

C-I-7 Apply traffic Level of Service (LOS) standards to signalized intersections on Routes of Regional Significance to be consistent with the Contra Costa Transportation Authority's West County Action Plan. (See Policy GME-I-17 in Chapter 4, Growth Management Element)

C-I-8 Accept LOS F at the intersection of San Pablo Dam Road and San Pablo Avenue opposite Lytton Casino and at I-80 ramps at El Portal Drive and San Pablo Dam Road/Amador Street during two hour peak periods (a.m. and p.m.) as an interim standard until feasible traffic improvements can be designed, funded, and constructed.

C-I-9 Design, evaluate, and implement improvements to the intersection of San Pablo Avenue and San Pablo Dam Road, upon collection of more specific data from Caltrans on anticipated (or measured) changes to traffic volumes related to their I-80 ramp improvement projects. Based solely on the CCTA model assumptions, a set of improvements that would mitigate regional growth and proposed project impacts include:

- Converting the southbound through lane on San Pablo Avenue to a left-or-through lane to provide a total of one left-turn-only lane, one left-or-through lane and one through-or-right lane; and
- Modifying the traffic signal timing to allow "split phases" for the northbound and southbound movements.

The current modeling suggests that implementation of this policy would allow the intersection to operate at LOS B with a v/c of 0.68 in the AM peak hour and LOS E with a v/c of 0.95 in the PM peak hour.

Despite the potential benefits of the lane designations and signal timing improvements, there is still too much uncertainty around the impacts of the Caltrans ramps improvements on traffic flow into this intersection. As the Caltrans analysis did not report V/C ratios but only LOS in terms of letter-grade, and as it found both the No Project condition and the future with Project condition to perform below standard at this intersection, Caltrans went no further in their analysis to try to measure or mitigate the impacts of their ramp improvements on this particular intersection. Without more data on changes in actual traffic flow between I-80 and the intersection of San Pablo Avenue and San Pablo Dam Road, the signal timing and/or lane designation changes necessary to improve future performance, and their effectiveness, remain uncertain. Therefore, even with implementation of this proposed policy, this analysis still finds a significant cumulative impact on traffic LOS at this intersection. However, the project's contribution to this significant cumulative effect is found to be less than considerable with the proposed mitigation reducing CCTA-based modeled LOS within an acceptable range for the during of the planning period (to 2030).

C-I-10 Manage local residential streets (i.e., streets with direct driveway access to homes) to limit average daily vehicle volumes to 2,000 or less and keeping speeds between 15 and 25 miles per hour.

C-I-11 Require new development to provide traffic improvements necessary to accommodate trips generated by the project without violating traffic LOS standards established by Policy C-I-8 or increasing the travel delay index above that established for Interstate 80 unless the City adopts Findings of Special Circumstances.

C-I-13 Continue cooperative efforts with CCTA to identify streets and intersections with unacceptable traffic LOS standards and implement programs to upgrade them, consistent with the Complete Streets policy. See Growth Management Element for additional details.

Mitigation Measures

None required.

Impact

3.2-2 Implementation of the proposed San Pablo General Plan could conflict with the adopted Countywide Bicycle Master Plan or rail safety planning efforts of the Public Utilities Commission. ***(Less than Significant)***

The proposed General Plan has put forth the creation of walkable community as one of its chief objectives. It also emphasizes a comprehensive transportation system that serves the needs of all segments of the community and all travel modes including vehicles, transit, pedestrians, and bicycles. Specifically, the Circulation Element contains the following Guiding Policies:

C-G-1 *Develop a transportation system that meets the needs of all segments of the community, including residents, businesses, visitors, and the region.*

C-G-4 *Maintain acceptable levels of service for all modes of travel.*

C-G-5 *Develop a safe and comprehensive bicycle and pedestrian network.*

C-G-6 *Encourage the expansion of public transportation systems.*

C-G-7 *Facilitate the use of public transportation in San Pablo by making it more comfortable and convenient.*

C-G-8 *Promote efficient use of existing transportation facilities through the implementation of transportation demand management concepts.*

The proposed San Pablo General Plan Bicycle Plan offers numerous bicycle facility improvements to expand and connect the existing network throughout the region. Within San Pablo, the Wildcat Creek bike path described above would be extended to connect to the path further west in Richmond and to 23rd Street to the east, with an additional segment between Church Lane and Vale Road. Several new on-street bike lanes are also proposed throughout the city. A continuous Class II lane is proposed along the length of San Pablo Avenue, as well as along Market Street, Church Lane, San Pablo Dam Road, 23rd Street, and El Portal Drive west of Church Lane. Additionally, a number of Class III bike routes, designated with arrows and/or signage, are proposed to enhance bicycle access to neighborhoods and community facilities across the city.

The proposed General Plan is supportive of adopted regional policies, plans or programs regarding public transit, bikeways, and pedestrian facilities and does not decrease the performance or safety of such facilities. A comparison of the Proposed Bikeway System to that in that presented in the 2009 Countywide Bicycle Master Plan found a few discrepancies within San Pablo, where Class I paths considered for future planned bikeway facilities have been removed and Class III segments have been added to provide for a more complete network. However, a review of CCTA's Countywide Plan confirms the flexibility of the alignments shown on CCTA's Bike Map. The Countywide Plan indicates:

- "On the maps, proposed segments do not represent specific suggested alignments, even when they are shown on a particular street or road. Instead, they represent corridors and general connections to link existing segments." Local jurisdictions will determine the ultimate alignment of bike routes, "based on such factors as feasibility, complexity, and cost." (page 50)
- San Pablo Avenue is one of the major "building blocks" of the CCTA bike network. The proposed San Pablo General Plan proposes bike routes along the entire length of San Pablo's portion of San Pablo Avenue, thereby supporting this CCTA objective. (page 56)
- Several goals, objectives, and policies reference that CCTA will assist local jurisdictions, but that it's the latter's responsibility and authority to implement the bikeways. (page 34 and 35)

Furthermore, as the Public Utilities Commission expressed through NOP comments an interest in ensuring future rail safety as a part of this environmental analysis, this analysis points out that there are no rail crossings within the City of San Pablo, but only a few adjacent to the outskirts of the City to the west. In line with pedestrian safety objectives, however, the Circulation Element of the proposed General Plan offers a new rail crossings safety policy to ensure that any future increases in pedestrian activity near the rail right-of-way is managed in a safe and effective way. This new rail crossings safety policy is also listed below.

Proposed General Plan Policies that Reduce the Impact

C-I-1 Design and operate city streets based on a "Complete Streets" concept that enables safe, comfortable, and attractive access and travel for pedestrians, bicyclists, motorists, and transit users of all ages and abilities.

C-I-2 Include "Complete Street" considerations in the design of all circulation improvement projects.

C-I-5 Install traffic calming devices, such as signage, road bulbs (also called curb extensions), chicanes, raised crosswalks, and speed humps, as needed and appropriate in existing neighborhoods.

C-I-14 Expand and maintain a safe and comprehensive bicycle system that connects the City's neighborhoods to regional bicycle routes.

C-I-15 Acquire land for new bicycle routes along Wildcat Creek, as shown in **Figure 3.2-4**, only if land owners are willing to sell such land or provide easements for public access. If landowners object to route designations, seek alternative routes and amend Bicycle Map accordingly.

C-I-16 Require the provision of bicycle parking and related facilities in new employment-generating development to facilitate multi-modal commute choices.

C-I-18 Adopt a Bicycle Master Plan to enhance bicycle circulation and planning, based on the route network in **Figure 3.2-4** and the Contra Costa Countywide Bicycle and Pedestrian Plan.

C-I-20 Work with the City of Richmond and Contra Costa County to develop safe and clearly marked pedestrian and bicycle linkages from downtown San Pablo to the Bay Trail. Improvements should connect Contra Costa College to the Wildcat Creek bikeway west of Davis Park, and also connect the bikeway at Davis Park to Alvarado Park east of the city. (See Figure 8-1 in the General Plan.)

Regarding rail crossing safety, the proposed Plan offers Policy C-I-32:

C-I-32 Promote safety at railroad crossings through the following measures, as necessary:

- Improvements to pedestrian warning devices at existin railroad crossings;

- Installation of additional warning signage and/or channelization;
- Improvements to traffic signaling at intersections adjacent to crossings, e.g. traffic preemption;
- Prohibition of parking within 100 feet of crossings to improve the visibility of warning devices and approaching trains;
- Where sound walls, landscaping, buildings, etc. would be installed near crossings, maintaining the visibility of warning devices and approaching trains; and
- Rail safety awareness programs to educate the public about the hazards of at-grade crossing.

Proposed General Plan policies and proposed bicycle linkages and alignments thus do not directly conflict with countywide planning or state agency safety considerations, and therefore this impact is less than significant.

Mitigation Measures

None required.

3.3 Air Quality

This section assesses the local and regional air quality impacts of implementing the proposed San Pablo General Plan. This analysis focuses on criteria air pollutants and toxic air contaminants. Greenhouse gases are evaluated in Section 3.4: Energy and Greenhouse Gases.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Air quality is affected by the rate, amount, and location of pollutant emissions, and the associated meteorological conditions that influence pollutant movement and dispersal. Atmospheric conditions, including wind speed, wind direction, and air temperature, in combination with local surface topography (i.e., geographic features such as mountains and valleys), determine the effect of air pollutant emissions on local air quality.

Climate, Meteorology, and Topography

Regional

The City of San Pablo is located within the San Francisco Bay Area Air Basin. The Bay Area Air Quality Management District (BAAQMD) is the regional agency with regulatory authority over emission sources in the Bay Area, which includes all of San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Marin, and Napa counties and the southern half of Sonoma and southwestern half of Solano counties.

Wet winters and dry summers characterize the region's climate. Rainfall totals can vary widely over a short distance, with windward coastal mountain areas receiving over 40 inches of rain, while leeward areas receive about 15 inches. During rainy periods, horizontal and vertical air movement ensures rapid pollutant dispersal. Rain also washes out particulate and other pollutants.

Regional wind patterns vary from season to season. Wind tends to move from areas of high-pressure to areas of low-pressure. In warmer months, this means that air currents move on-shore from the Pacific Ocean to inland areas. While Pacific Ocean air is generally free of harmful air pollutants, the wind picks up emissions from numerous sources (anthropogenic and biogenic), and will then carry these pollutants to areas many miles away. Mountains and valleys often affect on-shore winds. This means that a wind pattern that started as northwesterly will often swing 90 degrees or more when it encounters topographic features.

Normally, air temperatures decrease with increasing elevations. Sometimes this normal pattern is inverted, with warmer air aloft, and cool air trapped near the earth's surface. This phenomenon occurs in all seasons. In summer, especially when wind speeds are very low, a strong inversion will trap air emissions and high levels of ozone smog can occur. In winter, a strong inversion can trap emissions of particulate and carbon monoxide near the surface, resulting in unhealthful air quality.

The climatological pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 miles per hour (mph), smog potential is greatly reduced. High particulate matter levels can occur in areas of intense motor vehicle use, such as freeways, ports, etc., and in most valley areas where residential wood smoke and other pollutants are trapped by inversions and stagnant air.

San Pablo

San Pablo is located within the North Alameda and West Contra Costa climatological sub-region of the Bay Area. At the northern end of this sub-region, near Richmond and San Pablo, the sea breezes from San Francisco Bay and San Pablo Bay dominate during spring and summer months. Low clouds and fog are common in spring and summer. The prevailing wind direction is primarily from the south-southwest. At the BAAQMD's Point San Pablo meteorological station, approximately four miles west of San Pablo, the prevailing direction is south-southwesterly, with over 50 percent of the winds coming from the south through southwest sectors. The average wind speed at this station is 11 mph.[1]

Air Pollution Sources

In urbanized areas such as San Pablo, motor vehicle transportation, including automobiles, trucks, transit buses, and other modes of transportation, is the major contributor to regional air pollution. Stationary sources were once important contributors to both regional and local pollution. Their role has been substantially reduced in recent years by pollution control programs, such as those of the BAAQMD. Further progress in air quality improvement now focuses heavily on transportation sources.

The major source of air pollution within San Pablo is the I-80 transportation corridor. In addition, air pollution from the I-580 corridor and Oakland-San Francisco metropolitan area to the south of San Pablo may be transported to San Pablo during southerly wind conditions. Other sources within San Pablo include facilities such as auto body shops, dry cleaners, and light industrial uses. Larger air pollution sources such as the Chevron Refinery in Richmond, located approximately 2.5 miles southwest (and upwind) of San Pablo, also contribute to the air quality of San Pablo. Contra Costa County is home to other refineries operated by Shell, Tesoro, ConocoPhillips and Valero. However, these refineries are located downwind of San Pablo as is Mirant Corp.'s Pittsburg power plant, the fourth largest power plant in California.

The BAAQMD maintains a database of stationary sources and their associated risks and hazards for cities within its jurisdiction. Many of these sources are dry-cleaning facilities, spray booths or other common facilities with a relatively low potential for hazardous air emissions. Impact 3.3-3 discusses the significant stationary sources within San Pablo.

---

[1] BAAQMD, 2009.

Existing Air Quality

Criteria Air Pollutants: Bay Area Attainment Status

To measure and monitor the ambient concentrations of criteria pollutants in the Bay Area, the BAAQMD operates a regional network of monitoring stations that measures the ambient concentrations of criteria pollutants. Ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM), and lead are the six criteria air pollutants. Detailed definitions of pollutants are provided below in the regulatory setting.

The major criteria pollutants of concern in the San Francisco Bay Area are ozone and particulate matter (both PM-10 and PM-2.5), which are monitored at a number of locations. As of August 2010, the Bay Area had nonattainment status for ozone (state and federal standards) and particulate matter – PM-10 and PM-2.5 (state and federal standards). The Bay Area has attained the state and federal CO standards; however, CO can be a concern at highly congested intersections during periods of high meteorological stability. Sulfur dioxide is no longer considered a problem pollutant in California due to improved industrial source controls, the substitution of natural gas for fuel oil, and lower sulfur content in fuels. The state has attained the sulfur dioxide standard for several years.[2] **Table 3.3-1** summarizes the Bay Area Attainment Status.

[2] CARB, 2009.

Table 3.3-1 Ambient Air Quality Sources, Standards and Attainment Status in the Bay Area

	Averaging Time	*Standard*	*Bay Area Attainment Status*
Ozone: from motor vehicles, other mobile sources, combustion, industrial and commercial processes			
State	1 hour	0.09 ppm	Non-Attainment
	8 hours	0.07 ppm	Non-Attainment
Federal	8 hours	0.075 ppm	Non-Attainment
Carbon Monoxide: Internal combustion engines, primarily gasoline-powered motor vehicles			
State	1 hour	20 ppm	Attainment
	8 hours	9.0 ppm	Attainment
Federal	1 hour	35 ppm	Attainment
	8 hours	9.0 ppm	Attainment
Nitrogen Dioxide: Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads			
State	1 hour	0.18 ppm	Attainment
	Annual Average	0.030 ppm	Attainment
Federal	1 hour	0.1 ppm	Unclassified
	Annual average	0.053 ppm	Attainment
Sulfur Dioxide: Fuel combustion, chemical plants, sulfur recovery plants and metal processing			
State	1 hour	0.25 ppm	Attainment
	24 hours	0.04 ppm	Attainment
Federal	24 hours	0.14 ppm	Attainment
	Annual average	0.03 ppm	Attainment
Respirable Particulate Matter (PM-10): Dust- and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays)			
State	24 hours	50 $\mu g/m^3$	Non-Attainment
	Annual arithmetic mean	20 $\mu g/m^3$	Non-Attainment
Federal	24 hours	150 $\mu g/m^3$	Unclassified
Fine Particulate Matter (PM-2.5): same sources as PM10			
State	Annual arithmetic mean	12 $\mu g/m^3$	Non-Attainment
Federal	24 hours	35 $\mu g/m^3$	Non-Attainment
	Annual arithmetic mean	15 $\mu g/m^3$	Attainment
Lead: Lead smelters, battery manufacturing and recycling facilities			
State	30 Day Average	1.5 $\mu g/m^3$	Attainment
Federal	Calendar quarter	1.5 $\mu g/m^3$	Attainment

A pollutant is designated "unclassified" if the data available are incomplete and do not support a designation of attainment or non-attainment. In June 2004, the Bay Area was designated as a marginal nonattainment area for the national 8 hour ozone standard. The U.S. EPA lowered the 8 hour ozone standard from 0.08 ppm to 0.075 effective May 27, 2008. The EPA will issue final designations of the new standards by March 2010. Attainment of state nitrogen dioxide standard is based on the state 1-hour standard only as published by BAAQMD and CARB. Note: ppm = parts per million; and $\mu g/m^3$ = micrograms per cubic meter

Source: BAAQMD, 2010a.

Criteria Air Pollutants: Local Air Quality

Existing and probable future levels of air quality in San Pablo can generally be inferred from ambient air quality measurements conducted by the BAAQMD at its nearby monitoring stations. San Pablo has one monitoring station, located at 1865 Rumrill Boulevard, that measures criteria pollutants, including ozone, carbon monoxide, nitrogen dioxide, particulate matter and sulfur dioxide. Particulate matter is assessed in two size categories, particulate matter of 10 microns and less (PM-10) and fine particulate matter of 2.5 microns or less (PM-2.5). There is no BAAQMD or California Air Resources Board (CARB) station that monitors PM2.5 concentrations that can be considered to be representative of concentrations in San Pablo. As particulate matter is a local pollutant, data from the Concord Treat Boulevard station (located approximately 20 miles east of San Pablo) would not be considered representative of actual concentrations in San Pablo. Therefore existing air quality with regard to particulate matter is only presented relative to PM-10.

Ozone

In the Bay Area, on-road motor vehicles are the major sources of ozone precursors, followed by other mobile sources, and petroleum and solvent evaporation. Ozone levels have been trending down in the Bay Area in general, and specifically in Contra Costa County, since 1988. Based on implementation of state and district programs and controls, this trend is expected to continue, though at a slower rate.[3]

Based on air quality data measured at the Rumrill Boulevard station, there have been no exceedances of the state one-hour ozone standard or the state and national eight-hour standards since 2005. The principal sources of ozone precursors, ROG and NO_x, in the Bay Area include on-road motor vehicles (approximately 35 percent for ROG and 48 percent for NO_x), other mobile sources (approximately 22 percent for ROG and 39 percent for NO_x), solvent evaporation (approximately 19 percent for ROG), fuel combustion (approximately 9 percent NO_x), cleaning and surface coating (approximately 9 percent ROG) and petroleum production and marketing (approximately 6 percent for ROG). **Table 3.3-2** summarizes ozone data for the past five years. Generally, peak ozone values have improved.

Carbon Monoxide

Table 3.3-2 also shows that local CO concentrations have been well below both state and federal standards, and continue to decline. This decline in CO concentrations is largely attributable to the use of reformulated gasoline in California. The Bay Area has been in attainment and has not experienced any exceedances of state and federal ambient CO standards in the last five years. The highest daily eight-hour CO averages measured at the Rumrill Boulevard station over the last five years is 1.40 parts per million (ppm), well below the state and national ambient air quality standard of nine ppm. Currently, on-road motor vehicles are responsible for approximately 23

[3] CARB, 2009.

percent of the CO emitted within the San Francisco Bay Area and Contra Costa County.[4] Total CO emissions are expected to decrease within the basin by approximately 40 percent between 2005 and 2020 primarily due to improved fuel mixtures.[5]

Particulate Matter

Finally, **Table 3.3-2** shows that local PM-10 concentrations have exceeded state (but not federal) 24-hour standards over two of the past five years. The annual average concentration has been over the state standard in each of the past four years for which it has been calculated. The Bay Area does experience exceedances of the state PM-10 and PM-2.5 standards on a fairly regular basis. As described above, site-specific information for PM-2.5 concentrations in San Pablo is not available.

Contributors to PM concentrations in the project area are primarily urban sources, such as dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere. Particulate concentrations near residential sources generally are higher during the winter, when more fireplaces are in use and meteorological conditions prevent the dispersion of directly emitted contaminants. Direct PM-10 emissions in the Bay Area are expected to increase by approximately 14 percent between 2005 and 2020.[6] This increase would be primarily fugitive dust from increased vehicle miles traveled (VMT) as well as additional stationary sources (such as industrial activities) and area sources (such as construction and demolition, road dust, and other miscellaneous processes). Fugitive dust refers to particulate matter not emitted from a duct, tailpipe or stack, which becomes airborne due to the forces of wind, man's activity, or both. Activities that generate fugitive dust include vehicle travel over paved and unpaved roads, brake wear, tire wear, soil cultivation, off-road vehicles, any vehicles operating on open fields or dirt roadways, wind erosion of exposed surfaces, storage piles at construction sites, etc. PM-2.5 emissions in the Bay Area are projected to increase by about 5 percent over the same period,[7] as the projected reduction in emissions from on-road and off-road engines would be more than offset by an increase in their activity and also an increase in industrial growth.

---

[4] *Ibid.*

[5] *Ibid.*

[6] *Ibid.*

[7] *Ibid.*

Table 3.3-2 Air Quality Data Summary (2005 – 2009) for the Project Area[1]

		Monitoring Data by Year				
	Standard	*2005*	*2006*	*2007*	*2008*	*2009*
Ozone						
Highest 1-hour average (ppm)		0.066	0.061	0.074	0.084	0.043
Days above state 1-Hour Std.	0.9	0	0	0	0	0
Highest 8-hour average ppm		0.057	0.050	0.051	0.063	0.040
Days above state 8-hour Std.	0.07	0	0	0	0	0
Days above federal 8-Hour Std.	0.075	0	0	0	0	0
Carbon Monoxide						
Highest 8-hour average ppm		1.33	1.40	1.23	1.30	0.78
Days above state 8-hour Std.	9.0	0	0	0	0	0
Days above federal 8-Hour Std.	9.0	0	0	0	0	0
Respirable Particulate Matter (PM-10)						
Highest 24-hour average ($\mu g/m^3$)		41.6	**61.5**	**57.4**	44.3	34.0
Estimated Days above state Std.[2]	50	0	11.5	12	0	n/a
Estimated Days above federal Std.	150	0	0	0	0	n/a
Annual Average	20	**21**	**21**	**21**	**21**	n/a

[1] Data for Rumrill Avenue Monitoring Station in San Pablo

[2] Measurements are usually collected every six days. Estimated days over the standard represent the estimated number of days the standard would have been exceeded if measurements were collected every day.

Notes: ppm means parts per million; $\mu g/m^3$ means micrograms per cubic meter; n/a means insufficient data available

Source: California Air Resources Board http://www.arb.ca.gov/adam/topfour/topfour1.php

Toxic Air Contaminants

The ambient background of toxic air contaminants (TACs) is the combined result of many diverse human activities, including gasoline stations, automobiles, dry cleaners, industrial operations, hospital sterilizers, and painting operations. In general, mobile sources contribute more significantly to health risks than do stationary sources. The BAAQMD operates a network of monitoring stations that measure ambient concentrations of certain TACs that are associated with strong health-related effects and are present in appreciable concentrations in the Bay Area, as in all urban areas. The 1865 Rumrill Boulevard station also measures TACs. **Table 3.3-3** presents the measured concentrations and associated cancer risks at the Rumrill Boulevard station in San Pablo.

Table 3.3-3 Average Ambient Concentrations of Carcinogenic TACs

Compound	Concentration (ppb)	Concentration ($\mu g/m^3$)	Unit Risk[1] $(\mu g/m^3)^{-1}$	Cancer Risk (per million)
Gaseous TACs[2]				
Benzene	0.38	1.22	2.9×10^{-5}	35.2
1,3-Butadiene	0.10	0.22	1.7×10^{-4}	37.6
Carbon Tetrachloride	0.11	0.69	4.2×10^{-5}	29.1
Ethylene dibromide	0.01	0.08	7.1×10^{-5}	5.5
Ethylene dichloride	0.05	0.20	2.1×10^{-5}	4.2
Perchloroethylene	0.03	0.21	5.9×10^{-6}	1.2
Methylene Chloride	0.34	1.18	1.0×10^{-6}	1.1
MTBE	0.63	2.27	2.6×10^{-7}	0.6
Chloroform	0.02	0.10	5.3×10^{-6}	0.5
Trichloroethylene	0.03	0.16	2.0×10^{-6}	0.3
Total Risk for All TACs				**115.3**

Notes: ppb means parts per billion; $\mu g/m^3$ means micrograms per cubic meter.

1 Unit Risk is the probability of contracting cancer if one is constantly exposed to an average concentration of one microgram per cubic meter of the specific substance. Multiplying the Unit Risk of a compound by its concentration in micrograms per cubic meter gives its cancer risk per million. These Unit Risk values are from the California Office of Environmental Health Hazard Assessment (OEHHA).

2 All values are from BAAQMD 2003 monitoring data for the San Pablo station 1865-D Rumrill Blvd., San Pablo (BAAQMD, 2007).

Source: BAAQMD; ESA, 2010.

Regionally, ambient concentrations of TACs are similar through the urbanized areas of the Bay Area. Of the pollutants for which monitoring data are available, benzene and 1,3-butadiene (which are emitted primarily from motor vehicles) account for more than one-half of the average calculated cancer risk.[8] Benzene levels have declined dramatically since 1996 with the advent of Phase 2 reformulated gasoline. The use of reformulated gasoline also appears to have led to significant decreases in 1,3-butadiene. Due largely to these observed reductions in ambient benzene and 1,3-butadiene levels, the calculated network average cancer risk has been significantly reduced in recent years. Based on 2003 ambient monitoring data, the calculated inhalation cancer risk is 162 in one million, which is 46 percent less than what was observed in 1995.[9]

However, the risks described above do not include the entire cancer risk from exposure to airborne TACs, mainly because an important TAC, diesel particulate matter (DPM), is not included in the monitoring data. DPM is a mixture of over 30 different toxic chemicals, most of which are not part of the TAC measurement system. CARB has estimated statewide levels of DPM by relying on measurements of surrogate substances related to diesel exhaust, such as carbon black. From these statewide measurements, CARB has determined that risks from

[8] BAAQMD, 2006.

[9] *Ibid.*

exposure to DPM make up about 70 percent of the total risks from TACs.[10] Applying this factor to the Bay Area value of 162 in a million (above) yields a combined cancer risk estimate of approximately 540 in a million.

Odors

Another air quality issue of concern in the Bay Area is nuisance impacts from odors. Objectionable odors may be associated with a variety of pollutants. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries and chemical plants. Odors rarely directly affect health, but they can be very unpleasant and lead to distress and concern over possible health effects among the public, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

REGULATORY SETTING

Regulation of air pollution is achieved through both national and state ambient air quality standards and emissions limits for individual sources of air pollutants.

Definitions

Attainment Status

Under amendments to the federal Clean Air Act, EPA has classified air basins or portions thereof, as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the national standards have been achieved. The California Clean Air Act, patterned after the federal Clean Air Act, also designates areas as "attainment" or "nonattainment" for state standards. Thus, California has two sets of attainment/nonattainment designations: one with respect to national standards and one with respect to state standards.

Criteria Air Pollutants

As required by the federal Clean Air Act passed in 1977, the EPA has identified six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. The EPA identifies these pollutants as criteria air pollutants because the agency has regulated them by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. Ozone, CO, NO_2, SO_2, PM-10 and PM-2.5, and lead are the six criteria air pollutants. In addition, California has established state ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Ozone. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere

[10] BAAQMD, undated.

through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO_x). ROG and NO_x are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NO_x under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone. Ground level ozone in conjunction with suspended particulate matter in the atmosphere leads to hazy conditions generally termed as "smog."

Carbon Monoxide (CO). CO, a colorless and odorless gas, is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light wind combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease or anemia.

Nitrogen Dioxide (NO_2). NO_2 is an air quality concern because it acts a respiratory irritant and is a precursor of ozone. NO_2 is produced by fuel combustion in motor vehicles, industrial stationary sources, ships, aircraft, and rail transit.

Sulfur Dioxide (SO_2). SO_2 is a combustion product of sulfur or sulfur-containing fuels such as coal and oil, which are restricted in the San Joaquin Valley. Its health effects include breathing problems and may cause permanent damage to lungs. SO_2 is an ingredient in acid rain, which can damage trees, lakes and property, and can also reduce visibility.

Particulate Matter. PM-10 and PM-2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter). PM-10 and PM-2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles (PM-2.5) of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility.

Lead. Leaded gasoline (which has been phased out), paint (houses, cars), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neuron-toxic health effects for which children are at special risk. Some lead-containing chemicals cause cancer in animals.

Hazardous Air Pollutants

The federal Clean Air Act defines hazardous air pollutants as those which may reasonably be anticipated to result in increased deaths or serious illness and which are not already regulated. Hazardous air pollutants are similar to state-designated TACs.

Toxic Air Contaminants

The California Health and Safety Code defines TACs as air pollutants that may cause or contribute to an increase in mortality or in serious illness, or that may pose a present or potential hazard to human health. TACs are less pervasive in the urban atmosphere than criteria air pollutants, but are linked to short-term (acute) or long-term (chronic and/or carcinogenic) adverse human health effects. There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust. The current list of TACs includes approximately 200 compounds, including all of the toxics identified under federal law plus additional compounds, such as particulate emissions from diesel-fueled engines, which were added in 1998.

Diesel particulate matter (DPM). DPM has been identified by CARB as a TAC and represents 70 percent of the known potential cancer risk from air toxics in California. DPM is an important contributor to particulate matter air pollution. Particulate matter exposure is associated with premature mortality and health effects such as asthma exacerbation and hospitalization due to aggravating heart and lung disease.

Asbestos. In 1986, CARB identified asbestos as a TAC based on its classification as a known cancer causing pollutant. In that process, CARB found that no threshold exposure level could be identified below which adverse health effects would not be expected. Asbestos occurs naturally in ultramafic rock (which includes serpentine). When this material is used in unpaved surfacing and disturbed by vehicles and other means, dust containing asbestos can be generated. Serpentine soils have been identified in Contra Costa County, but not within the Planning Area.

Sensitive Receptors

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions source, or duration of exposure to air pollutants. Land uses such as schools, children's day care centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress and other air quality-related health problems. Parks and playgrounds are considered moderately sensitive to poor air quality because persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality; however, exposure times are generally far shorter in parks and playgrounds than in residential locations and schools, which typically reduces overall exposure to pollutants. Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions.

The location of land uses where sensitive receptors are present should be carefully evaluated. State law restricts the siting of new schools within 500 feet of a freeway, urban roadways with 100,000 vehicles/day, or rural roadways with 50,000 vehicles with some exceptions. CARB has published advisory recommendations on siting new sensitive land uses, with the same guidelines as the state school limitation.[11]

Vehicle Miles Traveled (VMT)

Vehicle miles traveled (VMT) is a term used throughout this EIR and refers to the number of vehicle miles traveled within a specified geographic area during a given period of time. One vehicle traveling one mile constitutes one vehicle mile, regardless of its size or the number of passengers. VMT is a common measure of roadway use and economic activity. The VMT per capita is the total VMT divided by the population of the geographic area; basically, it is a measure of the vehicle miles each person travels on average. Per capita VMT data correlate with various economic and lifestyle factors such as increased auto ownership, more women in the workforce, more teen driving, and land use patterns.

Federal Regulations

The U.S. Environmental Protection Agency (EPA) is responsible for implementing the programs established under the federal Clean Air Act. The Clean Air Act establishes the framework for federal air pollution control, including direction for the EPA to develop national emission standards for hazardous air. **Table 3.3-1** provides the 2008 Ambient Air Quality Standards for the State of California and federal standards. If an area does not meet the federal standard for a pollutant, the state is required to prepare and adopt State Implementation Plans (SIPs) to show how the standards will be attained.

The federal Clean Air Act also outlines requirements for ensuring that federal transportation plans, programs, and projects conform to the SIP's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards. As such, Regional Transportation Plans (RTPs) and Transportation Improvement Programs (TIPs) that require federal funding or approval must be included in the SIP emissions budget.

National Emission Standards for Hazardous Air Pollutants developed by US EPA in accordance with Title III of the 1990 federal Clean Air Act Amendments regulate "major source" facilities that emit large quantities of TACs. These rules require that emissions be reduced using the Maximum Achievable Control Technology (MACT).

State Regulations

In California, the CARB is responsible for establishing and reviewing California ambient air quality standards, developing and managing the California SIP, securing approval of this plan from US EPA, and identifying TACs. The California Clean Air Act of 1988 focuses on attainment of the state ambient air quality standards, which, for certain pollutants and averaging periods, are

[11] CARB, 2005.

more stringent than the comparable federal standards. Local and regional air districts are required to prepare and adopt air quality attainment plans if the district violates the state standards.

The State of California's regulatory efforts regarding the identification and control of TACs are embodied in AB 1807, the Tanner Bill (effective 1984). The CARB identifies the most important toxic pollutants by considering risk of harm to public health, amount or potential amount of emissions, manner of usage of the substance, its persistence in the atmosphere, and its concentration in the outdoor air. CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county or regional level. All new diesel-powered engines and vehicles sold in California are required to meet both federal and state emissions certification requirements. The Air Toxics 'Hot Spots" Act (AB 2588) was enacted in 1987 with the objective of collecting information concerning industrial emissions of TACs and making the information available to the public.

Regional Regulations

The BAAQMD is the regional agency with regulatory authority over emission sources in the Bay Area. An air quality management district is primarily responsible for regulating stationary emissions sources at facilities within its geographic areas and for preparing the air quality plans required under the federal Clean Air Act and California Clean Air Act. BAAQMD also maintains the regional Toxics Emission Inventory.

Ozone

BAAQMD has prepared both federal and state air quality plans to bring the San Francisco Bay Area Air Basin (SFBAAB) into attainment with ozone standards. The 2001 Ozone Attainment Plan describes the Bay Area's strategy for compliance with the federal 1-hour ozone standard. Although the US EPA revoked the federal one-hour ozone standard on June 15, 2005, the emission reduction commitments in the plan are still being carried out by the BAAQMD. At the time of the NOP, the Bay Area 2005 Ozone Strategy was the current adopted plan describing the strategy for compliance with the state 1-hour ozone standard. In September 2010, BAAQMD adopted the 2010 Bay Area Clean Air Plan, which replaces the Bay Area 2005 Ozone Strategy. This plan is the most current triennial update to the 1991 Clean Air Plan. This plan includes a control strategy to reduce ozone, particulate matter, air toxics, and Greenhouse Gas Emissions (GHGs) in a single, integrated plan.

Carbon Monoxide

The 1996 Carbon Monoxide Redesignation Request and Maintenance Plan for Ten Federal Planning Areas was developed by the air districts with jurisdiction over ten planning areas (including the BAAQMD) to ensure continued attainment of the federal carbon monoxide standard. In June 1998, the EPA approved this plan and designated the ten areas as attainment. The maintenance plan was revised most recently in 2004.

Particulate Matter

The 2010 Bay Area Clean Air Plan includes a control strategy to reduce particulate matter. In addition, there is a schedule for bringing the Bay Area into compliance, the Particulate Matter Implementation Schedule of 2005. In 2003, SB 656 mandated compliance with state PM standards in order to reduce public exposure to the health risks related to PM. BAAQMD has also developed additional regulations to reduce particulate emissions, including from stationary internal combustion engines (Regulation 9-8), commercial broiling operations (Regulation 6-2), and residential wood-burning devices (Regulation 6-3).[12]

Toxic Air Contaminants

TACs do not have ambient standards below which no adverse health effects are assumed. Since 1987, BAAQMD has had a program to describe, control, and where possible, eliminate public exposure to airborne toxic compounds from stationary sources. The program elements include preconstruction review processes for new and modified TAC sources; the Air Toxics Hot Spots Program which identifies and monitors industrial and commercial facilities that emit TACs; implementation of control measures to reduce emissions from source categories of TACs; maintenance of the TAC air emissions inventory; ambient TAC concentration monitoring; and the Community Air Risk Evaluation (CARE) Program which determines the impacts of TACs at a community level.

BAAQMD has established specific public notification measures for various levels of health risks associated with a facility's routine TAC emissions as determined in a Health Risk Assessment. The "individual cancer risk" is the likelihood that a person exposed to concentrations of TACs from a facility over a 70-year lifetime will contract cancer, based on the use of standard risk assessment methodology established by the Air Toxics Hot Spots Program.

1. Level 1 Risks: Between 10 and 100 in one million

2. Level 2 Risks: Between 100 and 500 in one million

3. Level 3 Risks: Greater than 500 in one million

BAAQMD Regulation 2, Rule 5 New Source Review of Toxic Air Contaminants implements state guidelines and control requirements for new and modified stationary sources. If the emissions from a stationary source exceed trigger levels, the source must use Best Available Control Technology (BACT) to minimize TAC emissions.

In addition, demolition of buildings constructed prior to 1980 which often involved the use of hazardous materials such as asbestos in insulation, fire retardants, or building materials (floor tile, roofing, etc.) and lead-based paint. Airborne asbestos fibers and lead dust pose a serious

[12] BAAQMD, 2010b.

health threat. The demolition, renovation and removal of asbestos-containing building materials would be subject to the requirements of BAAQMD Regulation 11, Rule 2.

Odors

All odor sources are subject to the requirements of the BAAQMD Regulation 7 – Odorous Substances, which establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds, in addition to the requirements of local nuisance ordinances.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed Project would have a potentially significant adverse impact if it would:

Criterion 1: Cause the rate of increase in VMT or vehicle trips with implementation of the proposed General Plan to exceed the rate of increase in population with implementation of the Plan for the years covered by the proposed General Plan.

Criterion 2: Be inconsistent with or fail to implement the Air Quality Plan Transportation Control Measures (particularly those for which local governments are implementing agencies).

Criterion 3: Fail to identify or establish goals, policies, objectives, and/or overlay or buffer zones for existing and proposed land uses that would emit odors or toxic air contaminants in order to minimize potential impacts of these emissions on sensitive receptors.[13]

METHODOLOGY AND ASSUMPTIONS

Criterion 1 is assessed based on existing population and VMT and projected population and VMT under the proposed General Plan.

Criterion 2 is assessed based on BAAQMD guidance which identifies three tests to determine consistency. These Criterion 2 consistency tests are as follows:

1. Does the General Plan support the primary goals of the 2010 Bay Area Clean Air Plan? which are:

    a. Attain air quality standards;

    b. Reduce population exposure and protecting public health in the Bay Area; and

[13] BAAQMD, 2010c.

c. Reduce greenhouse gas emissions and protect the climate.

2. Does the General Plan include applicable control measures from the Clean Air Plan (CAP)? The 2010 CAP contains 55 control measures to reduce air pollution. Consistency with greenhouse gas reduction measures of the CAP are addressed in the Greenhouse Gas and Climate Change Section of this EIR.

3. Does the General Plan disrupt or hinder implementation of any CAP control measures? BAAQMD identified examples of how a Plan may cause the disruption or delay of control measures, such as a project which may preclude an extension of a transit line or bike path or proposes excessive parking beyond parking requirements.

Criterion 3 is assessed based on BAAQMD guidance which state that the thresholds of significance for Plans with regard to community risk and hazard impacts are inclusion of a land use diagram that identifies overlay zones around existing and planned sources of TACs and overlay zones of at least 500 feet around each side of freeways and high volume roadways. Additionally, the Plan must identify goals, policies and objectives to minimize potential impacts and create overlay zones for sources of TACs and receptors.

IMPACT SUMMARY

Proposed Project Impact	*Mitigation Measure*	*Significance after Mitigation*
Implementation of the proposed San Pablo General Plan could result in an increase in VMT at a rate that would exceed the rate of population increase within the City.	None available	Significant and Unavoidable
Implementation of the proposed San Pablo General Plan would result in an implementing document that is consistent with and implements the goals and Control Measures of the Clean Air Plan.	None required	Less than significant
Implementation of the proposed San Pablo General Plan could result in an implementing document that does not include a land use diagram identifying overlay zones around existing and planned sources of toxic air contaminants (TACs) and address these TAC sources and sensitive receptors in its goals, policies and objectives.	None required	Less than significant

IMPACTS AND MITIGATION MEASURES

Impact

3.3-1 Implementation of the proposed San Pablo General Plan could result in an increase in VMT at a rate that would exceed the rate of population increase within the City. (*Significant, Unavoidable*)

BAAQMD guidance states that "due to the [Bay Area's] nonattainment status for ozone and PM, and the cumulative impacts of growth on air quality [long-range] plans almost always have a significant unavoidable adverse air quality impacts." To assess this possibility related to the proposed General Plan, the increases in VMT and population envisioned under the General Plan

were calculated and compared. The projections of daily generated VMT under the proposed General Plan (950,000) indicate that implementation of the proposed General Plan would result in an approximately 42 percent increase in VMT from the baseline (year 2000) total of 670,000 (see **Table 3.3-4**). Comparatively, population projections under the proposed General Plan (34,950) indicate that implementation of the proposed General Plan would increase population from the 2000 baseline of 30,215 by 15.7 percent (see **Table 3.3-4**). Because the rate of increase in VMT would exceed the rate of increase in population, the proposed General Plan would have a significant adverse impact relative to air quality.

Table 3.3-4 Comparison of Change in VMT and Population Under the General Plan

	2000 Baseline[1]	*General Plan (2030)*	*Change from 2000 Baseline to Proposed Plan*
Vehicle Miles Traveled (VMT)	670,000	950,000	41.8%
Population	30,215	34,950	15.7%

1 Baseline VMT data is based on data from the year 2000, therefore for this analysis also considers population growth from 2000, rather than from 2010.

Source: Dyett & Bhatia, 2010, Environmental Science Associates, 2010, Dowling Associates, 2010, ABAG Projections 2009.

Proposed General Plan Policies that Reduce the Impact

The following Implementing Policies would all serve to reduce ozone and PM emissions generated within the City of San Pablo:

OSC-I-17 Prepare a Greenhouse Gas Emissions Reduction Plan that focuses on feasible actions the City can take to minimize the adverse impacts of growth and development on climate change and air quality. The plan would include, but not be limited to:

- A baseline inventory of all known or reasonably discoverable sources of greenhouse gases (GHGs) that currently exist in the city and sources that existed in 1990.
- A projected inventory of the GHGs that can reasonably be expected to be emitted in the city in the year 2030 in accordance with discretionary land use decisions pursuant to this General Plan update and foreseeable communitywide and municipal operations.
- A target for the reduction of emissions from those identified sources reasonably attributable to the City's discretionary land use decisions and municipal operations, in line with site goals and targets established by the Air Resources Board.
- A list of feasible GHG reduction measures whose purpose shall be to meet the established local reduction target, including energy conservation and "green building" requirements in municipal buildings and private development.

OSC-I-20 Require developers to use best management practices (BMPs) to reduce particulate emissions and dust associated with construction activities as a condition for approval of subdivision maps, site plans, and grading permits. These BMPs

include, but are not limited to, regular materials and vehicle tire watering, covering, and dust prevention measures during clearing, grading, earth-moving, or excavation operations.

OSC-I-21 Provide incentives for the installation of EPA-certified wood heaters or approved wood-burning appliances, list permitted and prohibited fuels, and create a "no burn" policy on days when air quality is particularly poor.

OSC-I-22 Support CCTA's efforts to address climate change and air quality issues on a regional basis as reflected in the 'Principles for Collaborative Development of Sustainable Communities Strategies in Contra Costa County'.

OSC-I-23 Continue to support the Bay Area Air Quality Management District's efforts to monitor and control air pollutants from stationary sources.

OSC-I-24 Continue to work with surrounding jurisdictions and agencies to establish parallel air quality programs and implementation measures, as necessary, to improve air quality standards.

OSC-I-25 Support non-polluting transportation modes and opportunities (i.e. pedestrian, bike, carpooling opportunities and public transit improvements) as specified in the Circulation Element.

OSC-I-26 Promote energy efficiency in architectural design for new construction including building orientation to take advantage of wind and sun, and site design features (such as clustering of uses), pre-wiring for optional photovoltaic or solar heating systems, etc.

Additionally, the following policies would implement transportation demand management strategies to reduce VMT generated within the City:

C-G-10 Promote efficient use of existing transportation facilities through the implementation of transportation demand management concepts.

C-I-39 Establish travel demand management programs to reduce peak-hour traffic congestion and help reduce regional vehicle miles traveled.

HEA-I-6 Establish an incentive system to encourage land dedication and park development beyond the minimum City requirements. Incentives may include density bonuses, and increased building height at appropriate locations. Tie incentive program to priority areas for parks development.

HEA-I-11 Support the use of clean fuel, "climate friendly" vehicles in order to reduce energy use, energy costs, and greenhouse gas emissions by residents, businesses, and city government activities.

HEA-I-12 Use zoning and redevelopment programs to establish incentives for locating healthy food grocery stores at the center of neighborhoods and to increase communitywide healthy food access. Approaches may include:

- Within the Zoning Ordinance, clearly define "healthy food grocery stores" in order to ensure that businesses meeting that description have access to incentives developed with them in mind. Recommended criteria include: 1) dedicates at least 50 percent of retail space for a general line of food and non-food grocery products intended for home preparation, consumption, and use; 2) dedicates at least 30 percent of retail space for perishable goods that include dairy, fresh produce, fresh meats-poultry-fish, and frozen foods; and 3) dedicates at least 500 square feet of its retail space for fresh produce;
- Ensure sites are made available that could be developed as healthy food grocery stores (with a focus on neighborhood areas with little or no access);
- Provide expedited permit processing for healthy food grocery store development;
- Leverage City staff time, redevelopment funds, and other economic development grant money to help potential new healthy food grocers to consolidate parcels and/or make necessary improvements;
- Encourage large healthy food grocers to offer shuttle service and home delivery; and
- Develop standards and incentives flexible enough to accommodate "alternative" grocery stores which use less space, require less parking, and focus on the day-to-day needs of nearby residents.

C-I-14 Expand and maintain a safe and comprehensive bicycle system that connects the City's neighborhoods to regional bicycle routes.

C-I-15 Acquire land for new bicycle routes along Wildcat Creek, as shown in Figure 5-4 of the General Plan, only if land owners are willing to sell such land or provide easements for public access. If landowners object to route designations, seek alternative routes and amend Bicycle Map accordingly.

C-I-16 Require the provision of bicycle parking and related facilities in new employment-generating development to facilitate multi-modal commute choices.

C-I-17 Evaluate multimodal level of service (MMLOS) qualitatively, consistent with the criteria in Table 5.2-4 of the General Plan, for the following routes:

- For bicyclists, evaluate the routes shown on Figure 5-4 of the General Plan, to determine necessary improvements. Bicycle LOS "C" standard is the goal for these streets.
- For pedestrians, evaluate streets within Pedestrian Priority Zones (e.g. San Pablo Avenue, 23rd Street). As shown on Figure 5-1 of the General Plan, to determine necessary improvements. In these zones, the Pedestrian LOS "C" is the goal.

C-I-18 Adopt a Bicycle Master Plan to enhance bicycle circulation and planning, based on the route network in Figure 5-4 of the General Plan and the Contra Costa Countywide Bicycle and Pedestrian Plan.

C-I-19 Use brightly-colored paint or a one-foot buffer strip along bicycle routes to provide a visual signal to drivers to watch out for bicyclists and nurture a "share the lane" ethic. Start with areas of town where automobile-bicycle collisions have occurred in the past, based on data from the Statewide Integrated Traffic Records System maintained by the California Highway Patrol.

C-I-20 Work with the City of Richmond and Contra Costa County to develop safe and clearly marked pedestrian and bicycle linkages from downtown San Pablo to the Bay Trail. Improvements should connect Contra Costa College to the Wildcat Creek bikeway west of Davis Park, and also connect the bikeway at Davis Park to Alvarado Park east of the city. (See Figure 8-1 of the General Plan.)

C-I-21 Complete and enhance the pedestrian network with an interconnected system of walkways, continuous sidewalks on both sides of the street, and pedestrian crossings.

C-I-22 To maintain walkability and pedestrian safety, consider reducing curb-to-curb road widths and employing roadway design features such as islands, pedestrian refuges, and pedestrian count-down signals.

C-I-23 Provide pedestrian facilities that are accessible to persons with disabilities and ensure that roadway improvement projects address accessibility and universal design concepts.

C-I-24 In mixed-use areas or other areas with high pedestrian traffic, provide mid-block pedestrian crossings, where feasible, to create more direct walking routes and slow vehicle speeds.

C-G-9 Foster practical parking solutions to serve community needs while avoiding excessive amounts of surface parking that disrupt the urban fabric of the city.

C-I-33 Amend the Zoning Ordinance to establish "green" parking design standards that have multiple benefits, such as shared parking for mixed use projects, photovoltaic panels on parking structures to generate energy for parking lot lighting, landscaping and trees in surface parking, and pervious paving to improve groundwater recharge and promote innovative surface parking design that avoids the appearance of a "sea of asphalt" and reduces environmental impacts. Strategies will include, but are not limited to:

- Require parking to be provided behind buildings, wherever feasible;
- Promote the use of time, motion-sensing, and/or solar powered parking lot lights or security lights, wherever feasible;

- Establish specific standards for perimeter landscaping, including the type and coverage required along the edges of surface parking areas adjacent to streets;
- Require a minimum number of trees per parking stall in surface parking areas (e.g. 1 per 8 stalls for double-loaded bays) to provide shade, and reduce urban heat island effects;
- Separate pedestrian pathways from car lanes where possible;
- Promote the use of porous paving and a variety of drainage features according to the site; and
- Restrict use of vacant lots as vehicle parking and outdoor storage of commercial equipment, construction equipment, and similar items unless screened from view from adjacent streets.

Housing Element Policies

H-4 Promote the development of energy efficient homes to help protect the environment and lower the energy costs for San Pablo residents.

Program H-2.1.8 Provide by right reductions from the standard parking requirements for new residential projects that are located on San Pablo Avenue and have frequent transit service.

Policy H-4.1 Encourage the incorporation of energy conservation design features in existing and future residential developments to conserve resources and reduce housing costs.

Program H-4.1.1 Promote the County's and PG&D's weatherization programs to extremely low- to moderate-income homeowners and seniors to improve the energy efficiency of their residence and/or replace existing energy inefficient appliances.

Program H-4.1.2 Promote the use of solar energy and other environmentally sound, energy efficient methods for heating and cooling homes, consistent with adopted building, mechanical and plumbing codes.

Program H-4.1.3 Require developers to complete a GreenPoint Checklist, Leadership in Energy and Environmental Design Checklist (LEED) or equivalent, as part of their submittal to the Planning Division and encourage them to attain the equivalent of LEED Silver certification or better.

Program H-4.1.4 Consider a Green Building Design Ordinance that offers density, FAR, and height bonuses for private projects that meet certain green building thresholds.

Program H-4.1.5 Facilitate environmentally sensitive construction practices by:

- Restricting the use of chloroflourocarbons (CFCs), hydrochloroflourocarbons (HCFCs), and halons in mechanical equipment and building materials;

- Promoting the use of products that are durable and allow efficient end-of-life disposal (recyclable);
- Requiring large project applicants to submit a construction waste management plan for City approval;
- Promoting the use of locally or regionally available materials; and
- Promoting the use of cost-effective design and construction strategies that reduce resource and environmental impacts.

A well implemented TDM plan can reduce VMT by up to 15 percent overall.[14] However, this would still be insufficient to close the gap between predicted VMT growth and population growth.

Mitigation Measures

The BAAQMD CEQA Guidelines state, with regard to mitigation of plan impacts, "Plans are the appropriate place to establish community-wide air quality policies that reinforce regional air quality plans. Plans present opportunities to establish requirements for new construction, future development, and redevelopment projects within a community that will ensure new or revised plans do not inhibit attainment of state and national air quality standards and actually assist in improving local and regional air quality. Binding, enforceable mitigation measures identified through the environmental review process should be incorporated as policies and implementation programs within the plan to the greatest extent feasible. Ideally, air quality related goals, policies, performance measures and standards should be incorporated within the context of the proposed project itself, rather than introduced as corrective actions within the [General Plan] EIR."[15]

As discussed in detail below, the proposed General Plan incorporates a number of strategies recommended by the BAAQMD for reducing automobile travel. Moreover, the City of San Pablo is a mature community, without large undeveloped areas or large areas planned for wholesale redevelopment. Because future land use changes in San Pablo would be limited to incremental alterations and infill development, it is not possible to make large-scale changes in the city's land use pattern. Additionally, San Pablo is nearly completely surrounded by existing urban uses.

In terms of mitigation measures identified by the BAAQMD in its CEQA Guidelines, the proposed General Plan is premised on infill development, as opposed to new development in areas not currently built upon. The proposed Plan designates mixed-use centers and corridors, primarily in the central portion of San Pablo and at key arterial intersections, including along San Pablo Avenue, which provides the best transit access in the city.

---

[14] CAPCOA, 2010. This CAPCOA report notes that commute trip reduction, a strategy similar to TDM, can have up to a 25% reduction in work trip VMT, or a 15% reduction in overall VMT.

[15] BAAQMD, 2010c.

As described above, the Plan proposes incentives for the installation of EPA-certified wood heaters or approved wood-burning appliances (Policy OSC-I-21) and for dedication of new park lands (Policy HEA-I-6), as well as for locating grocery stores in the center of neighborhoods (Policy HEA-I-12).[16] The Housing Element for the proposed Plan also calls for consideration of a Green Building Ordinance "that offers density, FAR, and height bonuses for private projects that meet certain green building thresholds" (Program H-4.1.4).

The Plan proposes increased bicycle parking and pedestrian and bicycle enhancements to encourage alternatives to automobile travel, including the adoption of a Bicycle Master Plan (Policies C-I-14 through C-I-24), and calls for "foster[ing] practical parking solutions to serve community needs while avoiding excessive amounts of surface parking that disrupts the urban fabric of the City," including shared parking: (Policy G-G-9 and Policy C-I-33). Additionally, the Housing Element for the proposed Plan proposes reduced parking requirements for transit-accessible development on San Pablo Avenue (Program H-2.1.8).

Finally, the Plan seeks to promote energy-efficient homes, energy conservation, and water efficiency in San Pablo: (Goal H-4 and its supporting policies and programs; Policy HEA-I-11; Policy PSCU-G-6 and Policies PSCU-I-23 through PSCU-I-30).

In short, the proposed General Plan includes many of the measures identified by the BAAQMD as applicable to reduce air quality impacts of general plans. Unfortunately, transportation modeling is still unable to account for the positive influence of these policy and land use design choices. Based strictly on the transportation modeling conducted for the proposed Project in accordance with BAAQMD CEQA Guidelines, vehicle travel is forecast to increase at a faster rate than population, and therefore this impact would be considered significant and unavoidable.

An additional factor to consider is that, because the BAAQMD CEQA Guidelines require Plan-level analysis to determine significance to be based on the strict relationship between population and VMT, this determination cannot be modified to reflect the fact that improvements in vehicle fuel efficiency are expected to decrease emissions per vehicle mile traveled over the planning period. As described in the Metropolitan Transportation Commission's Transportation 2035 Plan EIR (2009) air quality analysis, <u>emissions of several criteria pollutants are projected to decrease</u> through 2035, not increase, due to these fuel efficiency gains. As a basis for making a finding of overriding considerations, it is reasonable for the City to find that fuel efficiency, combined with the compact land use and multimodal transportation initiatives represent by proposed Plan policies, would actually result in minimal contribution to the overall regional cumulative impact of criteria pollutant emissions. However, in accordance with BAAQMD requirements, the impact described in this EIR must still found to be significant and unavoidable based on the assumed strict relationship between population and VMT.

---

[16] This last policy, in the proposed Health Element, is aimed at improving access to healthy food. However, convenient grocery access would also limit the need for residents to drive to more distant stores for shopping.

Impact

3.3-2 Implementation of the proposed San Pablo General Plan would result in an implementing document that is consistent with and implements the goals and Control Measures of the Clean Air Plan. (*Less than Significant*)

The Bay Area 2010 Clean Air Plan (CAP) was adopted by the BAAQMD Board on September 15, 2010. The primary goals of the CAP are to (1) attain air quality standards; (2) reduce population exposure to protect public health in the Bay Area; and (3) reduce greenhouse gas emissions and protect the climate.

The proposed General Plan supports the attainment of air quality standards by establishing implementing policies that will serve to reduce air pollution emissions generated within the city. Implementing Policies OSC-I-17, OSC-T-20 OSC-I-21, OSC-I-22, OSC-I-25, and OSC-I-26 as described in Impact 3.3-1, would all serve to reduce ozone and PM emissions generated within the City of San Pablo. The proposed General Plan supports the reduction of population exposure to protect public health by establishing implementing policy OSC-I-18 which directs the City to develop and implement a Community Risk Reduction Plan (CRRP) to address the exposure of sensitive populations to toxic air contaminant emissions in San Pablo. The proposed General Plan supports the reduction of GHG emissions by establishing implementing policy OSC-I-17 which directs the City to prepare a GHG Reduction Plan that focuses on feasible actions the City can take to minimize the adverse impacts of growth and development on climate change. Additionally, implementing policy OSC-I-22 to support CCTA's efforts to address climate change and air quality issues on a regional basis as reflected in the "Principles for Collaborative Development of Sustainable Communities Strategies in Contra Costa County."

The Bay Area 2010 Clean Air Plan (CAP) contains 59 control measures aimed at reducing air pollution in the Bay Area. Many (18) of these measures address stationary sources and will be implemented by BAAQMD using its permit authority and are therefore not suited to implementation through local planning efforts. Sixteen other measures are a draft list of measures for further study and are not yet identified as feasible for implementation under the 2010 CAP. The remaining 25 measures are identified in **Table 3.3-5** This table identifies each Control Strategy and correlates it to specific Goals or Policies of the proposed General Plan or presents justification for why the Strategy does not apply to the proposed General Plan. As demonstrated in **Table 3.3-5**, the proposed General Plan would be consistent with the Control Strategies contained in the 2010 CAP for the San Francisco Bay Area Air Basin.

Table 3.3-5 shows that the proposed General Plan generally would not disrupt or hinder implementation of any CAP control measures. BAAQMD has identified examples of how a Plan may cause the disruption or delay of control measures, such as a project that may preclude an extension of a transit line or bike path or proposes excessive parking beyond parking requirements. As described in **Table 3.3-5**, Policy GME-G-3 calls for new and improved pedestrian, bicycle and transit facilities, as envisioned in the Circulation Element and Policy H 2.1.8 would provide by-right reductions from the standard parking requirements for new residential projects that are located on San Pablo Avenue and have frequent transit service. These policies demonstrate that the two BAAQMD-identified examples of control measure disruption or delay would not occur under the proposed General Plan.

Table 3.3-5 Control Strategies of the 2010 Clean Air Plan

2010 CAP Control Strategy	*Elements of the Proposed Project Consistent with the Strategy or Justification for Non-applicability*
Transportation Control Measures	
TCM A: Improve Transit Services A-1: Improve Local & Areawide Bus Service A-2: Improve Local & Regional Rail Service	LU-I-1 Amend the Zoning Ordinance to implement new General Plan land use designations and promote Transit-Oriented Development (TOD) at appropriate locations. GME-I-3 Continue to require new development to pay its fair share of needed transportation improvements through impact fees, community benefit agreements, and other mechanisms. GME I-5 Approve a development project only after making findings that one or more of the following conditions are met: • No revenue from Measure J will be used to replace or provide developer funding that has or would have been committed to any mitigation project; • The development project will fully fund public facilities and infrastructure as necessary to mitigate any impacts arising from the new development; and • The development project will pay mitigation fees for public facilities and infrastructure improvements in proportion to the development's impacts. C-I-12 Schedule public transportation improvement projects in the Capital Improvement Program (CIP). C-G-6 Encourage the expansion of public transportation systems. C-G-7 Facilitate the use of public transportation in San Pablo by making it more comfortable and convenient. C-I-27 Work with public transit provides to advocate the expansion of transit service to underserved areas in the city. C-I-29 Work with public transit providers, Contra Costa College, and property owners to identify and develop a future Major Transit Hub along San Pablo Avenue near Mission Plaza. C-I-30 In partnership with CCTA and the West Contra Costa Transportation Advisory Committee, pursue funding to study the feasibility of developing a public transit system along the BNSF Railway corridor.
TCM B: Improve System Efficiency B-1: Freeway & Arterial Operations Strategies B-2: Transit Efficiency & Use Strategies B-3: Bay Area Express Lane Network B-4: Goods Movement Improvements & Emission Reduction Strategies	C-G-4 Maintain acceptable levels of service for all modes of travel. GME-G-3 Provide new and improved pedestrian, bicycle routes, parking and transit facilities, as envisioned in the Circulation Element C-I-26 Work with public transit providers to upgrade selected bus-stops with advanced traveler information systems (ATIS). C-I-28 Work with public transit providers to develop context-sensitive bus-stop designs that would facilitate traffic flow and passenger safety along 23rd Street and San Pablo Avenue.
TCM C: Encourage Sustainable Travel Behavior C-1: Voluntary Employer-	C-I-1 Design and operate city streets based on a "Complete Streets" concept that enables safe, comfortable, and attractive access and travel for pedestrians, bicyclists, motorists, and transit users of all ages and abilities

Table 3.3-5 Control Strategies of the 2010 Clean Air Plan

2010 CAP Control Strategy	*Elements of the Proposed Project Consistent with the Strategy or Justification for Non-applicability*
Based Trip Reduction Program C-2: Safe Routes to School & Safe Routes to Transit C-3: Rideshare Services & Incentives C-4: Conduct Public Outreach & Education C-5: Smart Driving	C-I-14 Expand and maintain a safe and comprehensive bicycle system that connects the City's neighborhoods to regional bicycle routes. C-I-16 Require the provision of bicycle parking and related facilities in new employment-generating development to facilitate multi-modal commute choices. C-I-21 Complete and enhance the pedestrian network with an interconnected system of walkways, continuous sidewalks on both sides of the street, and pedestrian crossings.
TCM D: Support Focused Growth D-1: Bicycle Access & Facilities Improvement D-2: Pedestrian Access & Facilities Improvements D-3: Local Land Use Strategies	GME-G-1 Manage the City's growth and protect open space by establishing an Urban Limit Line (ULL). GME-G-3 Provide new and improved pedestrian, bicycle routes, parking and transit facilities, as envisioned in the Circulation Element. GME-G-4 Promote mixed-use, high density infill development and support land use patterns that make more efficient use of the transportation system. LU-I-1 Amend the Zoning Ordinance to implement new General Plan land use designations and promote Transit-Oriented Development (TOD) at appropriate locations. LU-I-16 Support residential infill on vacant lots within existing neighborhoods.
TCM E: Implement Pricing Strategies E-1: Value Pricing Strategies E-2: Promote Parking Pricing to Reduce Motor Vehicle Travel E-3: Implement Transportation Pricing Reform	H 2.1.8 Provide by right reductions from the standard parking requirements for new residential projects that are located on San Pablo Avenue and have frequent transit service.
Mobile Source Control Measures	
MSM A-1: Promote Clean Fuel Efficient Vehicles	HEA-I-11 Support the use of clean fuel, "climate friendly" vehicles in order to reduce energy use, energy costs, and greenhouse gas emissions by residents, businesses, and city government activities.
MSM A-2: Zero Emission Vehicles & Plug-in Hybrids	HEA-I-11 (above).
MSM A-3: Green Fleets	HEA-I-11 (above).
MSM A-4: Replacement or Repair of High-emitting Vehicles	Not Applicable: This Strategy addresses vehicle buy-back programs implemented by BAAQMD.
MSM B-1: Fleet Modernization for Medium and Heavy-Duty Trucks	Not Applicable: This Strategy addresses incentive programs for truck modernization which are implemented by BAAQMD or CARB.
MSM B-2: Low NOx retrofits in Heavy-Duty Trucks	Not Applicable: This Strategy addresses cash incentives for retrofits which are

Table 3.3-5 Control Strategies of the 2010 Clean Air Plan

2010 CAP Control Strategy	*Elements of the Proposed Project Consistent with the Strategy or Justification for Non-applicability*
	implemented by BAAQMD or CARB.
MSM B-3: Efficient Drive Trains	Not Applicable: This Strategy addresses development and demonstration programs in partnership with CARB and the California Energy Commission.
MSM C-1: Construction and Farming Equipment	Not Applicable: This Strategy addresses cash incentives for retrofits which are implemented by BAAQMD or CARB.
MSM C-2: Lawn & Garden Equipment	Not Applicable: This Strategy addresses voluntary exchange programs implemented by BAAQMD.
MSM C-3: Recreational Vessels	Not Applicable: This Strategy addresses voluntary exchange programs implemented by BAAQMD.
Land Use & Local Impact Measures	
LUM 1: Goods Movement	C-G-8 Balance commercial goods movement with the health and quality of life priorities of the community.
LUM 2: Indirect Source Review Rule	Not Applicable: This Strategy addresses implementation of an indirect source Rule by BAAQMD.
LUM 3: Updated CEQA Guidelines & Enhanced Review	This Strategy addresses updating of the CEQA Guidelines by BAAQMD (adopted in June 2010 and applied in this analysis).
LUM 4: Land Use Guidance	This strategy addresses updating land use planning documents such as the proposed General Plan and demonstrating consistency with air quality protection guidance such as the new BAAQMD CEQA Guidelines that are applied in this analysis.
LUM 5: Reduce Health Risk in Impacted Communities	OSC-I-18 Work with the Bay Area Air Quality Management District to develop and implement a Community Risk Reduction Plan (CRRP) to address the exposure of sensitive populations to toxic air contaminant emissions in San Pablo.
LUM 6: Enhanced Air Quality Monitoring	Not Applicable: This Strategy addresses air quality monitoring that is the purview of BAAQMD and/or CARB.
Energy & Climate Measures	
ECM 1: Energy Efficiency	OSC-I-17 Prepare a Greenhouse Gas Emissions Reduction Plan that focuses on feasible actions the City can take to minimize the adverse impacts of growth and development on climate change and air quality. The plan would include, but not be limited to: • A baseline inventory of all known or reasonably discoverable sources of greenhouse gases (GHGs) that currently exist in the city and sources that existed in 1990. • A projected inventory of the GHGs that can reasonably be expected to be emitted in the city in the year 2030 in accordance with discretionary land use decisions pursuant to this General Plan update and foreseeable communitywide and municipal operations. • A target for the reduction of emissions from those identified sources

Table 3.3-5 Control Strategies of the 2010 Clean Air Plan

2010 CAP Control Strategy	*Elements of the Proposed Project Consistent with the Strategy or Justification for Non-applicability*
	reasonably attributable to the City's discretionary land use decisions and municipal operations, in line with State goals and targets established by the Air Resources Board. • A list of feasible GHG reduction measures whose purpose shall be to meet the established local reduction target, including energy conservation and "green building" requirements in municipal buildings and private development.
ECM 2: Renewable Energy	OSC-I-17 (above).
ECM 3: Urban Heat Island Mitigation	OSC-I-17 (above).
ECM 4: Shade Tree Planting	OSC-I-17 (above).

Source: BAAQMD, 2010; Environmental Science Associates, 2010.

Proposed General Plan Policies that Reduce the Impact

See **Table 3.3.-6**.

Mitigation Measures

None required.

Impact

3.3-3 Implementation of the proposed San Pablo General Plan results in an implementing document that includes a land use diagram identifying overlay zones around existing and planned sources of toxic air contaminants (TACs) and address these TAC sources and sensitive receptors in its goals, policies and objectives. (*Less than Significant*)

The California Air Resources Board notes that the location of land uses where sensitive receptors are present, such as day care centers, schools, nursing homes, and hospitals, should be carefully evaluated. State law restricts the siting of new schools within 500 feet of a freeway, urban roadways with 100,000 vehicles/day, or rural roadways with 50,000 vehicles with some exceptions. The Air Resources board has published advisory recommendations on siting new sensitive land uses, with the same guidelines as the state school limitation.[17]

BAAQMD guidance identifies the thresholds of significance for Plans with regard to community risk and hazard impacts as the inclusion of a land use diagram that identifies existing and planned sources of TACs and overlay zones of at least 500 feet around each side of freeways and high volume roadways. Additionally, the Plan must identify goals, policies and objectives to minimize potential impacts and create overlay zones for sources of TACs and receptors.

[17] CARB, 2005.

Policy OSC-I-18 of the proposed General Plan directs the City to work with the Bay Area Air Quality Management District to develop and implement a Community Risk Reduction Plan (CRRP) to address the exposure of sensitive populations to toxic air contaminant emissions in San Pablo. This policy addresses the need for the General Plan to contain goals, policies and objectives to minimize potential impacts. In addition, an overlay zone of 500 feet around each side Interstate 80 is included in the General Plan. This diagram will be used in implementing policies OSC-I-18 and OSC-I-19. Stationary sources located in San Pablo are identified in **Table 3.3-6**.

Table 3.3-6 TAC Sources in the Planning Area[1, 2]

Plant Number	*Gas Dispensing Facility Number*	*Facility Name*	*Source Type*	*Street*	*Cancer Risk in Millions*	*Chronic Hazard*	*Acute Hazard*	*PM 2.5*
1840		West Contra Costa County Landfill,	Internal Combustion Lean Burn	1 Parr Blvd, Richmond CA (San Pablo border)	205	4.34	5.19	402
16336		Doctors Medical Center-San Pablo	Heating Hot Water Boiler 1	2000 Vale Rd	167.0	0.06	0.00	0.42
4790		Five Star Cleaners	RealStar 80 lb Secondary Contr	2145 Rumrill Blvd	105.0	0.28	0.00	0.00
13773		City of San Pablo Police Dept	Emergency Generator	13880 San Pablo Ave	16.8	0.01	0.00	0.03
	11833	USA #68208	Gas dispensing facility	2601 Road 20	3.8	0.00	0.00	
	11649	El Portal Shell-Shell Oil Products	Gas dispensing facility	2876 El Portal Dr	3.5	0.00	0.00	
	1665	World Oil Marketing Company #24	Gas dispensing facility	13013 San Pablo Ave	2.6	0.00	0.00	
5833		Accurate Auto	Paint Spray Booth	1095 Broadway	1.8	0.01	0.00	0.00
	11192	San Pablo Chevron	Gas dispensing facility	13065 San Pablo Ave	1.7	0.00	0.00	
	11972	ConocoPhillips #2611152	Gas dispensing facility	2500 San Pablo Dam Rd	1.2	0.00	0.00	
	11739	Top Food and Gas	Gas dispensing facility	1522 Rumrill Blvd	0.5	0.00	0.00	
	10889	San Pablo Police Dept	Gas dispensing facility	13880 San Pablo Ave	0.1	0.00	0.00	
	393	City of San Pablo Corporation Yard	Gas dispensing facility	1515 Folsom Ave	0.0	0.00	0.00	
4833		Contra Costa College	Spray Booth w/ air heater	2600 Mission Bell Dr	0.0	0.00	0.00	0.00
10857		San Pablo	Spray Paint	2031 Rumrill	0.0	0.00	0.00	0.00

Table 3.3-6 TAC Sources in the Planning Area[1, 2]

Plant Number	*Gas Dispensing Facility Number*	*Facility Name*	*Source Type*	*Street*	*Cancer Risk in Millions*	*Chronic Hazard*	*Acute Hazard*	*PM 2.5*
		Auto Body, Inc	Booth	Blvd, #11				
10803		A-1 Martin's Auto Body Shop	Spray Booth/Area	1507 Market Ave	0.0	0.00	0.00	0.00
6945		BAF Complete Auto Care	Spray Booth	2218 Market St	0.0	0.00	0.00	0.00
14859		C & V Auto Care	Paint Spraying Operation	1960 23rd St	0.0	0.00	0.00	0.00
	11303	San Pablo Gas and Mini Mart	Gas dispensing facility	3363 San Pablo Dam Rd	8 gasoline nozzles – unknown risk but based on throughput and emissions, very likely to be less than 10E-6 at plant boundary			
	10604	Hertz Equipment Rental	Gas dispensing facility	2400 San Pablo Dam Rd	1 non-retail gasoline nozzles – insignificant risk			
	9784	Contra Costa County Fire Station #70	Gas dispensing facility	13928 San Pablo Ave	1 non-retail gasoline nozzles – closed 2006			
	9179	CC Comm College Dist-CONTRA COSTA COLLEGE	Gas dispensing facility	2600 Mission Bell Dr	1 non-retail gasoline nozzles – insignificant risk			
2141		El Portal One Hour Cleaners And Laundry	No data	2655 Church Lane	1 non-retail gasoline nozzles – insignificant risk			
5191		Ventura's Body Shop	No data	2013 23rd St	Auto body – insignificant risk			
18029		Cleaning Concepts	No data	1741 Manzanilla Dr	Two portable diesel engines – 29 lb/yr of diesel PM			

[1] Sources that exceed project level thresholds are noted in **bold.** Project level thresholds are: an excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a cumulatively considerable contribution; or an incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average PM 2.5.

[2] Listing of existing sources provided by the BAAQMD provides conservative screening-level estimates and does not represent the actual risk levels, HI, or PM concentrations for that facility.

[3] Sources with no data were evaluated by BAAQMD staff. Michael, Sigalle, 2010.

Source: BAAQMD, 2010d.

Air quality for all new sensitive receptors will need to be evaluated at the project level when individual projects are proposed, per BAAQMD CEQA Guidelines for local community risk and hazard impacts at the project level.[18] Drycleaners will be required to phase out perc operations by 2023 per State law and BAAQMD regulation, reducing the health risk of drycleaner sources to less than significant. Projects proposed prior to the phase-out will be required to complete a site specific analysis.

Proposed General Plan Policies that Reduce the Impact

OSC-I-18 Work with the Bay Area Air Quality Management District to develop and implement a Community Risk Reduction Plan (CRRP) to address the exposure of sensitive populations to toxic air contaminant emissions in San Pablo.

OSC-I-19 Maintain a 500-foot Air Quality Health Risk Overlay Zone on either side of Interstate 80 within the Planning Area to protect sensitive receptors from toxic air emissions. Within this overlay, avoid approval of new sensitive land uses, and for those projects permitted, require site-specific project design improvements (such as higher performance windows and HVAC systems) in order to reduce public health risks associated with poor air quality in these locations.

And policies OSC-I-23 through OSC-I-25, as detailed in Impact 3.3-1.

Mitigation Measures

None required.

[18] BAAQMD, 2010c.

3.4 Energy and Greenhouse Gases

This section analyzes the effect of the proposed San Pablo General Plan on energy resources and greenhouse gas emissions. The section identifies energy laws, plans, and policies; identifies energy sources; and describes existing and projected energy consumption and trends in the Planning Area. This section also analyzes quantitatively how implementation of the proposed General Plan may contribute to global climate change (GCC) through greenhouse gas (GHG) emissions related to land use changes and transportation. The analysis of sea level rise impacts is provided in Section 3.5: Hydrology, Flooding, and Water Quality.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Energy Use

United States

According to the Energy Information Administration (EIA) Annual Energy Review of 2008 (published in 2009), 31 percent of nationwide energy consumption occurred in the industrial sector, 28 percent in the transportation sector, 22 percent in residential, and 19 percent in commercial. As a secondary sector (because it includes components of multiple primary sectors), electric power made up over 40 percent of all national energy consumption. In terms of supply sources, petroleum provided over 37 percent of the nation's energy, natural gas 24 percent, coal 23 percent, nuclear power 9 percent, and renewables 7 percent. 71 percent of all the petroleum consumed in the U.S. was used in the transportation sector.[1]

California

California is the second largest consumer of energy in the country, second only to Texas. However, California's population is large and the State has one of the lowest *per capita* energy consumption rates in the country (higher only than Rhode Island and New York, as of 2007), in part due to mild weather that reduces energy demand for heating and cooling, and in part due to the government's energy-efficiency programs. In California, about 40 percent of energy consumption—the largest share by any sector—is in the transportation sector.[2] More motor vehicles are registered in California than any other State, and worker commute times are among the longest in the country.[3] Other energy-intensive industries include chemical, forest products, glass, and petroleum.

Petroleum and natural gas supply most of the energy consumed in California. Petroleum products provide approximately 46 percent of the state's energy demand, and natural gas provides

---

[1] EIA, 2009.

[2] EIA, 2007.

[3] EIA, 2010.

approximately 29 percent. The remaining demand is met by a variety of energy resources, including nuclear, hydropower, biomass, coal, geothermal, wind, and solar.[4]

Bay Area and Contra Costa County

The Bay Area Air Quality Management District (BAAQMD) completed an emission inventory for the Bay Area for 2005, which gives a sense of Contra Costa County's contribution to regional energy use and emissions. As described in **Table 3.4-1**, Contra Costa makes up about 15 percent of the Bay Area population, and is responsible for about 15 percent of the gasoline consumed in the region. Natural gas usage in Contra Costa, however, is significantly higher than in other parts of the region.

Table 3.4-1 Contra Costa County Basic Energy Use Statistics, 2005 and 2007

		2005		*2007*	
Indicator	*Measure*	*Total*	*% of Bay Area Total*	*Total*	*% of Bay Area Total*
Population		1,016,000	15%	1,039,000	15%
Natural Gas Usage	million cu. ft. daily	817	56%	636	49%
Gasoline Consumption	gallons sold per day	1,111,000	14%	1,150,000	14%
Vehicle Miles Traveled	daily, in millions	23.1	16%	25.7	16%

Source: BBAQMD, 2008, and 2010. Emission Inventories.

San Pablo Energy Use

PG&E supplies the building energy (electricity and natural gas) to San Pablo. With the help of PG&E and MTC, the City completed energy and emissions inventories for the years 2005 and 2007 using the Clean Air and Climate Protection (CACP) software available through ICLEI Local Governments for Sustainability (ICLEI). The results of the energy use inventory are reported below in **Table 4.3-2**. The data show that residential and transportation energy use have declined slightly between 2005 and 2007, while commercial and industrial energy use have increased. The overall result is a decline in communitywide energy use of about 2 percent over two years.

[4] EIA, 2007.

Table 3.4-2 Communitywide Energy Use in San Pablo

	2005 (city baseline)		*2007 (interim year)*	
Sector	*MMBtu*	*Share of Total*	*MMBtu*	*Share of Total*
Residential	492,267	13%	490,337	14%
Commercial	274,290	7%	289,842	8%
Industrial	63,035	2%	66,692	2%
Transportation	2,842,251	77%	2,766,660	77%
Total	3,671,843	100%	3,613,531	100%

Source: City of San Pablo, 2010, CACP reports.

Energy Types and Sources

Natural Gas

According to the CEC Energy Almanac, four regions supply California with natural gas, all of them in North America. Three of them—the Southwestern U.S., the Rocky Mountains, and Canada—supply 85 percent of all the natural gas consumed in California.[5] The remainder is produced in California itself. Approximately one-half of all the natural gas consumed in California is used to generate electricity, and residential consumption represented one-fifth of California natural gas use.[6]

PG&E is the primary electricity and natural gas provider for much of California, including Contra Costa County. PG&E obtains its energy supplies from power plants and natural gas fields in northern California and from energy purchased outside its service area.

Electricity

Power plants in California meet approximately 70 percent of the in-state electricity demand; the Pacific Northwest provides another 8 percent and power plants in the southwestern U.S. provide another 22 percent.[7] The contribution between in-state and out-of-state power plants depends upon, among other factors, the precipitation that occurred in the previous year and the corresponding amount of hydroelectric power that is available. In the Bay Area, Contra Costa is home to 25 power plants, including 5 coal, 1 landfill gas, 17 oil/gas, and 2 wind.[8] Of these, the Pittsburg Natural Gas Power Plant is one of the largest power plants in California and the Bay Area and has a capacity of 1,311 megawatts.[9] Because of PG&E's power plant located in Pittsburg, Contra Costa County consumes 56 percent of the Bay Area's natural gas. The electricity generated by the PG&E plants, however, is used throughout PG&E's service area, which extends, with a few exceptions, north to

[5] CEC, 2010.

[6] *Ibid.*

[7] CEC, 2008.

[8] *Ibid.*

[9] Mirant, 2010.

south from Eureka to Bakersfield, and east to west from the Sierra Nevada to the Pacific Ocean. Smaller power plants and cogeneration facilities are located throughout the Bay Area.

Petroleum

As noted above, transportation is the largest energy consumer in the state, accounting for about 40 percent of total energy use, and most—96 percent—of that demand is met with petroleum.[10] Nearly 26 million vehicles are registered in California, consuming about 380 million barrels of gasoline and almost 100 million barrels of diesel annually.[11]

In 2007, approximately one-half of the crude oil came from in-state oil production facilities, one-fifth came from Alaska, and the remaining—just under one-third—came from foreign sources. Most gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet state-specific formulation standards required by the California Environmental Protection Agency's Air Resources Board. Major petroleum refineries in California are concentrated in three counties: Contra Costa, Kern County in central California, and Los Angeles County in southern California. There are no petroleum refineries in the San Pablo planning area.

According to the most recent transportation energy forecasts and analyses for the 2009 Integrated Energy Policy Report, California average daily gasoline demand for the first six months of 2009 is 1.0 percent lower compared to the same period in 2008, continuing a declining trend since 2004. Over the 12-month period from July 2008 through June 2009, gasoline demand is down 3.4 percent compared to the previous 12-month period. Between 2007 and 2030, CEC staff estimates total annual gasoline consumption in California will fall 13.3 percent in the low-demand case to 13.57 billion gallons, largely as a result of high fuel prices, efficiency gains, and competing fuel technologies. In the high-demand case, the recovering economy and lower relative prices lead to a gasoline demand peak in 2014 of 16.40 billion gallons before consumption falls to a 2030 level of 14.32 billion gallons, 8.5 percent below 2007 levels. These forecasted volumes have not been adjusted to account for compliance with the revised federal Renewable Fuel Standard (RFS) fair share obligations that further decrease demand for gasoline (E10) and greatly increase the demand outlook for E85. Under the low-demand case, the gasoline demand forecast is decreased from 13.57 billion gallons in 2030 to 11.86 billion gallons. In the high-demand case, the gasoline demand forecast of 14.32 billion gallons by 2030 is further decreased to 13.03 billion gallons as a consequence of the RFS.[12]

Alternative Transportation Fuels

The U.S. Department of Transportation currently recognizes the following as alternative fuels: methanol and denatured ethanol (alcohol mixtures that contain no less than 70 percent of the alcohol fuel), natural gas (compressed or liquefied), liquefied petroleum gas, hydrogen, coal-derived liquid fuels, fuels derived from biological materials (i.e., biomass), and electricity. The liquid fuel referred to as Methanol (M85) consists of methanol and gasoline and is derived from natural gas, coal, or woody biomass. The liquid fuel referred to as Ethanol (E85) consists of ethanol and gasoline and is derived

---

[10] CEC, 2010.

[11] *Ibid.*

[12] Schremp, 2010.

from corn, grains or agricultural waste. Natural gas consists of a high percentage of methane (generally above 85 percent), and varying amounts of ethane, propane, butane, and inerts (typically nitrogen, carbon dioxide, and helium) and comes from underground reserves. Liquefied petroleum gas (LPG) consists mostly of propane and is a byproduct of petroleum refining or natural gas processing. Currently available alternative fuel vehicles include electric, flexible fuel (can be fueled with ethanol), natural gas, propane, biodiesel, hybrid electric, plug-in hybrid electric, and fuel cell (fueled with hydrogen).[13] It should be noted that the use of electricity, depending on the method of production, could have secondary and potentially significant impacts where the electricity is produced. The cost of substituting electricity for diesel could make its use infeasible.

Global Climate Change

Global Climate Change (GCC) refers to a change in the average air temperature that may be measured by wind patterns, storms, precipitation, and temperature. The baseline by which these changes are measured originates in historical records identifying temperature changes that have occurred in the distant past, such as during previous ice ages. The rate of temperature change has typically been incremental, with warming and cooling occurring over the course of thousands of years. In the past 10,000 years the earth has experienced incremental warming as glaciers retreated across the globe. However, scientists have observed an unprecedented increase in the rate of warming over the past 150 years, roughly coinciding with the global industrial revolution.

Although GCC is now generally accepted by the public, the extent and speed of change to be expected, and the exact contribution from human sources, remains in debate. Nonetheless, the Intergovernmental Panel on Climate Change (IPCC)[14]—made up of the world's leading climate scientists—have reached consensus that global climate change is "very likely" caused by humans, and that hotter temperatures and rising sea levels will continue for centuries to come. In particular, human influences have:

- *very likely* contributed to sea level rise and increased storm surge during the latter half of the 20th century;
- *likely* contributed to changes in wind patterns, affecting extra-tropical storm tracks and temperature patterns;
- *likely* increased temperatures of extreme hot nights, cold nights, and cold days;
- *more likely than not* increased the risk of heat waves, area affected by drought since the 1970s, and frequency of heavy precipitation events.[15]

---

[13] USDOE, 2008.

[14] The Intergovernmental Panel on Climate Change (IPCC) is a scientific intergovernmental body set up by the World Meteorological Organization (WMO) and by the United Nations Environment Programme (UNEP). Its role is to assess on a comprehensive, objective, open and transparent basis the latest scientific, technical and socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change, its observed and projected impacts, and options for adaptation and mitigation.

[15] IPCC, 2007a.

The IPCC predicts that the increase in global mean temperature from 1990-2100 could range from 2.0 to 11.5 degrees Fahrenheit, with the most likely scenario between 3.2 and 7.1 degrees. The same report projects a sea level rise of seven to 23 inches by the end of the century, with a greater rise possible depending on the rate of polar ice sheet melting.

Other Climate Change Impacts and Adaptation

According to the California Climate Action Team (CCAT), accelerating GCC has the potential to cause a number of adverse impacts in California, including but not limited to: a shrinking Sierra snowpack that would threaten the state's water supply; public health threats caused by higher temperatures and more smog; damage to agriculture and forests due to reduced water storage capacity, rising temperatures, increasing salt water intrusion, flooding, and pest infestations; critical habitat modification and destruction; eroding coastlines; increased wildfire risk; and increased electricity demand.[16] These impacts have and will continue to have considerable costs associated with them.

While all of these impacts may be felt to some extent in the Bay Area, of particular concern to San Pablo are water quality and water supply issues; increased temperature and extreme heat events; an imbalance between electricity supply and demand; and indirectly, sea-level rise and increased storm surge with potential for intermittent flooding and gradual inundation of facilities nearby San Pablo. The following paragraphs describe in more detail some of the most relevant impacts to the environment that could result from continued global warming.[17]

Increased Temperatures and Extreme Heat Events

Climate change is expected to lead to an increase in ambient (i.e., outdoor) average air temperature, with greater increases expected in summer than in winter months. Larger temperature increases are anticipated in inland communities as compared to the California coast. Climate models predict a 4°F temperature increase in the next 20 to 40 years, with an increase in the number of long dry spells.

The potential health impacts from sustained and significantly higher than average temperatures include heat stroke, heat exhaustion, and the exacerbation of existing medical conditions such as cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. Over the past 15 years, heat waves have claimed more lives in the state than all other declared disaster events combined. According to the IPCC (2004), the summer mortality rates will double by half by 2050 due to hot weather episodes.

Increased temperatures also pose a risk to human health when coupled with high concentrations of ground-level ozone and other air pollutants, which may lead to increased rates of asthma and other pulmonary diseases. The incidence of bad air days in California's urban areas has increased, mostly in the summer. On long, hot, stagnant days, ground level ozone can build up to levels that violate federal and state health-based standards. Recent studies indicate that hot days correlate with poor air quality

---

[16] CCAT, 2006.

[17] California Natural Resources Agency, 2009.

days, and air pollution is contributing to more annual deaths and cases of respiratory illness and asthma.[18] For more discussion of air quality impacts, see Chapter 3.3: Air Quality. Other impacts related to increased temperatures and heat waves include:

- **Increased urban heat island effect:** urban heat islands are especially dangerous because they are both hotter during the day and do not cool down at night, increasing the risk of heat-related illness;
- **Reduced freezing events:** too few freezes could lead to increased incidence of disease as vectors and pathogens do not die off. In addition, certain agricultural crops depend on freezing as part of the life-cycle, so fewer such events would impact California's food production and indirectly the food supply in San Pablo;
- **Increased energy demand:** it is expected that energy, particularly electricity, demand will increase in order to meet increasing demands for air conditioning and refrigeration.

Changes in Precipitation and Extreme Events

Climate change is anticipated to cause 20-30 percent increase in precipitation in the spring and fall in California. More frequent and heavier precipitation events cause flooding and mudslides, which would incur considerable costs in damages to property, infrastructure and even human life. Such events also are associated with drinking water contamination outbreaks; contamination of shellfish and other food-borne illnesses; and overloading of wastewater and stormwater systems.

With warmer average temperatures, more winter precipitation will fall in the form of rain instead of snow, shortening the winter snowfall season and accelerating the rate at which the snowpack melts in the spring. Not only does such snow melt increase the threat for spring flooding, it will decrease the Sierras' capacity as a natural water tower, resulting in decreased water availability for agricultural irrigation, hydro-electric generation and the general needs of a growing population. The decrease in snow-pack is particularly relevant in California, as the Sierra snow-pack provides approximately 80 percent of California's annual water supply. A decreased snowpack would result in increased drought conditions; water supply and quality impacts; and food production impacts.

Drought conditions also result in increased frequency, intensity, and duration of wildfires. In these conditions, fires burn hotter and spread faster. During 2003, there were 14 reported fires in California which were enhanced due to Santa Ana winds and very low levels of humidity. The estimated damage costs were over $2 million. In addition to fatalities and property damage, smoke from wildfires impairs air quality and can cause acute and chronic health impacts.

Impacts on Plants and Vegetation

Native plants and animals are also at risk as temperatures rise. Scientists are reporting more species moving to higher elevations or more northerly latitudes in response. Increased temperatures also provide a foothold for invasive species of weeds, insects and other threats to native species. The

[18] Jacobson, 2008.

increased flow and salinity of water resources could also seriously affect the food web and mating conditions for fish that are of both of economic and recreational interest to residents. In addition, the natural cycle of plant's flowering and pollination, as well as the temperature conditions necessary for a thriving locally adapted agriculture could be affected, with perennial crops such as grapes taking years to recover. In California, the impacts of climate change on agriculture are estimated by the Farm Bureau to be $30 billion, mostly due to changes in chill hours required per year for cash crops.

Diseases

Warming temperatures, fewer freezing spells, and increased precipitation can are likely to change the distribution and quantity of common disease vectors, such as mosquitos, ticks, and rodents.

Sea Level Rise

Sea level rise as a consequence of global warming has received considerable attention in the scientific community and the media. Higher global temperatures will lead to the melting of polar ice caps, which in turn will cause global sea levels to rise. The analysis of sea level rise impacts is provided in Chapter 3.5: Hydrology, Flooding, and Water Quality.

Greenhouse Gases

Gases that trap heat in the Earth's atmosphere are called greenhouse gases (GHGs). These gases play a critical role in determining the Earth's surface temperature. Some of the solar radiation that enters Earth's atmosphere is absorbed by the Earth's surface, and some is reflected back toward space. Of the radiation reflected back toward space, GHGs will absorb a part. As a result, radiation that otherwise would have escaped back into space is retained, resulting in a warming of the atmosphere. Some level of GHGs is essential for maintaining temperatures supportive of life on Earth. Without naturally-occurring GHGs, the Earth's surface would be about 61°F cooler.[19] This phenomenon is known as the greenhouse effect, and is not, of itself, a bad thing. However, many scientists believe that emissions from human activities—such as electricity generation, vehicle emissions, and even farming and forestry practices—have elevated GHGs in the atmosphere beyond naturally-occurring concentrations, contributing to global climate change. The six primary GHGs are:

- **Carbon dioxide (CO_2),** emitted when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned;
- **Methane (CH_4),** produced through the anaerobic decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion;
- **Nitrous oxide (N_2O),** typically generated as a result of soil cultivation practices, particularly the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning;
- **Hydrofluorocarbons (HFCs),** primarily used as refrigerants;

[19] CCAT, 2006.

- **Perfluorocarbons (PFCs),** originally introduced as alternatives to ozone depleting substances (such as HFCs) and typically emitted as by-products of industrial and manufacturing processes; and
- **Sulfur hexafluoride (SF_6),** primarily used in electrical transmission and distribution systems.

Though there are other gases that can contribute to global warming, these six are identified explicitly in California legislation and litigation as being of primary concern. GHGs have varying potentials to trap heat in the atmosphere. The potential is typically measured using two parameters: global warming potential (GWP), and atmospheric lifetimes. Measurements of GWP range from 1 for CO_2 to 23,900 for SF_6. GHG emissions with a higher GWP have a greater global warming effect on a molecule-by-molecule basis. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2.[20] GWP is alternatively described as "carbon dioxide equivalents", or CO_2e. The second parameter, "atmospheric lifetime" describes how long it takes to restore the system to equilibrium following an increase in the concentration of a GHG in the atmosphere. Atmospheric lifetimes of GHGs can range from tens to thousands of years.

California GHG Emissions

GHG emissions contributing to GCC are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors.[21] The State of California alone produced almost 500 million metric tons of CO_2, making California the second largest emitter in the United States after Texas, and about 12th in the world. Major sources in California include fossil fuel consumption from transportation (38 percent), industry (20 percent), electricity production (25 percent), residential (6 percent), and agricultural (6 percent) sectors.[22] Much like nations around the world, the California government is looking at options and opportunities for drastically reducing GHG emissions with the hope of thereby delaying, mitigating, or preventing some of the anticipated impacts of GCC on California communities.

The Global Warming Solutions Act of 2006 (AB 32) required that the California Air Resources Board (CARB) determine the statewide greenhouse gas emissions level in 1990. Based on its 1990-2004 inventory work, ARB staff set 427 million metric tons of carbon dioxide equivalent emissions ($MMTCO_2e$) as the total statewide greenhouse gas 1990 emissions level, and the 2020 emissions limit. The CARB approved the 2020 limit on December 6, 2007.[23] This would be about 9.7 $MTCO_2e$ per capita, based on the Department of Finance's state population projection of 44 million as shown in **Table 3.4-3**.

---

[20] California Climate Action Registry, 2009.

[21] CEC, 2007, 19.

[22] CEC, 2007.

[23] CARB, 2008.

Table 3.4-3 California 2020 GHG Emissions Goal

Total Emissions (MMTCO_2e)	427
2020 Population	44,136,000
Annual Emissions per Capita (MT)	9.7

Source: CARB, 2007; California Department of Finance, 2007; Dyett & Bhatia, 2008.

Bay Area GHG Emissions

Local and regional agencies in the Bay Area have also taken steps to measure/quantify, evaluate, and mitigate their contributions to GHG emissions and global warming. For example, the cities of San Francisco, San Jose, and Palo Alto, the East Bay Municipal Utility District, UC Berkeley and Stanford University, and numerous other water and power utilities, public agencies, foundations, and individual businesses are voluntary members of the Climate Action Registry, a private non-profit organization formed by the State of California in 2001 that serves as a voluntary greenhouse gas (GHG) registry to protect and promote early actions to reduce GHG emissions by organizations. Additionally, a number of cities and counties in the Bay Area have recently developed or are in the process of completing their own climate/greenhouse gas reduction action plans and inventories.

In 2008, the Bay Area Air Quality Management District (BAAQMD) completed a regionwide baseline inventory of GHG emissions for the year 2007. According to that inventory, updated most recently in February of 2010, 95.8 million metric tons of CO_2e were emitted in the Bay Area that year, which is about 13.6 metric tons CO_2e per person.[24] **Table 3.4-4** shows the Bay Area GHG emissions breakdown by pollutant.

Table 3.4-4 2007 Bay Area CO_2e Emissions by Pollutant

Pollutant	*CO_2e (MMT/Year)*	*Percentage*
Carbon Dioxide	87.8	91.6
Methane	2.5	2.6
Nitrous Oxide	1.5	1.6
HFC, PFC, SF6	4.0	4.1
Total	95.8	100

Source: Bay Area Quality Management District, 2010.

In 2007, the Bay Area's transportation sector contributed 36 percent of the CO_2e GHG emissions, as did industrial and commercial sources (36 percent), followed by electricity and co-generation (16 percent), residential fuel usage (7 percent), off-road equipment (3 percent), and agriculture and farming (1 percent). Absent any policy changes, the Bay Area's greenhouse gas emissions are expected

[24] BAAQMD, 2010.

to grow at a rate of approximately 1.4 percent a year in the future due to population and economic growth.[25]

Contra Costa County GHG Emissions

According to the BAAQMD GHG Inventory, Contra Costa County generated more GHG emissions in 2007—31.5 million metric tons, or 33 percent of the total—than any other county in the nine-county region. In 2008, Contra Costa County published a baseline inventory of GHG emissions for the base year 2005, as shown in **Table 3.4-5**.[26] According to the County inventory, in 2005 Contra Costa was responsible for only 12.3 million metric tons of CO_2e. That emissions estimate is substantially less than the 2007 one generated by BAAQMD for the county, but the methodologies are likely very different, and thus the numbers are not directly comparable.

The Contra Costa inventory evaluated building and industrial energy use, vehicle transportation, and waste disposal for cities and unincorporated areas in the County. Countywide data for residential, commercial, and industrial energy use was provided by PG&E. The commercial/industrial emissions are based exclusively on energy use and do not include emissions from refinery operations.[27] Transportation data was provided by the Metropolitan Transportation Commission (MTC). Emissions calculations for land-filled waste assume an 85 percent methane recovery factor.

---

[25] *Ibid.*

[26] Contra Costa County, 2008.

[27] This is likely a major source of the discrepancy between the regional estimate and the county estimate.

Table 3.4-5 Contra Costa Countywide GHG Emissions (2005)

Emissions Source	*Total Emissions $MTCO_2e$* [1]	*Percent of County Total*	*Emissions per Capita*
Incorporated Areas			
Residential Energy Use	1,308,216	11	1.51
Commercial/Industrial/Direct Access Energy Use	2,530,030	21	2.93
Transportation	3,569,319	29	4.13
Land-filled Waste	153,043	1	0.18
Incorporated Subtotal	7,560,608	61	8.75
Unincorporated Areas			
Residential Energy Use	279,439	2	1.75
Commercial/Industrial/Direct Access Energy Use	3,500,768	28	21.93
Transportation	972,754	8	6.09
Land-filled Waste	22,335	<1	0.14
Unincorporated Subtotal	4,775,296	39	29.91
County Totals			
Residential Energy Use	1,587,655	13	1.55
Commercial/Industrial/Direct Access Energy Use	6,030,798	49	5.89
Transportation	4,542,073	37	4.44
Land-filled Waste	175,378	1	0.17
County Total	12,335,904	100	12.05
2050 County Goal (80 percent less)	2,467,181		1.36

$MTCO_2e$, metric tons carbon dioxide equivalent, describes the number of metric tons of carbon dioxide that would have the same climate change potential as the actual assortment of greenhouse gases.

Source: Contra Costa County Greenhouse Gas Emissions Inventory Report, June 2008; Dyett & Bhatia, 2008.

The inventory includes a more detailed analysis of County operations such as: County building energy use, streetlight energy use, water and sewage energy use, fuel use by the municipal vehicle fleet, and land-filled waste disposal from County facilities and operations. However, data for individual cities or water and sewer districts have not been analyzed separately. The inventory does not account for construction emissions.

Total countywide GHG emissions in 2005 were approximately 12.3 million metric tons, which is equivalent to approximately 12 metric tons per capita per year. For the County as a whole, commercial and industrial energy use accounts for almost half of the total emissions (49 percent), followed by transportation (37 percent), residential energy use (13 percent), and landfill waste (1

percent). The major oil refineries located in unincorporated Contra Costa County account for a large part of the greenhouse gas emissions from the commercial and industrial sectors.[28]

San Pablo GHG Emissions

The City has prepared baseline and interim year communitywide inventories of GHGs as shown in **Table 3.4-6**. By far, the transportation sector contributes the largest share of all GHG emissions in San Pablo.

Table 3.4-6 Communitywide Greenhouse Gas Emissions in San Pablo

	2005 (city baseline)		*2007 (interim year)*	
Sector	*Metric Tons*	*Share of Total*	*Metric Tons*	*Share of Total*
Residential	27,805	16%	30,264	17%
Commercial	16,279	10%	20,133	11%
Industrial	3,686	2%	4,420	3%
Transportation	104,624	61%	101,089	57%
Waste	18,735	11%	20,881	12%
Total	171,129	100%	176,787	100%

Source: City of San Pablo, 2010, CACP reports.

REGULATORY SETTING

The regulation of greenhouse gases is changing constantly as nations, and the U.S. federal, state, and local governments work to determine strategies that will work to systematically reduce GHG emissions and the impacts of climate change. GHG regulation is also intertwined with regulation of energy production and distribution. The regulations listed below reflect a tailored list of relevant actions the federal and state governments have taken to address energy, greenhouse gases, and global climate change.

Federal Regulations

Section 202 GHG Regulation of Cars and Light Duty Trucks

This rule was proposed jointly by EPA and the National Highway Traffic Safety Administration (NHTSA) to create a National Program of GHG emission standards and Corporate Average Fuel Economy (CAFE) standards. The standards apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards are designed to achieve a national vehicle fleet whose emissions and fuel economy performance improves year over year. The goal is to reduce CO_2 emissions by 960 million metric tons and save 1.8 billion barrels of oil over the lifetime of the vehicles sold in model years 2012 through 2016.[29] The final rule was signed on April 1, 2010 and will become effective 60 days after its publication in the Federal Register.

[28] Contra Costa County, 2008.

[29] US EPA, 2010.

Renewable Fuel Standard Program

Finalized on February 3, 2010, this rule makes changes to the Renewable Fuel Standard (RFS) program, as required by the Energy Independence and Security Act of 2007. The original RFS program was designed to implement the provisions of the Energy Policy Act of 2005 (EPAct, described later). The revised statutory requirements establish new specific volume standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel that must be used in transportation fuel each year. The revised statutory requirements also include new definitions and criteria for both renewable fuels and the feedstocks used to produce them, including new greenhouse gas emission thresholds for renewable fuels.

Greenhouse Gas Findings (2009)

In the U.S. Supreme Court case Massachusetts v EPA (2007), 12 states, three cities, and 13 environmental groups filed suit that the EPA should be required to regulate carbon dioxide and other greenhouse gases as pollutants under the federal Clean Air Act. In April 2007, the U.S. Supreme Court found that the EPA has a statutory authority to formulate standards and regulations to address greenhouse gases, which it historically has not done. On December 7, 2009, the Environmental Protection Agency Administrator finalized two findings to be effective January 14, 2010. The findings are related to greenhouse gases under section 202(a) of the Clean Air Act. These findings do not themselves impose any requirements on industry or other entities.

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.[30]

Executive Order 13154 Federal Leadership in Environmental, Energy, and Economic Performance

On October 5, 2009, President Obama issued Executive Order 13154, which instructs federal agencies to set or achieve various emissions reduction and energy and environmental benchmarks by 2015, 2020, and 2030. The order requires agencies to set GHG emissions reduction targets for 2020 within 90 days, and requires OMB to set a federal government target for 2020 within 120 days. The order also sets out required reductions in vehicle fleet petroleum use and requires increases in water and energy efficiency and in recycling and waste diversion rates. The order also mandates adoption of certain contract and procurement practices designed to promote energy and water efficiency and environmentally-preferable products.

---

[30] US EPA, 2009.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 was designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. The Act establishes several key standards:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels; and
- Reduces U.S. demand for oil by setting a National Fuel Economy Standard of 35 miles per gallon by 2020—an increase in fuel economy of 40 percent.

Energy Policy and Conservation Act, and CAFE Standards

The Energy Policy and Conservation Act (EPCA) of 1975 declared it to be U.S. policy to establish a reserve of up to 1 billion barrels of petroleum, and established nationwide fuel economy standards in order to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation, is responsible for revising existing fuel economy standards and establishing new vehicle fuel economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted harmonic average of the EPA city and highway fuel economy test results. Based on information generated under the CAFE program, the U.S. Department of Transportation is authorized to assess penalties for noncompliance.

CAFE rules require the average fuel economy of all vehicles of a given class that a manufacturer sells in each model year to be equal or greater than the standard. CAFE standards apply to passenger cars and light trucks (gross vehicle weight of 8,500 pounds or less). Heavy-duty vehicles (i.e. gross vehicle weight over 8,500 pounds) are not currently subject to fuel economy standards. The EPCA was reauthorized in 2000 (49 CFR 533). The Energy Independence and Security Act of 2007 revised CAFE standards for the first time in 30 years, followed quickly by Section 202 GHG Regulation of Cars and Light Duty Trucks, which calls for further revision of the CAFE standards. Both of those regulations are described above.

Energy Policy Acts of 1992, 2005, etc. (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. The Act also requires states to consider a variety of incentive programs to help promote AFVs. The Energy Policy Act of 2005 includes updated provisions for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides

bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Tax Credit for Wind-Generated Electricity

Beginning in the late 1990s, Congress introduced a tax subsidy on the production of renewable wind-generated electricity. The availability, expiration, and potential extension of the Production Tax Credit cause the boom and bust production of energy that typifies wind development in the United States. The Production Tax Credit's limitations have determined the role of the wind energy industry in the United States and contributed to the dominance of electric utility subsidies.

Energy Star Program

Energy Star is a joint program of the United States Environmental Protection Agency and the Department of Energy. The program establishes criteria for energy efficiency for household products and labels energy efficient products with the Energy Star seal. Homes can be qualified as "Energy Star homes" if they meet efficiency standards. In California, Energy Star homes must use at least 15 percent less energy than standards set by Title 24, pass the California Energy Star Homes Quality Insulation Installation Thermal Bypass Checklist Procedures, have Energy Star windows, and have minimal duct leakage.

Global Change Research Act (1990)

The purpose of the legislation was: "…to require the establishment of a United States Global Change Research Program aimed at understanding and responding to global change, including the cumulative effects of human activities and natural processes on the environment, to promote discussions towards international protocols in global change research, and for other purposes." To that end, the Global Change Research Information Office (GCRIO) was established in 1991 (it began formal operation in 1993) to serve as a clearinghouse of information. The Act requires a report to Congress every four years on the environmental, economic, health and safety consequences of climate change; however, the first and only one of these reports to-date, the National Assessment on Climate Change, was not published until 2000. In February 2004, operational responsibility for GCRIO shifted to the U.S. Climate Change Science Program.

State Regulations

California Attorney General Actions

The California Attorney General's office has taken several actions to ensure that California meets its greenhouse gas reduction targets.[31] Examples of the Office of Attorney General's efforts since 2006 include taking companies in the power industry and the auto industry to task for their contributions to global warming and writing letters or submitting oral testimony in over 50 CEQA environmental

[31] The Attorney General's web portal for global warming may be found at http://ag.ca.gov/globalwarming The portal contains information on global warming generally, impacts in California, and documentation of the comments, speeches, op-eds, testimony, and litigation actions he has taken to support AB 32 goals.

review processes involving city general plans, county general plans, regional transportation plans, and specific projects throughout California.

CEQA Guidelines Appendix F: Energy Conservation

Appendix F of the CEQA Guidelines describes the types of information and analyses related to energy conservation that are to be included in Environmental Impact Reports (EIRs). Energy conservation is described in terms of decreasing per capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas, and oil; and increasing reliance on renewable energy sources. To assure that energy implications are considered in project decisions, EIRs must include a discussion of the potentially significant energy impacts of proposed projects (to the extent relevant and applicable to the proposed Project), with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

Executive Order S-13-08 (Gov. Schwarzenegger, November 2008)

This Order directs state agencies to plan for sea level rise and climate change impacts. There are four key actions in the Order, including: (1) initiate California's first statewide climate change adaptation strategy that will assess the state's expected climate change impacts, identify where California is most vulnerable and recommend climate adaptation policies by early 2009; (2) request the National Academy of Science establish an expert panel to report on sea level rise impacts in California to inform state planning and development efforts; (3) issue interim guidance to state agencies for how to plan for sea level rise in designated coastal and floodplain areas for new projects; and (4) initiate a report on critical existing and planned infrastructure projects vulnerable to sea level rise.

Sustainable Communities and Climate Protection Act of 2008 (Chapter 728, Statutes of 2008)

The Sustainable Communities and Climate Protection Act of 2008, otherwise known as Senate Bill (SB) 375, establishes a process for CARB to implement the state's global warming legislation (AB 32) for the transportation sector by requiring CARB to adopt regional GHG targets for emissions associated with the automobile and light truck sector. SB 375 requires MPOs such as MTC to develop a Sustainable Communities Strategy (SCS)—a new element of the regional transportation plan (RTP)—to strive to reach these GHG reduction targets.

On June 30, 2010, CARB released proposed 2020 targets for the State's four largest MPO regions including the San Francisco Bay area. The targets propose a five to ten percent reduction in per capita GHG emissions from 2005 levels for each region. Although CARB found that there is insufficient technical information to establish firm targets for 2035, the agency has proposed placeholder targets for each of the four largest regions. Based on the work that has already been done on the Bay Area SCS by the Metropolitan Transportation Commission (MTC), the 2035 target for this region is a 3 to 12 percent reduction in GHG levels in addition to the emission reductions expected from the Greenhouse Gas Vehicle Standards and Low Carbon Fuel Standard measures the State adopts to implement AB 1493, the Pavley bill discussed above.[32]

---

[32] CARB, 2010.

On July 28, 2010, MTC approved a set of "Bay Area Principles for Establishing Regional Greenhouse Gas Reduction Targets" (Resolution 3970). The principles propose, among other things, per-capita GHG reductions of 7 percent by 2020 and 15 percent by 2035. The approved principles are intended to inform CARB in its GHG target-setting deliberations between now and September 30, 2010, when it adopts statewide GHG targets.[33]

SB 375 provides assurance that transportation projects programmed for funding prior to 2012 and contained in the 2009 federal transportation improvement program, funded by Proposition 1B, or a voter approved sales tax measure approved prior to 2009 will not be subject to new environmental scrutiny under the bill's provisions.

SB 375 ties the regional housing needs assessment (RHNA) process to the RTP process, requires local governments to rezone their general plans consistent with the updated housing element within three years of adoption, and provides that RHNA allocations must be consistent with the development pattern in the SCS. It moves the RHNA process to an eight-year cycle from the current five-year one. Also, SB 375 provides a California Environmental Quality Act (CEQA) exemption or a streamlined process for housing and mixed-use projects that meet specified criteria, such as proximity to transit.

California Building Code

Title 24, Part 6, of the California Code of Regulations is the California Building Code, governs all aspects of building construction. Included in Part 6 of the Code are standards mandating energy efficiency measures in new construction. Since its establishment in 1977, the building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas costs in California. The standards are updated every three years to allow new energy efficiency technologies to be considered. The latest update to Title 24 standards became effective in January 2007. The standards regulate energy consumed in buildings for heating, cooling, ventilation, water heating, and lighting. Title 24 is implemented through the local plan check and permit process.

CalGreen, the nation's first Green Building Standards Code, became effective in August 2009 for voluntary compliance and local adoption, and will become effective for mandatory compliance on January 1, 2011. This Code establishes minimum standards for new construction that are intended to help the State achieve the AB 32 goal of reducing GHG emissions to 1990 levels by 2020. In addition to energy efficiency standards, CalGreen includes mandatory measures for water conservation, storm water drainage and retention, material conservation, and construction waste reduction. The requirements for nonresidential construction also include parking, landscaping, and other standards. Local jurisdictions have the option of adopting procedures by ordinance to improve the level of construction beyond the CalGreen minimum standard.[34]

---

[33] MTC website: http://www.mtc.ca.gov/news/current_topics/7-10/ghg.htm

[34] California Building Standards Commission, 2010.

Executive Order S-01-07 (Gov. Schwarzenegger, January 2007)

This Order calls for a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 ("2020 Target"), and that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California. Further, it directs CARB to determine if an LCFS can be adopted as a discrete early action measure pursuant to AB 32, and if so, consider the adoption of a LCFS by June 30, 2007, pursuant to Health and Safety Code Section 38560.5. The LCFS applies to all refiners, blenders, producers or importers ("Providers") of transportation fuels in California, will be measured on a full fuels cycle basis, and may be met through market-based methods by which Providers exceeding the performance required by a LCFS shall receive credits that may be applied to future obligations or traded to Providers not meeting the LCFS.

In June 2007, CARB approved the LCFS as a Discrete Early Action item under AB 32. The LCFS rulemaking package was filed with the Office of Administrative Law (OAL) on November 25, 2009. The OAL approved the LCFS rulemaking and filed with the Secretary of State on January 12, 2010.

Senate Bill 97 (Chapter 185, Statutes of 2007)

Senate Bill (SB) 97 directs the Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Resources Agency guidelines for feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Natural Resources Agency was required to certify and adopt amendments to the Guidelines implementing the California Environmental Quality Act ("CEQA Guidelines") on or before January 1, 2010. In keeping with SB 97, OPR proposed amendments to the CEQA Guidelines for the mitigation of greenhouse gas emissions and transmitted them to the Resources Agency for rulemaking on April 13, 2009. The Resources Agency adopted the amendments on December 30, 2009. On February 16, 2010, the OAL approved the amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The amendments became effective on March 18, 2010.

Implementation of the Alternative and Renewable Fuel and Vehicle Technology Program

AB 118 (Chapter 750, Statutes of 2007) directs the California Energy Commission to develop the Alternative and Renewable Fuel and Vehicle Technology Program. Crucial to implementing the Program is the development and adoption of an Investment Plan. The Investment Plan will establish priorities and opportunities for the Program, and describe how funding will complement existing public and private investments, including existing state programs. The Investment Plan will be updated annually.

California Global Warming Solutions Act of 2006 (AB 32)

This Act (Health and Safety Code Section 38500 et. seq.) requires the reduction of statewide total GHG emissions to 1990 levels by the year 2020. This change, which is estimated to be a 25 to 35 percent reduction from current emission levels, will be accomplished through an enforceable statewide cap on GHG emissions that will be phased-in starting in 2012. The Act also directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources and address GHG emissions from vehicles. CARB has stated that the regulatory requirements for stationary sources will be first applied to electricity power generation and utilities, petrochemical refining, cement manufacturing, and industrial/commercial combustion. The second group of target

industries will include oil and gas production/distribution, transportation, landfills and other GHG-intensive industrial processes.

Executive Order S-20-06 (Gov. Schwarzenegger, October 2006)

This Order establishes the authority and roles of various departments and leadership roles in implementing AB 32.

Executive Order S-06-06 (Gov. Schwarzenegger, April 2006)

This Order was to establish biomass production and use targets for California. Biomass is a large but primarily unused resource including residues from forestry, urban, and agricultural wastes and can be used to create electricity, transportation fuels, and biogas. Use of biomass could not only increase energy production but also reduce the waste stream. The Order states that biomass should comprise 20 percent of the State's Renewables Portfolio Standard for 2010 and 2020, and California shall produce a minimum of 20 percent of its biofuels within the state by 2010, 40 percent by 2020, and 75 percent by 2050. Additional funding and research will go to further developing these technologies and integrating them into use.

Senate Bill 1368 (Chapter 598, Statutes of 2006)

Senate Bill (SB) 1368 requires the California Public Utilities Commission (PUC) to establish a GHG emissions performance standard for "baseload" generation from investor-owned utilities by February 1, 2007. The California Energy Commission (CEC) was required to establish a similar standard for local publicly-owned utilities by June 30, 2007. The legislation further required that all electricity provided to California, including imported electricity, must be generated from plants that meet or exceed the standards set by the PUC and the CEC. In January 2007, the PUC adopted an interim performance standard for new long-term commitments (1,100 pounds of CO_2 per megawatt-hour), and in May 2007, the CEC approved regulations that match the PUC standard.

State Alternative Fuels Plan (Chapter 371, Statutes of 2005)

Assembly Bill (AB) 1007, the State Alternative Fuels Plan, required the CEC to prepare a state plan to increase the use of alternative fuels in the transportation sector in California. The CEC prepared the State Alternative Fuels Plan (Plan) in partnership with the California Air Resources Board and in consultation with the other state, federal, and local agencies. The Plan was adopted in October 2007. The Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. Specific strategies include combining private capital investment, financial investment, technology advancement, investment in infrastructure, and others. The Plan also assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Executive Order S-3-05 (Gov. Schwarzenegger, June 2005)

This Order recognizes California's vulnerability to climate change, noting that increasing temperatures could potentially reduce snow pack in the Sierra Nevada, which is a primary source of

the State's water supply. Additionally, according to this Order, climate change could influence human health, coastal habitats, microclimates, and agricultural yield. The Order set the greenhouse gas reduction targets for California: By 2010, reduce GHG emissions to 2000 levels; by 2020 reduce GHG emissions to 1990 levels; by 2050 reduce GHG emissions to 80 percent below 1990 levels. This corresponds to an approximate 27 percent reduction by 2030 to 1990 levels, or 55 CO_2e in total emissions which correlates to 41 percent reduction over today's levels by 2030.

Executive Order S-20-04 (Gov. Schwarzenegger, July 2004)

This Order requires that the State commit to aggressive action to reduce state building electricity use, and more specifically, State agencies, departments, and other entities, take measures to reduce energy use by 20 percent by 2015. In addition, the Order requires that the CEC increase energy efficiency standards by 20 percent by 2015, compared to the 2003 Titles 20 and 24 standards.

State of California Energy Action Plans

The CEC is responsible for preparing the State Energy Action Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. At the beginning of 2008, the Energy Commission and CPUC determined that an Update to the 2005 California Energy Action Plan would be more appropriate than a new plan given the passage of Assembly Bill 32 and the critical role it will play in energy policy in coming years. The 2008 Update shifts focus to climate change. The nine major action areas, as described in previous Energy Action Plans include: energy efficiency; demand response; renewable energy; electricity adequacy, reliability, and infrastructure; electricity market structure; natural gas supply, demand, and infrastructure; transportation fuels supply, demand, and infrastructure; research, development, and demonstration; and climate change. The report emphasizes the importance of improving fuel standards in order to reduce energy use and greenhouse gas emissions, and notes the importance of also incorporating smart growth and land use policies.

Integrated Energy Policy Reports

Senate Bill 1389 (Chapter 568, Statutes of 2002) requires that the CEC prepare a biennial integrated energy policy report that contains an integrated assessment of major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code Section 25301[a]). The 2009 Integrated Energy Policy Report is the most current report to fulfill the requirement of SB 1389. According to the 2009 report: "as California pursues its goal to address climate change by reducing greenhouse gas emissions, the driving force for the state's energy policies continues to be maintaining a reliable, efficient, and affordable energy system that minimizes the environmental impacts of energy production and use. Although the economic downturn has reduced energy demand in the short-term, demand is expected to grow over time as the economy recovers. It is essential that the state's energy sectors be flexible enough to respond to future fluctuations in the economy and that the state continue to develop and adopt the "green" technologies that are critical for long-term reliability and economic growth."

California Renewables Portfolio Standard Program (2002)

Senate Bill (SB) 1078 (Chapter 516, Statutes of 2002) establishes a renewable portfolio standard (RPS) for electricity supply. The RPS requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. This target date was moved forward by SB 1078 to require compliance by 2010. In addition, electricity providers subject to the RPS must increase their renewable share by at least one percent each year. The outcomes of this legislation will impact regional transportation powered by electricity.

Assembly Bill 1493 (Chapter 200, Statutes of 2002)

Assembly Bill (AB) 1493 (Pavley) amends Health and Safety Code sections 42823 and 43018.5 requiring the California Air Resources Board (CARB) to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California. The regulations prescribed by AB 1493 may not take effect prior to January 1, 2006, and they apply only to 2009 and later model years.

In September 2004, pursuant to AB 1493, the CARB approved regulations to reduce greenhouse gas emissions from new motor vehicles. Under the regulation, one manufacturer fleet average emission standard is established for passenger cars and the lightest trucks, and a separate manufacturer fleet average emission standard is established for heavier trucks. The regulation took effect on January 1, 2006 and set near-term emission standards, phased in from 2009 through 2012, and mid-term emission standards, phased in from 2013 through 2016 (referred to as the Pavley Phase 1 rules). The CARB intends to extend the existing requirements to obtain further reductions in the 2017 to 2020 timeframe (referred to as Pavley Phase 2 rules). EPA at first refused to grant a waiver that would allow California to implement these standards, and California has challenged this action in federal court. On January 26, 2009, President Obama directed that EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, EPA granted the waiver request, which begins with motor vehicles in the 2009 model year. The CARB calculates that in calendar year 2016, the Pavley Phase 1 rules will reduce California's GHG emissions by 16.4 million metric tons of carbon dioxide equivalents, and by 2020, Pavley Phase 2 would reduce emissions by 31.7 million metric tons of carbon dioxide equivalents. The AB 1493 vehicle requirements would cumulatively produce 45 percent more GHG reductions by 2020 compared to the federal CAFE standard in the Energy Independence and Security Act of 2007,[35] but roughly equivalent reductions to the latest national agreement resulting in even more stringent CAFE standards (Section 202 GHG Regulation of Cars and Light Duty Trucks, described under federal regulations, above).

Senate Bill 1771 (Chapter 1018, Statutes of 2000)

Senate Bill (SB) 1771 requires the CEC to prepare an inventory of the State's greenhouse gas emissions, to study data on global climate change, and to provide government agencies and businesses with information on the costs and methods for reducing greenhouse gases. It also established the

[35] CARB, 2008.

California Climate Action Registry to serve as a certifying agency for companies and local governments to quantify and register their greenhouse gas emissions for possible future trading systems.

Reducing Dependence on Petroleum Assembly Bill 2076 (Chapter 936, Statutes of 2000)

In response to Assembly Bill (AB) 2076, the CEC and the California Air Resources Board prepared and adopted a joint agency report, Reducing California's Petroleum Dependence. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita vehicles miles traveled.[36] Further, in response to the CEC's 2003 and 2005 Integrated Energy Policy Reports, the Governor directed the CEC to take the lead in developing a long-term plan to increase alternative fuel use. A performance-based goal is to reduce petroleum demand to 15 percent below 2003 demand.

Warren-Alquist State Energy Resources Conservation and Development Act (1974)

The 1974 Warren-Alquist Act (Public Resources Code Section 25000 et seq.) establishes the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission (CEC). The Act establishes a State policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates Investor-Owned Utilities (IOUs) including those that offer electric, natural gas, steam, and petroleum service to consumers. The CPUC regulates both electric and natural gas rates and services provided by these utilities including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing. Natural gas regulations are found in General Orders 58, 94, 96, and 112, while electrical distribution regulations are found in General Orders 95, 128, 131, 165, and 166.

Regional and Local Regulations

Joint Policy Committee

In the Bay Area, the Joint Policy Committee (JPC) coordinates the regional planning efforts of the Association of Bay Area Governments (ABAG), the Bay Area Air Quality Management District (BAAQMD), the Bay Conservation and Development Commission (BCDC) and MTC. In fall 2006, the JPC commenced a six-month program to study the issue of climate change and to recommend an initial set of actions to be pursued jointly by the four regional agencies. The study recommends that the regional agencies build their Joint Climate Protection Strategy in service of this key goal: "To be a model for California, the nation and the world." It then organizes initial actions by six strategy

[36] CEC, CARB, 2003.

elements: establish priorities, increase public awareness and motivate action, provide assistance, reduce unnecessary driving, prepare to adapt, and break old habits.[37]

Contra Costa County

Contra Costa County adopted the long-term reduction target set by the U.S. Cool Counties Climate Stabilization Declaration in October 2007. This declaration calls for the County to work closely with local, state, and federal governments and other leaders to develop a regional plan to reduce county geographical GHG emissions to 80 percent below current levels by 2050.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed Project would have a potentially significant adverse impact if it would:

Criterion 1: Cause a substantial increase in per capita or per service population energy consumption.

Criterion 2: Require a substantial increase in energy supply capacity or infrastructure the construction of which could cause adverse environmental effects.

Criterion 3: Conflict with any existing local, regional, state, or federal standards for energy production or efficiency.

Criterion 4: Exceed the per service population (residents + jobs) threshold of 6.6 MT CO_2e/year.

Criterion 5: Conflict with existing local, regional, or state efforts to implement AB 32 or SB 375.

METHODOLOGY AND ASSUMPTIONS

Energy

This energy analysis focuses on the direct energy required to operate vehicles and to run residential and non-residential buildings throughout San Pablo. While there are other ways energy is used in the city—including indirect uses associated with the construction and maintenance of buildings, vehicles, and other infrastructure—these other indirect sources are considered too speculative at the General Plan level to justify program EIR analysis. For purposes of this analysis, direct sources are considered reasonably comprehensive in scope and representative of the influence of the proposed General Plan.

The energy analysis begins with existing conditions of non-transportation energy use in the city taken from the San Pablo GHG inventory, which reports energy in British Thermal Units (Btu) for residential, commercial, and industrial uses. Government buildings are included in these numbers.

[37] Joint Policy Committee, 2007.

The analysis then projects non-transportation energy use into the future using per capita (for residential development) and per job (for non-residential development) estimates from existing conditions, and creates an average per service population estimate from those results.

For transportation energy use the analysis uses Dowling Associates estimates of VMT generated for existing conditions and for 2030 General Plan buildout, applies fuel efficiency assumptions to obtain fuel consumption, and multiplies by the amount of energy (in Btu) contained within a gallon of fuel. Fuel efficiency is assumed to be higher in the future than today, as a result of implementation of existing State policy. To the extent that the analysis incorporates transportation energy, it reflects a cumulative impact analysis because the projected future VMT assumes the implementation of the proposed General Plan as well as wider regional growth and development and regulatory efforts.

Finally, the analysis looks briefly at historic data to describe the variability of per capita energy use over time, comparing national, State, and local energy use trends, and drawing conclusions based on trends and the energy use profile of San Pablo in particular.

Greenhouse Gases

As described in the setting, San Pablo has a greenhouse gas inventory in progress which estimates citywide emissions in 2005 and 2007. This inventory is a major tool for the preparation of this analysis. In harmony with the inventory, three components of the greenhouse gas inventory are treated separately in this analysis: residential development emissions, non-residential development emissions (which includes waste stream emissions), and transportation-related emissions.

For existing conditions, population and jobs estimates were compiled for the Bay Area, for Contra Costa County, and for San Pablo. Residential emissions were reported from existing inventories at the Bay Area region level, the county level, and the city level, and per capita emissions rates from residential fuel use were estimated. Non-residential emissions were also reported from existing inventories and per job emissions rates from non-residential development were estimated. Finally transportation-related emissions were reported from existing inventories at the Bay Area region level and county level, but for the city level the transportation emissions reported in the city inventory are not used. Rather, the existing conditions VMT estimate from Dowling Associates was used to generate a new emissions estimate, because the Dowling Associates VMT estimates result from the county calibrated model rather than from the regional model, and they are consistent with the projections of future VMT also prepared by Dowling. The VMT were then used as inputs in the California Climate Action Registry General Reporting Protocol version 3.1, and the fuel efficiency assumption applied in this formula (17.9 miles per gallon average of gasoline and diesel) was chosen to match the fuel efficiency applied in the city inventory when they calculated transportation emissions for that purpose.

For 2030 residential and non-residential emissions projections, the per capita and per job emissions estimates from existing conditions were multiplied by estimates of future population and jobs drawn from ABAG projections 2009 and the Project Description of the proposed General Plan. The preliminary analysis compared the results of using just San Pablo per capita and per job rates, as well

as using an average of the Bay Area, county, and City rates. The most conservative (i.e. highest estimate) was used, in this case, the average of regional, countywide, and local rates.[38] This estimate is also inherently conservative because it does not account for emissions savings that may result from better fuel technologies, cleaner electricity, energy conservation efforts, etc.

For 2030 transportation emissions projections, the analysis uses VMT modeled by Dowling Associates for General Plan buildout, applies the General Reporting Protocol, and applies a future fuel efficiency estimate (27.3 miles per gallon) drawn from the regional Transportation 2035 Plan EIR which is adjusted to reflect the savings expected from complying with Pavley rules I and II.

The total future emissions estimate was then converted to a per service population rate, and compared to the BAAQMD threshold of 6.6 $MTCO_2e$ in order to determine if the GHG emissions impact would be significant.

IMPACT SUMMARY

Direct Energy Use

Implementation of the proposed San Pablo General Plan, combined with anticipated regional growth and improvements in vehicle technology, would result in a slight increase in per service population energy use (relative to existing conditions) related to residential, commercial, and industrial development, while at the same time a substantial decrease in per service population energy use (relative to existing conditions) from transportation, largely as a result of implementation of existing state policy. The overall conclusion is that the impact of the proposed General Plan on per service population energy use is less than significant.

Greenhouse Gas Emissions

The rate of greenhouse gas emissions under proposed General Plan buildout is estimated to be approximately 5.99 $MTCO_2e$ per service population. This is higher than existing conditions (5.31 $MTCO_2e$), but less than the threshold of significance for plan level impacts established by the BAAQMD. Therefore, the impact of the proposed Project on greenhouse gas emissions is less than significant.

Energy Infrastructure Capacity

In 2007, San Pablo electricity use represented only 1 percent of countywide electricity use as reported on the CEC Energy Consumption Data Management System (http://ecdms.energy.ca.gov). Likewise, San Pablo natural gas use represented less than 1 percent of countywide natural gas use that year. While overall energy use will increase 24 percent in San Pablo between 2007 and 2030, that increase represents a very, very small fraction of the overall energy demand (and growth in demand) in the

[38] One exception is that the county-specific non-residential development emissions rate isolated from the regional inventory was omitted from the per-job emissions rate average because it is so heavily influenced by the oil refineries and other major industrial operations that are specific to Contra Costa County. These were not deemed reflective of the job-related emissions that could be expected in San Pablo. The county-only inventory per job rate was more in line with the region as a whole because the county inventory did not include these major industrial emitters.

County, a change which, as far as larger infrastructure investments are concerned, would be de minimus. This impact is thus not analyzed further in this EIR.

Policy Consistency

Furthermore, as new development must meet California's Title 24 energy efficiency requirements, development under the proposed General Plan will not result in wasteful, inefficient, or unnecessary consumption of energy.

This impact is not analyzed further in this EIR.

IMPACTS AND MITIGATION MEASURES

Impact

3.4.1 Implementation of the proposed Plan would result in a substantial increase in per service population (residents + jobs) energy consumption. (*Less than Significant*)

The projection of non-transportation energy use at General Plan buildout uses existing per capita and per job energy use rates multiplied by future population or jobs. Using this approach, the result is a potential 24 percent increase in energy consumption in San Pablo by 2030 as a direct result of population and employment growth.

While non-transportation energy use overall (**Table 3.4-7**) is expected to increase substantially, the per service population rate of energy use is expected to increase only slightly—from 22.9 to 24.2 MMBtu per service population per year. This increase is the result of there being a somewhat larger projected increase in jobs than in population, with jobs—especially commercial jobs—responsible for higher rates of energy use per person than residents or other kinds of jobs.

Table 3.4-7 Non-Transportation Energy Use in San Pablo by Type and Sector, 2007-2030 (MMBtu)

	Electricity		*Natural Gas*				
Sector	*Energy Use*	*Rate Per*	*Energy Use*	*Rate Per*	*Existing Conditions Total Energy Use*	*General Plan Buildout Total Energy Use*	*Change in Energy Use*
Residential (capita)	132,183	4.3	358,153	11.6	490,340	556,115	13%
Commercial (job)	148,168	24.2	141,673	23.1	289,865	403,372	39%
Industrial (job)	27,515	4.5	39,177	6.4	66,696	92,815	39%
Subtotal (service population)	307,866	8.3	539,003	14.6	846,902	1,052,303	24%

Source: San Pablo GHG inventory data, 2010; Dyett & Bhatia, 2010.

One can also look separately at transportation energy use (**Table 3.4-8**) and discover that it is reasonable to assume per service population energy use will actually decline over time. This is because enforcement of the Pavley fuel efficiency regulations is expected to cause greater fuel efficiency across the fleet, which means using less energy per mile traveled. The result is total direct transportation energy use is expected to decrease by about 20 percent, even though vehicle miles traveled is expected to increase.

Table 3.4-8 Transportation Energy Use in San Pablo, 2000-2030 (Btu)

	Daily VMT Generated	*Daily Gallons of Fuel Used*	*Daily Btu*	*Annual MMBtu*	*MMBtu per Service Population*
Existing Conditions	670,000	37,430	4,704,410,615	1,717,110	46.5
2030 General Plan	950,000	34,799	4,373,653,846	1,596,384	36.7

Notes: Fuel efficiency used for existing conditions is 17.9 mpg, consistent with the City GHG emissions inventory assumptions and regional estimates, while the fuel efficiency used for 2030 is 27.3, based on implementation of Pavley rules.
1gallon of gasoline = 125,000 btu, while 1 gallon of diesel = 138,700 btu

Sources: Dowling Associates, 2010; USDOE, Transportation Energy Data Book, 27th ed.; Table B.4; MTC, 2009; Dyett & Bhatia, 2010.

Taken together, the result is an anticipated decrease in per service population energy use in the future (**Table 3.4-9**).

Table 3.4-9 Total Energy Use, Existing Conditions to Proposed General Plan Buildout

	Existing Conditions		*Proposed Project*	
	MMbtu	*Per Service Population*	*MMbtu*	*Per Service Population*
Non-Transportation Subtotal	846,902	22.9	1,052,303	24.2
Transportation Subtotal	1,717,110	46.5	1,596,384	36.7
Total Energy Use	2,564,012	69.4	2,648,686	60.9

Source: Dyett & Bhatia, 2010.

Indeed, national data suggest that per person energy use has held fairly steady since about 1988.[39] Furthermore, as indicated in **Table 3.4-2**, overall San Pablo energy use was about 117 million Btus (MMBtu) per person per year in 2007, substantially less than both the national per capita rate (around 337) and the state per capita rate (233) (and California's rate is among the lowest in the nation). The San Pablo per capita consumption rate is lower still in part because there are no local large commercial users that may be present elsewhere in the county or the region. Indeed, relative to larger communities or jurisdictions, San Pablo's per person energy consumption may be assumed to stay particularly steady over time because the major contributors to energy use in the city are transportation energy and residential building energy, both of which tend to increase in line with population and job growth. The proposed General Plan does not plan for the development of any new, large-scale energy users in San Pablo, but rather for a reasonable amount of population and employment growth consistent with the character of the community and compatible with existing neighborhoods. This assessment therefore assumes that per capita and per job energy use will stay relatively constant over time absent policy changes.

Furthermore, the proposed General Plan proposes new policies that aim to reduce building and transportation energy use. This, taken in conjunction with State and national policies to increase vehicle fuel efficiency and state green building standards would most likely lead to reduced per capita and per job energy consumption over time.

[39] EIA, 2009.

Proposed General Plan Policies that Reduce the Impact

C-I-6 In consultation with PG&E, study the feasibility of a program for converting city-owned street lights to light-emitting diode (LED) technology, and take advantage of rate reductions and rebates, as applicable.

C-I-14 Expand and maintain a safe and comprehensive bicycle system that connects the City's neighborhoods to regional bicycle routes.

C-I-16 Require the provision of bicycle parking and related facilities in new employment-generating development to facilitate multi-modal commute choices.

C-I-21 Complete and enhance the pedestrian network with an interconnected system of walkways, continuous sidewalks on both sides of the street, and pedestrian crossings.

C-I-26 Continue coordination efforts with public transit providers to maintain transit service that is safe and efficient with convenient connections to high use and activity intersections in the city.

C-I-27 Work with public transit provides to advocate the expansion of transit service to underserved areas in the City.

C-I-33 Amend the Zoning Ordinance to establish "green" parking design standards that have multiple benefits, such as shared parking for mixed use projects, passive solar on parking structures to generate energy for parking lot lighting, landscaping and trees in surface parking, and pervious paving to improve groundwater recharge and promote innovative surface parking design that avoids the appearance of a "sea of asphalt" and reduces environmental impacts.

OSC-I-26 Promote energy efficiency in architectural design for new construction including building orientation to take advantage of wind and sun, and site design features (such as clustering of uses), pre-wiring for optional photovoltaic or solar heating systems, etc.

HEA-I-4 Act as a model to other large employers by selecting and implementing a suite of transportation demand management (TDM) programs designed to reduce single-occupant vehicle trips and overall vehicle emissions generated by trips that start or end in San Pablo. Programs may include, but are not limited to: Installation of showers, lockers, and secure bike parking facilities in city-owned buildings; Designation of preferred parking spaces for carpools, carshare programs, and clean fuel vehicles; and Provision of transit benefits that reduce direct employee public transportation costs.

HEA-I-11 Support the use of clean fuel, "climate friendly" vehicles in order to reduce energy use, energy costs, and greenhouse gas emissions by residents, businesses, and city government activities.

In addition, several water conservation and waste reduction policies from Chapter 6 of the proposed General Plan would also contribute to per capita and per job energy savings in San Pablo.

Mitigation Measures

None required.

Cumulative Impact

3.4-2 Implementation of the proposed Plan, combined with forecast countywide growth, would cause San Pablo to exceed the per service population (residents + jobs) GHG emissions threshold of 6.6 MT CO_2e/year established by BAAQMD. (*Less than Significant*)

The following table summarizes future GHG emissions in San Pablo and compares them to Bay Area and county estimates. Briefly, total GHG emissions in San Pablo are expected to increase from about 196,000 MTCO_2e today to 261,000 at General Plan buildout. While this represents about a third more emissions overall than existing conditions, it is only a slight increase in the per service population emissions rate, from 5.31 to 5.99 MTCO_2e per year. The change in per service population emissions rate is a result of the difference between per capita rates associated with residential emissions and per job rates associated with non-residential emissions, and the difference in growth rates of residents and jobs. Generally speaking, the per-job rates are higher than the per capita rates, and jobs are expected to grow faster in San Pablo than population. Nonetheless, this 2030 per service population rate is still below the BAAQMD threshold for a significant plan level impact (6.6 MTCO_2e per year).

Table 3.4-10 Greenhouse Gas Emissions Projection Summary

	Bay Area Regional (2007)	*Contra Costa (in Regional, 2007)*	*Contra Costa County (2005)*	*San Pablo Citywide (2007)*
Existing Conditions				
Population (from inventories' assumptions)	7,036,000	1,039,000	1,027,992	30,816
Jobs (from ABAG Projections 2009)	3,462,790	377,925	377,925	6,122
Emissions				
Residential GHGs (space-,food-, water-heating)	6,820,000	1,100,000	1,590,000	30,264
Electricity/Co-Generation GHGs	15,200,000	5,700,000	N/A	N/A
Non-Residential GHGs (includes waste)	34,860,000	19,200,000	6,210,000	45,434
Total Non-Transportation Emissions	*56,880,000*	*26,000,000*	*7,800,000*	*75,698*
Per Capita Residential Emissions	*0.97*	*1.06*	*1.55*	*0.98*
*Per Job Non-residential Emissions**	*14.46*	*65.89*	*16.43*	*7.42*
Transportation Emissions	34,870,000	5,000,000	4,542,073	120,362
Per Service Population Emissions	3.32	3.53	3.23	3.26
Other	4,030,000	N/A	N/A	N/A
Total Baseline Emissions Projection	***95,780,000***	***31,000,000***	***12,342,073***	***196,060***
Baseline Per Service Population	*9.12*	*21.88*	*8.78*	*5.31*
Projections				
2030 Population (ABAG Projections 2009 & GP)	8,719,300	1,273,700	1,273,700	34,950
2030 Jobs (ABAG Projections 2009)	4,738,730	516,910	516,910	8,520
2030 Emissions				
Residential Emissions Projection	8,000,000	1,348,479	1,970,038	39,815
Non-Residential Emissions Projection	71,200,000	34,057,178	8,493,778	108,800
Transportation Emissions Projection	46,000,000	6,318,648	5,784,894	111,900
Other	5,200,000	N/A	N/A	N/A
Total Future Emissions Projection	***130,400,000***	***41,724,305***	***16,248,710***	***260,515***
Future Per Service Population	*9.69*	*23.30*	*9.07*	*5.99*

Notes: *Per job non-residential emissions rates based on the regional inventory add Electricity/Co-Generation to the rest of non-residential, even though electricity is also used in residential development. In the county inventory it is assumed that electricity is accounted for in both residential and non-residential categories, and in the city inventory it is confirmed that electricity is covered in both areas.

Sources: 2010 Update of the Source Inventory of Bay Area Greenhouse Gas Emissions (2007 inventory); June 2008 Contra Costa County Greenhouse Gas Emissions Inventory Report (2005 inventory); ABAG Projections 2009; Dowling Associates, 2010.

Proposed General Plan Policies that Reduce the Impact

OSC-I-17 Prepare a Greenhouse Gas Emissions Reduction Plan that focuses on feasible actions the City can take to minimize the adverse impacts of growth and development on climate change and air quality. The plan would include, but not be limited to:

- A baseline inventory of all known or reasonably discoverable sources of greenhouse gases (GHGs) that currently exist in the city and sources that existed in 1990.
- A projected inventory of the GHGs that can reasonably be expected to be emitted in the city in the year 2030 in accordance with discretionary land use decisions pursuant to this General Plan update and foreseeable communitywide and municipal operations.
- A target for the reduction of emissions from those identified sources reasonably attributable to the City's discretionary land use decisions and municipal operations, in line with site goals and targets established by the Air Resources Board.
- A list of feasible GHG reduction measures whose purpose shall be to meet the established local reduction target, including energy conservation and "green building" requirements in municipal buildings and private development.

Furthermore, all policies listed above under Impact 3.4-1 would also reduce GHG emissions as they reduce energy use.

Mitigation Measures

None required.

3.5 Hydrology, Flooding, and Water Quality

This section provides a programmatic analysis of the impacts of the proposed San Pablo General Plan on surface and ground water resources in the city, as well as the potential for the proposed Project to increase area vulnerability to flooding. Issues assessed include the Project's potential to reduce water quality through sedimentation or increased pollutant loads, alter existing drainage patterns, increase stormwater runoff rates, decrease groundwater recharge rates, or contribute to flooding vulnerability. Existing water bodies, drainage patterns, groundwater basins, stormwater systems, and applicable plans, policies, and regulations are described. For information on water supply, see *Section 3.8: Public Services, Facilities, and Utilities*.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Climate

San Pablo has a moderate climate with a precipitation average of approximately 23 inches per year as recorded in nearby Richmond, the closest weather station.[1] The climate is characterized by relatively cool summers and mild winters. In summer, a steady marine wind blows through the Golden Gate and up the Carquinez Strait. This moderating influence is reflected in average July temperatures of 65 degrees Fahrenheit (°F) in Richmond.[2] Similarly, marine air results in generally warm bayside temperatures in the winter, with average January temperatures of 50°F in Richmond.

Regional Hydrology

The regional hydrology of the project area is dominated by its proximity to San Francisco Bay and the upstream Delta. San Francisco Bay receives runoff from approximately 40 percent of California, including the entirety of Contra Costa County, either directly or indirectly. Surface waters within the western, urbanized portion of the county discharge into San Pablo or San Francisco bays. The Planning Area is located within the West County Major Watershed Area. Watersheds within the region are defined by creeks, streams, and other surface water drainages that originate in the upland areas of the East Bay Hills and flow downslope towards San Francisco Bay. Three distinct watersheds (Wildcat Creek, San Pablo Creek, and Rheem Creek) are at least partially located within the City of San Pablo. Boundaries between these watersheds are created by the topographic features that shape surface water drainage patterns.

The San Pablo Creek watershed is the largest watershed of the West County Major Watershed Area covering about 44 square miles. The major water bodies in the watershed include Bear, Cascade, Castro, Lauterwasser, and Wilkie creeks as well as San Pablo and Briones reservoirs. The watershed is comprised of mostly residential and open space use. The majority of the creek

---

[1] Western Regional Climate Center (WRCC), accessed December 4, 2009.

[2] *Ibid.*

channels contain natural creek banks. The 11-square-mile Wildcat Creek watershed consists of two main sections, lower and upper, which are characteristic of both San Pablo and Pinole watersheds to the north. The lower watershed, which intersects the Planning Area, empties into Wildcat Marsh and San Francisco Bay. The Rheem Creek watershed covers nine square miles that is mostly comprised of urbanized areas within Richmond, Pinole and San Pablo. Rheem Creek only passes through San Pablo for a one mile stretch before continuing on into the City of Richmond.

Surface Water Bodies

Surface waters throughout the region include freshwater intermittent streams, drainages, canals, and estuarine waters. The region is bordered by San Pablo Bay, San Francisco Bay and the Delta. The San Francisco Bay estuary includes deepwater channels, tidelands, and marshlands that provide a unique receiving body for drainage from the surrounding landform.

The San Francisco Bay Regional Water Quality Control Board's (San Francisco Bay RWQCB) Water Quality Control Plan (Basin Plan) segments the Bay Area into seven broad watershed basins based upon topography and drainage patterns. The City of San Pablo lies within the San Pablo Basin planning region.[3] Within this planning region, the City lies primarily within the San Pablo Creek and Wildcat Creek Watersheds but also includes a small portion of the Rheem Creek watershed.[4] The San Pablo Creek watershed covers 43.5 square miles and includes San Pablo Creek, Bear Creek, Cascade Creek, Castro Creek, Lauterwasser Creek, Wilkie Creek, and the San Pablo and Briones reservoirs. The Wildcat Creek Watershed drains 11 square miles and includes Wildcat Creek, Jewel Lake, and Lake Anza.[5]

The San Francisco Bay RWQCB Basin Plan establishes beneficial uses for surface water resources (including marshes) in the region. These beneficial uses include municipal and domestic supply, agricultural supply, and industrial service and process supply; ground water recharge; navigation; recreation; sport fishing; habitat for warm and cold freshwater biota, wildlife, and rare and endangered species; fish migration, spawning, and harvesting. Water bodies in the vicinity of the Planning Area for which beneficial uses have been established include San Pablo Creek, Wildcat Creek, San Pablo Reservoir, Briones Reservoir, and San Pablo Bay.

Prior to development of the area, the region was sparsely populated with predominantly rural, creeks and streams that flowed uninterrupted from the coastal hills to the Bay and Delta. These watercourses supported a wide variety of plant, animal, and aquatic life. Urban conversion led to paving, roofs, modern roadway networks, and modern drainage systems. Permeable ground surfaces were replaced with impervious surfaces, which reduced the proportion of rainfall percolating into the ground and increased the volume and velocity of surface runoff carried in creek channels. This has resulted in increased flood frequency and severity, channel incision, loss of vegetation in upper watersheds, and sedimentation in lower channels.

---

[3] San Francisco Bay Regional Water Quality Control Board (RWQCB), 2007.

[4] Contra Costa Clean Water Program (CCCWP), 2004.

[5] *Ibid.*

With increased development, a wide variety of nutrients and toxic substances have been introduced into local waters. Pollutants contained in urban runoff include street litter, sediment, oil and grease, oxygen-demanding substances, pathogenic microorganisms, metals, and pesticides. Erosion and sedimentation often inflict heavy public costs for flood control, harbor and channel dredging, post-flood clearing and private property damage, besides damaging aquatic life and carrying toxic substances into public and private water supplies. Nutrient wastes in the form of sewage, agricultural fertilizers, and manure lead to reduced dissolved oxygen in surface waters and limit the capacity of water to support aquatic organisms. Toxic substances, such as industrial wastes, automobile fluids and metals, insecticides and herbicides, can poison wildlife and become concentrated in the food chain.

The San Francisco Bay RWQCB has included San Pablo Creek and Wildcat Creek, among others, as impaired water bodies, as discussed below in the Policy and Regulation Section. The pollutant identified as causing impairment is *diazinon,* related to urban runoff and storm sewers. San Pablo Reservoir has also been listed as an impaired water body for mercury from atmospheric deposition.[6]

Groundwater

Shallow groundwater aquifers are closely linked to the local surface waters. As surface water runoff flows from the East Bay Hills toward the Bay, it percolates through permeable alluvial soils into underlying shallow groundwater systems. Deeper groundwater aquifers are also present, separated in areas from shallow groundwater by low permeability soil layers. San Pablo is part of the East Bay Plain groundwater basin.[7] The East Bay Plain basin is part of the Santa Clara Valley Groundwater Basins, as defined by the Department of Water Resources (DWR). The East Bay Plain Subbasin is bounded by San Pablo Bay to the north, sedimentary basement rocks to the east, the Niles Cone Groundwater Basin to the south, and extends under San Francisco Bay to the west. The subbasin is underlain by Quaternary-age unconsolidated alluvial deposits which are approximately 1,000 feet thick. This subbasin has been identified as having a potential use as municipal, industrial, or agricultural water sources.[8] In general, shallow groundwater for most of the county is typically saline due to proximity to the Bay. This water is not used for domestic purposes, but serves as a wetland resource in the area.

Groundwater levels in the deep (more than 500 feet) aquifer of the subbasin since the 1950s have been between 10 and 140 feet below mean sea level with historic lows around 1962.[9] Groundwater levels are generally lowest during the summer months and highest during the winter months. Water quality testing conducted on samples collected from water supply wells in the subbasin indicate groundwater generally does not exceed maximum contaminant levels (MCL) although 15 of 29 wells had Total Dissolved Solid levels above the 500 milligrams per liter recommended

---

[6] RWQCB, 2007.

[7] Department of Water Resources (DWR), 2004.

[8] RWQCB, 2007

[9] DWR, 2004.

MCL.[10] Groundwater use is limited within the East Bay Plain by several factors, including existing high salts in shallow San Francisco Bay margin groundwater, the potential for saltwater intrusion, and the availability of high-quality imported surface water. Shallow groundwater use is limited in the artificial fill and shallow bay-margin deposits in the area because these units are largely saturated by brackish Bay water.

Flooding

Flood-prone areas in San Pablo are generally located in topographically low areas and in areas close to shorelines and creeks. Flood zone mapping done by the Federal Emergency Management Authority (FEMA) indicates that the area is most prone to flooding where San Pablo and Wildcat Creeks leave the City boundary on the west, as shown on **Figure 3.5-1**. In addition, there are flooding areas associated with Rheem Creek on the west side of the City. According to FEMA maps, a total of 9 percent of the Planning Area (160 acres) is located within the 100-year floodplain and 8 percent (136 acres) is located within the 500-year floodplain. A further 83 percent (1,478 acres) lies outside the 500-year floodplain.

San Pablo Creek is a year-round watercourse and is regulated in its upper reaches by two dams – Briones Dam and Reservoir and San Pablo Dam and Reservoir. A flood study compiled by ABAG (2009), shows that 1,383 acres of land in the City of San Pablo are subject to flooding should both dams experience a catastrophic failure. The scenario may be triggered by a rupture of the Hayward fault, which lies partially under the city. If a 7.5 earthquake occurred on this fault, the study predicts that the San Pablo Dam would slump and decrease in height, allowing water to flow over the top, resulting in flooding downstream. If such a disaster occurs, 51 miles of roadway and almost all schools and government buildings in the city would be inundated.

The State of California Division of Safety of Dams (DSOD) oversees flood and earthquake safety for the East Bay dams. To ensure dam safety, DSOD has asked EBMUD to lower the water level behind the San Pablo Dam by 20 feet to protect downstream communities from flooding. Recently, EBMUD began a retrofit of the earthen dam to strengthen its superstructure and embankment. Construction started in July of 2008 and is expected to continue for approximately two years. Similar to San Pablo Dam, Briones Dam also poses a flood risk to the Planning Area. However, the risk from this dam is comparatively less significant due to its greater distance from the city. Additionally, Briones Dam is a newer dam(constructed in 1964) compared to the San Pablo Dam (constructed in 1920), and its flood waters are expected to drain southwards of its location as well as into San Pablo Dam and Reservoir in the case of dam failure. Also, the San Pablo Dam has recently received seismic upgrades in accordance with DSOD requirements. **Figure 3.5-1** depicts generalized areas within the Planning Area located within FEMA-designated 100-year storm flood hazard zones.[11]

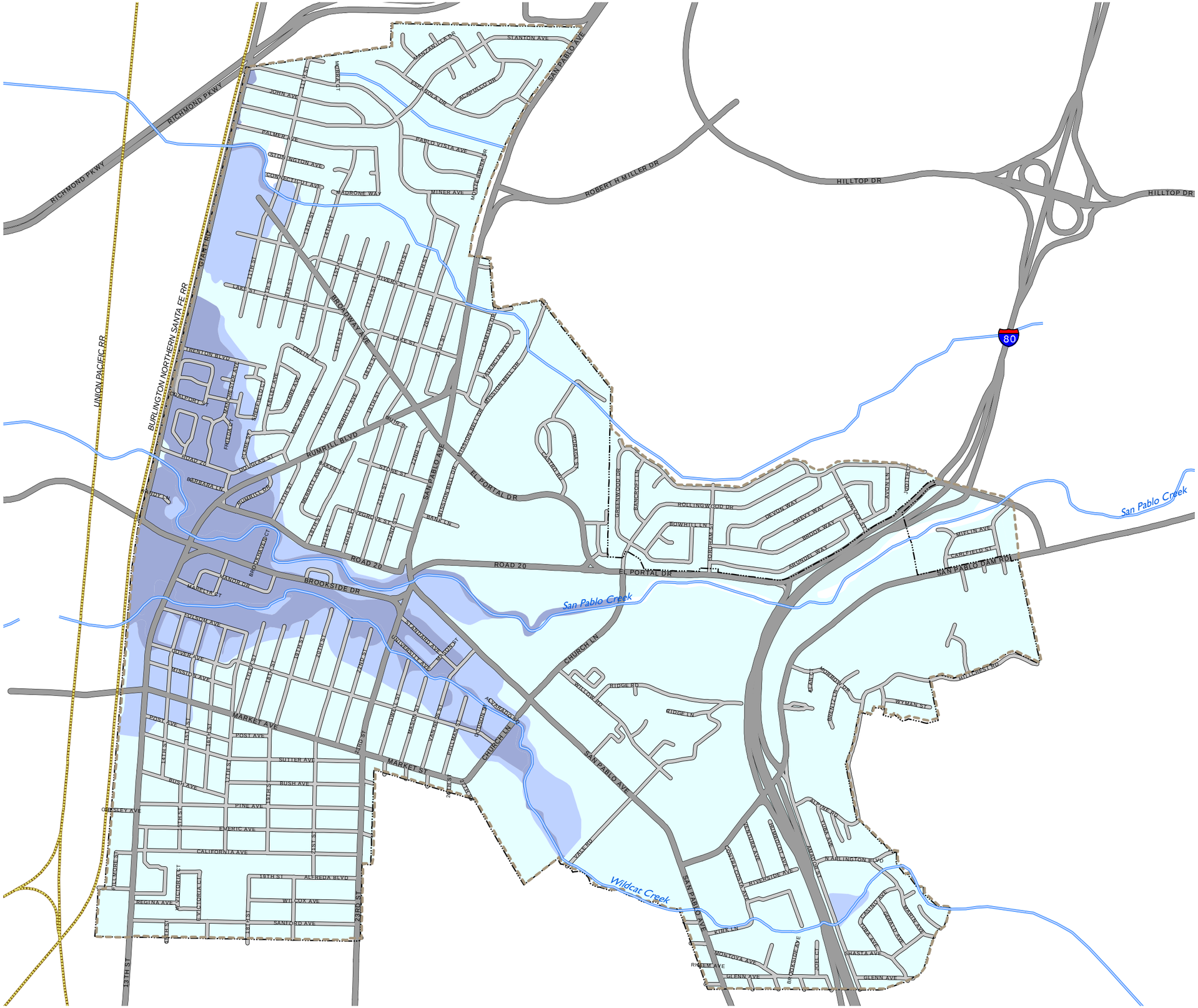
---

[10] DWR, 2004.

[11] Federal Emergency Management Agency (FEMA) Map Service, data based on Flood Insurance Rate Map, effective date 6/16/2009.

Figure 3.5-1

Flood Zones



Flood Zones

- Zone AE: Special flood hazard area subject to inundation by the 100 year flood. No base flood elevations determined.
- Zone X(500): Areas subject to inundation by the 500 year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile.
- Zone X: Areas determined to be outside 500 year flood plain.
- Creeks
- Planning Area
- City Limits
- Major Roads
- Minor Roads
- Railroads

0 0.25 0.5
Miles

SOURCE: FEMA, 2009; EPA, 2010; Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.5-1

Sea Level Rise

Sea level rise is another kind of flooding, primarily a result of two processes: the thermal expansion of ocean water as temperature increases, and the melting of land ice into the oceans. The IPCC Fourth Assessment Report published in 2007 projected an average sea level rise of anywhere from seven to 23 inches by the end of the century.[12] Some more recent studies suggest that this assessment may be conservative for a variety of reasons, including the observation of an accelerated land ice melt.

Sea level rise is also a local phenomenon. Some regions show a sea level rise substantially more than the global average, and others a sea level fall.[13] Historical records show that sea level in San Francisco Bay has risen 7 inches over the past 150 years. The San Francisco Bay Conservation and Development Commission (BCDC) has conducted an analysis to identify those areas vulnerable to projected sea level rise. The analysis projects a sea level rise of approximately 55 inches by the end of the century period of 2080 to 2100 from global warming.[14] BCDC also identified a projected sea level rise for the mid-century period of 2040 to 2060 of 16-inches. For its analysis, BCDC used data developed by USGS to identify areas vulnerable to climate change and inundation by sea level rise. USGS developed a hydrodynamic model integrating elevation data, historic (1996-2007) tidal data, and estimated increases in sea level based on the relationship between sea level rise and global mean surface temperature. While this model shows some areas of coastal Contra Costa County inundated, no part of San Pablo is directly affected by sea level rise.

REGULATORY SETTING

There is a well established regulatory framework of state and federal laws for the protection of water resources. These regulations establish criteria for the protection of human health and the environment, including stormwater discharges to surface water. These regulations are discussed below.

Federal Regulations

Clean Water Act

The federal Clean Water Act (CWA) of 1972 requires the U.S. Environmental Protection Agency (EPA) to develop, publish, and periodically update ambient water quality criteria for the protection of human health. In 1980, the EPA published water quality criteria for 64 pollutants and pollutant classes and considered non-cancer, cancer, and taste and odor effects. Over the years, these criteria have evolved and have included additional pollutants and pollutant classes. During the last decade, policy has shifted from a program-by-program, source-by-source, pollutant-by-pollutant approach to more watershed-based strategies. Ultimately, these criteria are

---

[12] Intergovernmental Panel on Climate Change, 2007.

[13] *Ibid.*

[14] San Francisco Bay Conservation and Development Commission, 2008.

used by states for establishing water quality standards under Section 303 (c) of the CWA and provide a basis for controlling discharges or releases of pollutants.

National Pollutant Discharge Elimination System Waste Discharge Regulations

The federal CWA and subsequent amendments, under the enforcement authority of the EPA, also established the National Pollutant Discharge Elimination System (NPDES) program to protect water quality of receiving waters. Under the Clean Water Act, discharge of pollutants to receiving waters is prohibited unless the discharge is in compliance with an NPDES permit. Discharge of municipal and industrial wastewater, as well as stormwater runoff, are regulated under NPDES permit requirements. The NPDES permit specifies discharge prohibitions, effluent limitations and other provisions (such as monitoring programs) deemed necessary to protect water quality. In California, the EPA has delegated the implementation and enforcement of the NPDES program to the State Water Resources Control Board and the California Regional Water Quality Control Boards. Both the San Francisco Bay and Central Valley RWQCBs consider the beneficial uses of receiving water in establishing NPDES permit requirements in Contra Costa County.

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972, as amended, sets forth the national policy that State coastal management programs should provide for public access to the coasts for recreational purposes. While boating and associated activities, such as marinas, are an important means of public access, they may also pose a threat to the health of aquatic systems if poorly planned or managed. In 1990, Congress passed the Coastal Zone Act Reauthorization Amendments (CZARA) to address non-point source pollution problems in coastal waters. Section 6217 of CZARA and Section 319 of the Clean Water Act require California and 28 other states to develop Coastal Nonpoint Source Pollution Control programs, incorporating required management measures to reduce or prevent polluted runoff to coastal waters from specific sources.

Federal Emergency Management Agency

FEMA administers the National Flood Insurance Program. The program provides subsidized flood insurance to communities that comply with FEMA regulations to limit development in floodplains. FEMA issues Flood Insurance Rate Maps, which classify flood zones, for communities participating in the National Flood Insurance Program.

Many local jurisdictions regulate development within floodplains. Construction standards are established within local ordinances and planning elements to reduce flood impedance, safety risks and property damage. Historic flooding in the San Francisco Bay region has also led local flood control agencies and the U. S. Army Corps of Engineers to establish extensive flood control projects including dams and improved channels.

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) regulates water quality within California and establishes the authority of the State Water Resources Control Board (SWRCB) and the nine San Francisco Bay Regional Water Quality Control Boards (RWQCBs). Water resources of Contra Costa fall under the jurisdiction of two RWQCBs; the San Francisco Bay RWQCB covers most of Contra Costa County, while water resources in the eastern part of the County fall under the jurisdiction of the Central Valley RWQCB.

Construction Stormwater NPDES Permit

Stormwater discharges from construction activities on one acre or more are regulated by the RWQCB and are subject to the permitting requirements of the NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit, 99-08-DWQ). Effective July 1, 2010 all dischargers were required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. The RWQCB established the General Construction Permit program to reduce surface water impacts from construction activities. How development associated with the General Plan would be required to comply with the current NPDES permit requirements to control stormwater discharges from construction sites. The General Construction Permit requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP must be prepared before the construction begins, and in certain cases, before demolition begins. The SWPPP must include specifications for Best Management Practices (BMPs) that would be required during project construction. BMPs are measures that are undertaken to control degradation of surface water by preventing soil erosion or the discharge of pollutants from construction areas. The SWPPP must describe measures to prevent or control runoff after construction is complete and identify procedures for inspecting and maintaining facilities or other project elements. Required elements of a SWPPP include:

1. Site description addressing the elements and characteristics specific to the site;

2. Descriptions of BMPs for erosion and sediment controls;

3. BMPs for construction waste handling and disposal;

4. Implementation of approved local plans;

5. Proposed post-construction controls; and

6. Non-stormwater management.

Examples of typical construction BMPs include: scheduling or limiting activities to certain times of year; installing sediment barriers such as silt fence and fiber rolls; maintaining equipment and vehicles used for construction; tracking controls such as stabilizing entrances to the construction site; and developing and implementing a spill prevention and cleanup plan. Non-stormwater management measures include installing specific discharge controls during certain activities,

such as paving operations, and vehicle and equipment washing and fueling. The California Stormwater Quality Association established BMPs for the State of California in the *California Stormwater Best Management Practice Handbook* (2003).

Nonpoint Source Pollution Control Program Plan

California's Nonpoint Source Pollution Control Program Plan 1998 – 2013 was developed by the SWRCB and California Coastal Commission, in cooperation with the nine Regional Water Quality Control Boards, to conform to the requirements of CZARA and the Clean Water Act.[15] The plan is intended to protect the State's water quality by expanding its polluted runoff control efforts. It specifies 60 management measures to prevent or reduce water quality degradation from agriculture, forestry, urban areas, marinas and boating, hydromodification, and wetlands. The Plan provides a single unified, coordinated statewide approach to dealing with Nonpoint Source (NPS) pollution. A total of 28 state agencies are working collaboratively through the Interagency Coordinating Committee to implement the NPS Pollution Control Program Plan.

State Water Quality Certification Program

The RWQCBs also coordinate the State Water Quality Certification Program, or Section 401 of the CWA. Under Section 401, states have the authority to review any permit or license that will result in a discharge or disruption to wetlands and other waters under state jurisdiction, to ensure that the actions will be consistent with the state's water quality requirements. This program is most often associated with Section 404 of the CWA, which obligates the U. S. Army Corps of Engineers to issue permits for the movement of dredge and fill material into and from the "waters of the United States." Additionally, Section 404 requires permits for activities affecting wetlands. Prospective alterations of hydrologic features such as wetlands, rivers, and ephemeral creek beds resulting from construction require Section 404 permits.

Regional Regulations

San Francisco Bay Regional Water Quality Control Board

San Francisco Bay waters are under the jurisdiction of the San Francisco Bay RWQCB. The San Francisco RWQCB established regulatory standards and objectives for water quality in the Bay in the Basin Plan for the San Francisco Bay Basin, as previously discussed (San Francisco Bay RWQCB, 2007). The Basin Plan identifies existing and potential beneficial uses and provides numerical and narrative water quality objectives designed to protect those uses.

The San Francisco Bay RWQCB has listed all segments of San Francisco Bay and many freshwater creeks and streams as impaired water bodies, as required under Section 303 (d) of the CWA. The Central Valley RWQCB has similarly listed many water bodies as impaired. Impaired waters are defined as those that do not meet water quality standards, even after point sources of pollution have implemented pollution control technology. The CWA requires the development of action plans, known as Total Maximum Daily Loads (TMDL), to improve water quality in water bodies designated as impaired. The TMDL is a calculation of the total amount of a

[15] State Water Resources Control Board (SWRCB) and California Coastal Commission (CCC), 2000.

pollutant that a water body can receive and still meet water quality objectives for a pollutant identified as causing impairment. The TMDL report allocates permissible quantities for discharge from specific sources. Within the San Francisco RWQCB region, the 2006 303(d) list includes more than 270 listings in 88 water bodies. RWQCB staff is currently developing TMDL projects to address more than 160 of the 270 listings within the 88 impaired water bodies.[16] One TMDL may address multiple listings such as Diazinon/Pesticide Toxicity which for urban creeks addresses more than 30 impaired creeks or creek segments. The TMDL reports and associated implementation plans include considerations for future amendments to the Basin Plan to adopt the TMDL and all its related parts.

Contra Costa County Clean Water Program and Municipal Stormwater NPDES Permit

To comply with the regulations outlined above, Contra Costa County, all 19 of its incorporated cities and the Contra Costa County Flood Control & Water Conservation District joined together to form the Contra Costa Clean Water Program. The Contra Costa Clean Water Program initially obtained a Joint Municipal NPDES Permit from the San Francisco Bay and Central Valley Regional Water Quality Control Boards in September 1993 and January 1994, respectively. The permits, issued for a five-year period, contain a comprehensive plan to reduce the discharge of pollutants to the "maximum extent practicable" (MEP).

The current Municipal Regional Stormwater (MRP) National Pollutant Discharge Elimination System (NPDES) Permit was adopted by the RWQCB on October 14, 2009. The new NPDES permit (Order R2-2009-0074 Permit No. CAS612008) issued by the RWQCB is designed to enable the Contra Costa Clean Water Program (CCCWP) agencies to meet CWA requirements. The permit addresses the following major program areas: regulatory compliance; focused watershed management; public information/participation; municipal maintenance activities; new development and construction controls; illicit discharge controls, industrial and commercial discharge controls; monitoring and special studies, control of specific pollutants of concern, and performance standards. The permit also includes performance standards for new development and construction activities also referred to as Provision C.3 requirements. The C.3 requirements include measures for Permittees to use in planning appropriate source controls in site designs. Such measures include stormwater treatment in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges. An additional goal is to prevent increases in runoff flows primarily accomplished through implementation of low impact development (LID) techniques.

"Redevelopment" is defined as a project on a previously developed site that results in the addition or replacement of impervious surface. According to the C.3 provision in the CCCWP NPDES permit, the proposed project falls in the "significant redevelopment projects" category under Group 1 Projects. A significant redevelopment project is defined as a project on a previously developed site that results in addition or replacement of a total of 43,560 square feet (one acre) or more of impervious surface. The permit requires that in the case of a significant redevelopment project that would result in an increase of, or replacement of, more than 50 percent of the

[16] San Francisco Bay Regional Water Quality Control Board (RWQCB), 2007.

impervious surface of a previously existing development, and the existing development was not subject to stormwater treatment measures, the entire project be included in the treatment measure design.

The C.3 provision also requires preparation of a hydrograph modification management plan (HMP) in cases where the changes in the amount and timing of runoff would increase stormwater discharge rates and/or duration and increase the potential for erosion or other significant adverse impacts to beneficial uses. The applicant is required to comply with the provisions of the CCCWP NPDES Permit.

Contra Costa County Stormwater Management and Discharge Control Ordinance

Contra Costa County Stormwater Management and Discharge Control Ordinance No. 2005-01 was adopted to comply with the requirements of Provision C.3 of the County's NPDES Stormwater Permit.

The County permit requires the implementation of source control and site design measures for all new construction projects that create more than an acre of impervious surface. In August 2006, this surface coverage threshold was reduced to 10,000 square feet. The fundamental goals of the County ordinance are:

- Eliminating, to the maximum extent practical, illicit discharges to the stormwater system that could degrade the water quality of local streams;
- Minimizing increases in nonpoint-source pollution caused by stormwater runoff from development that could degrade local water quality;
- Controlling discharges to the County's stormwater system resulting from spills, dumping, or the disposal of materials other than stormwater;
- Reducing stormwater runoff rates and volumes and nonpoint-source pollution whenever possible through stormwater management controls and ensuring that the management controls are properly maintained and pose no threat to public safety; and
- Promoting the "no adverse impact" policies developed by FEMA and the Association of State Floodplain Managers, to the maximum extent practical, in an effort to minimize the adverse impacts of new development on stormwater quality and quantity;

Applications for rezoning, conditional use permits, variances, and design review that meet the impervious surface requirements are also subject to the runoff requirements in the County's NPDES permit. Applications are not deemed complete until a stormwater control plan meeting all the County requirements has been reviewed and approved.

Contra Costa County General Plan Policies

The Contra Costa County General Plan also contains various policies for guidance regarding degradation of water quality. The County's water resources are to be protected from degradation by avoiding the placement and generation of potential pollutant sources in areas near the resources or in areas where conveyance of the pollutants to the resources is possible.

The Contra Costa County General Plan (2005) contains various policies for guidance regarding potential flooding. Development within flood hazard areas is considered inappropriate unless a flood management plan has been adopted and flood-proofing of structures is feasible. Riparian habitat is also to be protected by providing sufficient channel and floodplain areas to allow the free passage of 100-year flow events. Waterways are to be protected and preserved in their natural state where feasible.

Contra Costa County Public Works Flood Control

Flood control within Contra Costa County is the responsibility of the County Flood Control Engineering Division, which provides technical support for the Contra Costa Flood Control and Water Conservation District (District) through various division sections. District staff coordinates and assists in the development and implementation of drainage systems within Contra Costa County, including preparing conceptual plans for drainage systems, preparing ordinances for drainage fee areas, collecting and analyzing precipitation and runoff data, and preparing hydrological analysis of watershed data and engineering charts for use in project development. District staff reviews the drainage aspects of land development applications, flood control and drainage permit applications, and environmental impact documents, and coordinates with the U.S. Army Corps of Engineers for construction of large flood control improvement projects. They also make recommendations for drainage improvements and review plans for land development projects that have a regional drainage impact. Federal Flood Control Project Section staff is responsible for coordinating large federal flood control projects including utility identification and acquisition of required right-of-way.

Contra Costa County Water Agency

The County Water Agency develops water policy and oversees ship channel navigation projects. This agency is responsible for the protection of water rights, water supply and water quality for County residents.

City of San Pablo Ordinances

The following two ordinances of the City of San Pablo address well abandonment and stormwater management.

8.34–Well Abandonment Ordinance

To prevent contamination of groundwater and other dangers, every person wholly or partially responsible for abandoning a well or having entire or partial right of ownership or possession of the land or premises on which an abandoned well is situated shall destroy the well as specified in Part III, Section 23 of the State of California, Department of Water Resources, Bulletin Number 74, a copy of which is on file in the city of San Pablo.

8.40–Stormwater Management and Discharge Control

A. The intent of this chapter is to protect and enhance the water quality in the city of San Pablo's watercourses pursuant to, and consistent with the Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) and the Federal Clean Water Act (33 U.S.C. Section 1251 et seq.).

B. This chapter also carries out the conditions in the city's National Pollutant Discharge Elimination System (NPDES) permit that require effective February 15, 2005 implementation of appropriate source control and site design measures and stormwater treatment measures for projects that create or replace one acre or more of impervious surface, and that effective August 15, 2006 reduce the threshold to projects that create or replace ten thousand square feet or more of impervious surface.

C. It is the purpose of the city council in enacting this chapter to protect the health, safety and general welfare of San Pablo's citizens by:

1. Minimizing non-stormwater discharges, whose pollutants would otherwise degrade the water quality of local streams, to the stormwater system;

2. Minimizing increases in nonpoint source pollution caused by stormwater runoff from development that would otherwise degrade local water quality;

3. Controlling the discharge to the city's stormwater system from spills, dumping or disposal of materials other than stormwater;

4. Reducing stormwater run-off rates and volumes and nonpoint source pollution whenever possible, through stormwater management controls and ensuring that these management controls are properly maintained and pose no threat to public safety.

Flood Damage Prevention Ordinance

The City adopted a Flood Damage Prevention Ordinance in 1987 in compliance with requirements of the National Flood Insurance Program (NFIP) and FEMA for development in flood-plain areas. The stated purpose of the Ordinance is to promote public health, safety, and general welfare, and to minimize and to minimize public and private losses due to flood conditions in specific areas.

The Municipal Code establishes controls on development in flood hazard areas, such as creek setback requirements and minimum floor elevations above the base flood elevation. The intent of the regulations is to avoid exposing new development to flood hazards and reduce the need for future flood control protective work. The Code is amended as needed to maintain compliance with state and federal regulations.

Floodplain Management and the Local Hazards Mitigation Plan

The City's Building Inspection Division is responsible for providing floodplain management for the Planning Area. Its responsibilities include ensuring compliance with the NFIP and maintenance and enforcement of the Flood Damage Prevention Ordinance. The City's Public Works Division is responsible for planning and construction of flood control projects. Additionally, the department helps prepare and carry out policies in the Multi Jurisdictional Local Hazards Mitigation Plan (MJ-LHMP), which provides additional planning and direction for flood hazards in the city. The MJ-LHMP focuses on the assessment of identified risks and implementation of loss reduction measures to ensure critical City services and facilities survive a disaster.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed San Pablo General Plan would have a potentially significant adverse impact if it would:

Criterion 1: Violate any water quality standard or waste discharge requirement.

Criterion 2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Criterion 3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

Criterion 4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

Criterion 5: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Criterion 6: Otherwise substantially degrade water quality.

Criterion 7: Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

Criterion 8: Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

Criterion 9: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, sea level rise, or inundation by seiche, tsunami, or mudflow.

METHODOLOGY AND ASSUMPTIONS

This analysis of hydrologic and water quality impacts is based on a determination of the potential for water quality degradation and increased erosion, sedimentation, and adverse conditions associated with changes to stormwater runoff attributable to implementation of the proposed General Plan, with consideration of legally-mandated requirements for protecting water quality. The nature, magnitude, duration/frequency, and overall severity of the resultant effects can only

be generalized relative to the significance criteria to determine if the project would result in significant impacts and if mitigation measures would be warranted. The Planning Area is located sufficiently inland to be out of what would be considered a potential hazard area for seiches, tsunamis, and sea level rise, and therefore no impact discussion for these hazards is included below. In addition, the relatively gentle topography and location of the Planning Area make the potential for mudflows also remote. Therefore, this hazard is also not discussed.

IMPACT SUMMARY

Proposed Project Impact	*Mitigation Measure*	*Significance after Mitigation*
Implementation of the proposed San Pablo General Plan could adversely affect water quality and drainage patterns in the short term due to erosion and sedimentation during construction activities.	None required	Less than significant
Implementation of the proposed San Pablo General Plan could result in degradation of water quality and depletion of groundwater supplies by increasing nonpoint source pollutants including sedimentation in stormwater runoff through creation of new impervious surfaces in new development.	None required	Less than significant
Implementation of the proposed San Pablo General Plan could result in additional runoff exceeding the capacity of existing stormwater facilities and increasing potential flooding of receiving waters and areas in downstream.	None required	Less than significant
Implementation of the proposed San Pablo General Plan could result in the placement of housing in the 100 year floodplain or structures that would impede flood flows exposing people to injury or death.	None required	Less than significant
Implementation of the proposed San Pablo General Plan would expose people or structures to risk of flooding due to the failure of a dam.	None required	Less than significant
Implementation of the proposed San Pablo General Plan in combination with past, present, and foreseeable future development in the surrounding communities and with other agencies in the County, could adversely affect water quality of regional water bodies.	None required	Less than significant

IMPACTS AND MITIGATION MEASURES

Impact

3.5-1 Implementation of the proposed San Pablo General Plan could adversely affect water quality and drainage patterns in the short term due to erosion and sedimentation during construction activities. (*Less than Significant*)

Construction activities undertaken to implement subsequent development projects in the General Plan could include excavation, soil stockpiling, boring, and/or grading activities that strip existing vegetation prior to the installation of impervious surfaces. Soil erosion is probable during construction and resulting water quality problems in receiving waters could include turbidity, increased algal growth, oxygen depletion, or sediment buildup, thereby degrading aquatic habitats. Sediment from project-induced erosion could also ultimately accumulate in

downstream drainage facilities and interfere with stream flow, thereby aggravating downstream flooding conditions.

Depending on the project location, impaired stormwater runoff could be intercepted by local storm drain catch basins, culverts, flood control channels, and ultimately discharged into receiving waters. Most runoff in urban areas is eventually directed to either a storm drain or water body, unless allowed to stand in a detention area and filter into the ground. For this reason, even projects not directly adjacent to or crossing a sensitive area could have an impact. However, all projects that would disturb one acre or more are required to prepare and implement a SWPPP, in accordance with the SWRCB's General Construction Permit. The SWPPP would include erosion control measures such as those listed below:

- Limiting excavation and grading activities during the dry season only (April 15 to October 15), to the extent possible. This would reduce the chance of severe erosion from intense rainfall and surface runoff, as well as the potential for soil saturation in swale areas.
- If excavation does occur during the rainy season, stormwater runoff from the construction area can be regulated through a stormwater management/erosion control plan that may include temporary on-site silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material are generally covered and runoff diverted away from exposed soil material. Sediment basin/traps would be located and operated to minimize the amount of offsite sediment transport. Any trapped sediment would be removed from the basin or trap and placed at a suitable location on-site, away from concentrated flows, or removed to an approved disposal site.
- Temporary erosion control measures would be provided until perennial revegetation or landscaping is established that can minimize discharge of sediment into receiving waterways.
- After completion of grading, erosion protection would be provided on all exposed soils either by revegetation or placement of impervious surfaces. Revegetation would be facilitated by mulching, hydroseeding, or other methods and initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by October 15).
- Permanent revegetation/landscaping shall emphasize drought-tolerant perennial ground coverings, shrubs, and trees.
- BMPs selected and implemented for the project shall be in place and operational prior to the onset of major earthwork on the site. The construction phase facilities shall be maintained regularly and cleared of accumulated sediment as necessary.
- Hazardous materials such as fuels and solvents used on the construction sites shall be stored in covered containers and protected from rainfall, runoff, and vandalism. A stockpile of spill cleanup materials shall be readily available at all construction sites. Employees shall be trained in spill prevention and cleanup, and individuals should be designated as responsible for prevention and cleanup activities.

Incorporation of these or equivalent practices in accordance with the requirements of the SWRCB's General Construction Permit process would reduce this potentially significant impact on water resources during construction to a less-than-significant level.

Proposed General Plan Policies that Reduce the Impact

None necessary.

Mitigation Measures

None required.

Impact

3.5-2 Implementation of the proposed San Pablo General Plan could result in degradation of water quality and depletion of groundwater supplies by increasing nonpoint source pollutants including sedimentation in stormwater runoff through creation of new impervious surfaces in new development. (*Less than Significant*)

New development or redevelopment projects in the General Plan area could result in the expansion or reconfiguration of existing development that might increase the overall amount of impervious surface areas. Increasing the total area of impervious surfaces could result in a number of potential impacts associated with a greater potential to introduce pollutants to receiving waters and reduced groundwater recharge. Urban runoff can carry a variety of pollutants, such as oil and grease, metals, sediment, and pesticide residues from roadways, parking lots, rooftops, landscaped areas, and other surfaces, and deposit them in adjacent waterways. Pollutant concentrations in urban runoff are extremely variable and are dependent on storm intensity, land use, elapsed time between storms, and the volume of runoff generated in a given area that reaches receiving waters. The most critical time for urban runoff effects is in autumn under low flow conditions. Pollutant concentrations are typically highest during the first major rainfall event after the dry season, known as the "first flush."

Water quality in stormwater runoff is regulated locally by the Contra Costa County Clean Water Program and the municipal stormwater requirements set by the RWQCB. Adherence to these requirements results in new development and redevelopment projects incorporating treatment measures and other appropriate source control and site design features that reduce pollutants in runoff to the maximum extent practical. Many of these requirements result in the construction of Low Impact Development (LID) techniques such as use of on-site infiltration through landscaping or vegetated swales that reduce pollutant loading in off-site discharges. Incorporation of these types of source control design measures can even potentially improve upon existing conditions.

The General Plan area is already largely developed and widely covered by impervious surfaces, and therefore any increase in impervious surfaces due to redevelopment is anticipated to be small. A net increase in impervious surfaces might affect the amount of precipitation that is recharged to the shallow aquifer. Groundwater within the General Plan area is not used for water supply use but is considered by the RWQCB as a potential resource. However, as new development and redevelopment occurs, on-site drainage plans would be designed to retain, capture and convey increased runoff in accordance with the local county design standards that include C.3 site control features. As a result, stormwater flows generated from the General Plan

area would generally remain unchanged, or potentially decrease, following implementation of required source control measures, which would therefore not affect the drainage system in the General Plan area. Groundwater recharge would not be expected to be significantly affected due to the built-out nature of the city and the current amount of impervious surface area. Adherence to these stringent requirements that are also reinforced by the proposed policies below would result in a less than significant impact related to water quality in stormwater runoff, groundwater recharge, and generally altering drainage patterns.

Proposed General Plan Policies that Reduce the Impact

PSCU-G-5 *Continue to ensure the successful provision, maintenance, and operation of City-owned public infrastructure and utilities.*

PSCU-G-6 *Support the efficient use and conservation of water.*

PSCU-G-7 *Maintain a comprehensive storm drainage system to protect life and property.*

OSC-G-3 *Protect and enhance wetlands, creek systems, and rare and endangered species and their habitats.*

OSC-G-4 *Ensure both access and ecological functionality of the creek system in San Pablo.*

OSC-G-5 *Protect water supply and quality through conservation and good stormwater management practices.*

PSCU-I-34 Update zoning standards to minimize storm water runoff rates and volumes, control water pollution, and maximize recharge of local groundwater aquifers. New development will be required to include features that reduce impermeable surface area and increase infiltration. Such features may include, but are not limited to:

- Canopy trees or shrubs to absorb rainwater;
- Grading that lengthens flow paths and increases runoff travel time to reduce the peak hour flow rate;
- Removing curbs and gutters from parking areas where appropriate to allow stormwater sheet flow into vegetated areas;
- Permeable paving and parking area design;
- Stormwater detention and retention basins to facilitate infiltration; and
- Integrated or subsurface water retention facilities to capture rainwater for use in landscape irrigation and other non-potable uses.

Detailed recommendations are provided in the Bay Area Stormwater Management Agency's "Start at the Source Design Guidance Manual for Stormwater Quality Protection."

OSC-I-10 Maintain, protect, and enhance San Pablo's creeks, including Rheem, San Pablo, and Wildcat creeks, as local environmental and aesthetic resources, with approaches including, but not limited to:

- Establishing a Creek Improvement Program to widen, day-light, and improve San Pablo and Wildcat creeks for the enjoyment of residents;
- Strengthening stormwater management requirements for properties adjacent to the creek areas by applying techniques that maintain or restore nature character;
- Enforcing restrictions on the planting of invasive species near creek areas;
- Identifying and working with property owners to take advantage of unique opportunities where human active use (e.g. through trail development) would enhance creek appreciation without disrupting ecological function;
- Working with developers to "daylight" portions of creeks that have historically been channelized underground under existing paved areas (e.g. parking lots); and
- Requiring minimum setbacks from the top of the creek bank for development proposed adjacent to creeks, in keeping with City regulations and Best Management Practices.

OSC-I-11 Require property owners with properties adjacent to creeks to pay for creek improvement maintenance.

OSC-I-12 Continue to work with the Regional Water Quality Control Board (RWQCB) to protect and improve ground- and surface-water quality in the region.

Mitigation Measures

None required.

Impact

3.5-3 Implementation of the proposed San Pablo General Plan could result in additional runoff exceeding the capacity of existing stormwater facilities and increasing potential flooding of receiving waters and areas in downstream. *(Less than Significant)*

Development under the proposed General Plan could result in construction of structures on land that is currently vacant, thus introducing additional impervious surfaces. Streets, traditional parking lots, and rooftops prevent the natural drainage and infiltration of stormwater through the soil. Surface water runoff volumes and rates generated from undeveloped, unpaved areas can increase significantly when sites are paved and the capability of surface water infiltration is reduced or eliminated. Depending on the capacities of existing stormwater drainage facilities, any

increase in runoff could potentially cause flooding on or downstream of newly constructed sites and near local drainage facilities. In addition, runoff from built-out areas could be discharged more swiftly, decreasing the time it takes to reach downstream facilities and altering the existing peak flood timing.

Unless improvements to drainage conditions are undertaken, increased development could contribute to increased risk of storm flooding in these areas. However, as mentioned under Impact 3.5-2 above, the largely developed nature of the planning area, coupled with incorporation of source control stormwater features that are designed to retain or infiltrate as much runoff as possible, mean the proposed General Plan is not expected to cause major changes in flows that exit building sites. Redevelopment, under the requirements of CCCWP and the C.3 post construction stormwater requirements which are also included in the proposed policies identified below, would potentially reduce total stormwater flows. The policies below would also require developers to improve undersized facilities in accordance with the proposed size of the project to ensure adequate capacities of infrastructure. Therefore, with adherence to these requirements and the proposed policies of the General Plan, the potential impact from exceeding the capacity of stormwater facilities would be less than significant.

Proposed General Plan Policies that Reduce the Impact

In addition to the guiding and implementing policies listed under Impact 3.5-1 above, the following policies also help to reduce this potential impact on the stormwater drainage system:

PSCU-I-31 Require, as a condition of project approval, stormwater drainage and sewer improvements in proportion to a project's impacts, including upgrades, replacements, or repairs to older stormwater collection systems, as necessary.

PSCU-I-32 Maintain master storm drain system maps that identify locations where easements should be reserved for eventual installation of pipes and structures to ensure appropriate storm drainage management.

PSCU-I-33 Coordinate with the West County Wastewater District to address planning capacity and identify deficiencies in the waste water collection system.

Mitigation Measures

None required.

Impact

3.5-4 Implementation of the proposed San Pablo General Plan could result in the placement of housing in the 100-year floodplain or structures that would impede flood flows exposing people to injury or death. (*Less than Significant*)

Although the majority of the Planning Area is located outside of the 100-year floodplain, there are areas where new development could be located within the floodplain. There is a 100-year flood zone area located on the western boundary of the Planning Area in and around Giant Road (See **Figure 3.5-1**). However, the proposed policies of the plan would continue existing policies

that minimize the potential for flooding to adversely impact land uses. Not only would there be design requirements for new development, but there also would be assurances of adequate storm drainage capacities, and the continued improvements of the flood control projects associated with San Pablo and Wildcat creeks. With implementation of the policies below, the potential impact from flooding would be less than significant.

Proposed General Plan Policies that Reduce the Impact

SN-G-2 *Minimize the risks to property, life, and the environment due to flooding hazards.*

SN-I-7 Continue to minimize the risk of flooding to development through the development review process. Require new development within a flood plain to comply with the City's Floodplain Management and Flood Damage Prevention Ordinance and to submit hydrologic studies, identify site development and construction methods, and implement appropriate mitigation measures to minimize surface water run-off.

Developers will be required to provide an assessment of a project's potential impacts on the local storm drainage system as part of the development review process. If development is found to have a negative impact on storm drainage, mitigation measures, such as the creation of permanent or temporary detention or retention basins, provision of additional landscaped areas and green roofs, installation of pump stations, and the use of permeable paving in driveways, walkways and parking areas, may be required.

SN-I-8 Annually review the Land Use Element to identify whether any additional areas subject to flooding have been defined in updated flood plain maps prepared by the Federal Emergency Management Agency (FEMA) or the State Department of Water Resources (DWR) and adopt amendments to the General Plan or the Zoning Ordinance, as warranted.

SN-I-9 Continue to participate in the National Flood Insurance Program and ensure that local regulations are in full compliance with Federal.

SN-I-10 Periodically review National Flood Insurance Program maps to ensure that the City's zoning and building regulations reduce potential risks from flooding pursuant to the National Flood Insurance Program of 1968.

SN-I-11 Inform households and businesses located in flood-prone areas about opportunities to purchase flood insurance.

The City will regularly remind residents of the value of flood insurance for vulnerable properties through newsletters and other educational materials. Purchase of flood insurance is required for buildings in Special Flood Hazard Areas defined by the Flood Insurance Rate Map when a federally regulated lender holds the mortgage on the building.

SN-I-12 Site new essential public facilities outside of the 100-year flood plains, including hospital and healthcare facilities, emergency shelters, police and fire stations, and emergency communications facilities to minimize exposure to 100-year floods.

SN-I-13 Cooperate with the County Flood Control District, California Department of Transportation, and the Army Corp of Engineers to mitigate potential flooding risks, including flood control projects on Wildcat and San Pablo creeks and the maintenance of drainage facilities and infrastructure.

Flood control projects will be designed to support the City's efforts to reestablish natural conditions in these creek corridors.

SN-I-14 Work with railroad operators on minimizing downstream flooding related to limited number of culverts.

Mitigation Measures

None required.

Impact

3.5-5 Implementation of the proposed San Pablo General Plan would expose people or structures to risk of flooding due to the failure of a dam. (*Less than Significant*)

Several reservoirs are located upstream of the Planning Area including the San Pablo and Briones reservoirs. However, the dams on these reservoirs are under the jurisdiction of the Division of Safety of Dams (DSOD), which imposes strict standards for the design, maintenance, and monitoring of its facilities. A seismic upgrade of the dam at San Pablo Dam Reservoir was recently completed to increase its stability and minimize the potential for liquefaction to cause any slump or failure of the embankment. DSOD requirements for siting, engineering, construction, and monitoring of dams are continually improved as knowledge increases as to how and why dams fail. Therefore, the potential for catastrophic failure of either dam would be considered low and any subsequent potential impacts would be considered less than significant.

Proposed General Plan Policies that Reduce the Impact

The policies listed above under Impact 3.5-4 also help to reduce this potential impact.

Mitigation Measures

None required.

Cumulative Impact

3.5-6 Implementation of the proposed San Pablo General Plan in combination with past, present, and foreseeable future development in the surrounding communities and with other agencies in the County, could adversely affect water quality of regional water bodies. (*Less than Significant*)

Implementation of the proposed General Plan would include policy provisions as well as compliance with the city's Grading and Drainage Ordinance which would reduce the city's contribution to cumulative water quantity and quality impact to a less than cumulatively considerable level. This impact is also mitigated through the implementation of CCCWP requirements and NPDES C.3 requirements which address the use of water quality and quantity control through design measures and use of BMPs. Effective BMPs relate to site preparation, runoff control, sediment retention, and other similar features. The effectiveness of BMPs has been recognized in the California Stormwater Quality Association, California Stormwater Best Management Practice Handbooks. Therefore, with adherence to the existing regulatory requirements regarding stormwater control and the policies identified above, the cumulative contribution of the proposed General Plan would be less than significant.

Proposed General Plan Policies that Reduce the Impact

The policies listed above under impacts 3.5-1 through 3.5-5 help to reduce this potential cumulative impact.

Mitigation Measures

None required.

3.6 Biological Resources

This section presents the environmental setting and impact analysis related to biological resources within the City of San Pablo and vicinity. Within this chapter, existing biological resources are identified; the federal, State, and local regulations pertaining to biological resources within the region are described; and potential Project impacts on those biological resources are established.

ENVIRONMENTAL SETTING

PHYSICAL SETTING OVERVIEW

The City of San Pablo is located near the southeast side of San Pablo Bay in the Bay Area-Delta bioregion.[1] This bioregion contains the populous San Francisco Bay Area and the Sacramento-San Joaquin River Delta. The Bay Delta System is regarded as the most important water body in California, supporting recreational, commercial, biological, agricultural, and urban uses.[2] A variety of natural communities that range from the open waters of the Bay and Delta to salt and brackish marshes to chaparral and oak woodlands are located in this bioregion. The temperate climate is Mediterranean in nature, with relatively mild, generally wet winters and warm, dry summers.

The City of San Pablo is surrounded almost entirely by the City of Richmond which is a mosaic of developed, urban, industrial, and residential areas. To the west, a narrow portion of the City of Richmond and unincorporated County land separates the City of San Pablo from San Francisco Bay. To the east, San Pablo extends to Alvarado Park and Wildcat Canyon Regional Park, located within the City of Richmond. The majority of the land in San Pablo has been highly altered, and little undisturbed, native habitat remains. This remaining higher quality habitat is associated with several streams that traverse the city; San Pablo Creek, Wildcat Creek, Rheem Creek, and an un-named drainage. San Pablo Creek is a perennial stream; Wildcat Creek is an intermittent stream; Rheem Creek is a channelized, intermittent stream; and the un-named drainage is also intermittent. San Pablo and Wildcat creeks are in a relatively natural state. All of these streams connect the city with the bay.

Habitats

Within San Pablo, the primary habitat types are annual grassland, valley foothill riparian, coastal oak woodland, eucalyptus, and urban.[3] The most prevalent habitat type is urban, which covers the majority of the Planning Area and is contiguous to the north, west, and south with the neighboring cities and districts of Richmond, Rollingwood, El Sobrante, and Pinole.

---

[1] California Natural Resources Agency, 2008.

[2] Contra Costa County, 2005.

[3] Zeiner et al., 1990.

There are no Significant Ecological Areas (SEAs) located within the Planning Area, as identified by Contra Costa County (2005). However, the Natural Diversity Data Base (CNDDB) has identified Northern Coastal Salt Marsh west of the Planning Area along the bay, and this habitat includes Point Pinole, Giant Marsh, San Pablo Creek, and Wildcat Creek Marsh. These marsh lands encompass over 440 acres and provide important habitat for special status migrating waterfowl and shorebirds, and special status mammals. San Pablo Ridge, the Berkeley Hills, and Sobrante Ridge occur east and southeast of San Pablo and are considered SEAs because they provide scrub, grassland, and oak woodland habitat for a variety of species.

Annual Grassland[4]

Annual grasslands include native and non-native annual, alkali, and ruderal, grassland communities, and are the most common vegetation community in Contra Costa. Annual grassland habitat can be open and mainly grass or an understory to another community such as oak woodland. Non-native annual grasslands have replaced native perennial grassland areas. These annual grassland areas are now dominated by grasses in the genera Bromus, Avena, Lolium, and Vulpia, and forbs in the genera Erodium, Brassica, Centaurea, Lepidium and Castilleja, though native wildflowers may persist. Alkali grasslands occur on alkaline soils, usually in small, scattered patches within other grassland communities. Ruderal grasslands are highly disturbed "waste" areas found in urban settings, erosion control areas, storm channels, fallow agricultural areas, and other locations. Exotic and invasive plants are prevalent in these areas.

Grasslands are used by a variety of wildlife species such as lizards, snakes, small mammals, and birds, for refugia, foraging, or nesting. Special-status species associated with grasslands include California tiger salamander (*Ambystoma californiense*), burrowing owl (*Athene cunicularia*), and California red-legged frog (*Rana draytonii*).

Valley/Foothill Riparian

Valley/foothill riparian habitat consists of all successional stages of woody vegetation within the active and historical floodplains of low-gradient reaches of streams and rivers. This habitat type is found in valleys and floodplains with gently sloping topography below an elevation of 5,000 feet. The valley/foothill riparian habitat is comprised of four vegetative layers; canopy, sub-canopy, shrub, and groundcover. Deciduous trees dominate the canopy and sub-canopy. Tree species typically found in these layers include black cottonwood, California sycamore, valley oak, white alder, box elder, and Oregon ash. The shrub layer includes willows, toyon, California blackberry, poison oak, and dogwood. The herbaceous ground cover species include sedges, rushes, grasses, and a variety of herbs.

A wide range of wildlife species can be found in this habitat type because of its diverse ecological composition. The multiple vegetative layers provide niches for different birds, reptiles, and mammals; and the hydrologic variety provides potential habitat for different fish, amphibians, and reptiles.

---

[4] Mayer and Laudenslayer, 1988.

Coastal Oak Woodland

Coastal oak woodland habitat varies from dense oak trees mixed with deciduous and evergreen hardwoods to dryer sites with sparse, scattered trees and shrubs. Although tree species are generally dominated by oaks including; Oregon white oak (*Quercus garryana*), California black oak (*Quercus kelloggi*), canyon live oak (*Quercus chrysolepis*), interior live oak (*Quercus wislizeni*), valley oak (*Quercus lobata*), and blue oak (*Quercus douglasii*), other tree species such as California bay, madrone, tanbark, and foothill pine can also be found. The understory of an oak woodland forest varies from dense and almost impenetrable chaparral or coastal shrub species, to sparsely vegetated shrubs. Common shade tolerant shrubs of closed canopy forest may include California blackberry (*Rubus ursinus*), creeping snowberry (*Gaultheria hispidula*), toyon (*Heteromeles arbutifolia*), and herbaceous species such as bracken fern (*Pteridium aquilinum*), California polypody (*Polypodium californicum*), fiesta flower (*Pholostoma* Lilja), and miner's lettuce (*Claytonia perfoliata*). The understory of scattered oak woodland habitats generally consist of grassland species.

Wildlife species commonly associated with the coastal oak woodland include quail, turkeys, squirrels, and deer. Documentation shows that 60 percent of mammals and 110 species of birds.[5]

Eucalyptus

Eucalyptus habitats consist typically of monostands of eucalyptus trees with dense, closed canopies. The eucalyptus tree was planted to be harvested as a hardwood or as a wind block and therefore can be found in rows or thickets. Closed canopy eucalyptus forests contain little to no understory vegetation due to the lack of lighting that reaches the understory. There are over 150 species of eucalyptus and the most common species include blue gum followed by red gum. [6] If thickets of eucalyptus are found in areas surrounded by native species, understory vegetation in the eucalyptus habitat may include coastal sage (*Artemisia californica*), chamise (*Adenostoma* Hook. & Arn.), manzanita (*Arctostaphylos* Adans.), buckwheat (*Astragalus caricinus*), toyon, scrub oak (*Quercus berberidifolia*), mountain mahogany (*Cercocarpus* Kunth), and assorted annuals.

Wildlife species commonly associated with eucalyptus habitats generally include common bird species such as the crow, raven, barn own, and red-tailed hawk. Mammals and reptiles such as the woodrat and the gopher snake, find refuge underneath the abundant eucalyptus bark peelings that littler the forest floor.[7]

Urban

Developed lands have much less to offer as nesting and foraging habitat. Urban areas have been cleared for housing, commercial buildings, transportation and infrastructure networks, recreational areas, ornamental plantings, and lawns. While agricultural areas such as pastures,

---

[5] Holland, 2009.

[6] Pearson, 2003.

[7] *Ibid.*

croplands, orchards and vineyards still offer habitat for birds and animals, land alteration and development decreases animal diversity and has caused most native species to decline.

SPECIAL-STATUS SPECIES

In the Planning Area

The CNDDB only has one record of a special-status species occurring in the Planning Area, the San Pablo song sparrow (*Melospiza melodia samuelis*). This song sparrow subspecies is presumed to be extant in the area. It is not federally or state listed, but it is considered to be a California Species of Special Concern. Although the species itself is widespread and common, the San Pablo subspecies is endemic to California and confined to the tidal marshes of San Pablo Bay. It is threatened by habitat loss, fragmentation, and predation by house cats (*Felix catus*), Norway rats (*Rattus norvegicus*), red foxes (*Vulpes fulva*), American crows (*Corvus brachyrynchos*), common raven (*Corvus corax*), and raccoons (*Procyon lotor*). Song sparrows can also be negatively affected by disturbances including recreational activities. **Figure 3.6-1** shows the location where this species can be found within the Planning Area.

The National Marine Fisheries Service (NMFS) has also reported that Central California coast steelhead/Central Valley steelhead (*Oncorhynchus mykiss*) (federally threatened and a California Species of Special Concern) occur in both San Pablo and Wildcat Creeks. According to the CNDDB (2010), Central Valley spring run Chinook salmon (*Oncorhynchus tshawytscha*) (federally and state listed as threatened), Central Valley fall/late fall-run Chinook salmon (O*ncorhynchus tshawytscha*) (a Former Fish and Wildlife Service Species of Concern, and a California Species of Special Concern), Sacramento perch (*Archoplites interruptus*) (a California Species of Special Concern), and Central California Coast Coho salmon (*Oncorhynchus kisutch*) (federally and state listed as endangered) may also be present in the creeks of the Planning Area. NMFS has listed steelhead in the Central California Coastal Evolutionary Significant Unit as threatened.[8] This includes streams tributary to the San Francisco Bay and Estuary, such as San Pablo and Wildcat creeks which Steelhead use to migrate upstream for spawning and rearing young. These creeks are therefore important to their survival.

Adjacent to the Planning Area

Additional species that have been recorded not within but adjacent to the Planning Area, within habitats similar to those found in the Planning Area, are described below and listed in Appendix C. In general, those species described below have at least a moderate potential to occur in the Planning Area.

Federally Listed

Several species are federally listed, but of those federally listed, only the California red-legged frog (Rana *draytonii*) (also a California Species of Special Concern) has the potential to be found within the Planning Area. Even species that do not use habitat in San Pablo may still be affected by management decisions within the Planning Area. In particular, species found in the

[8] Leidy, 2007.

downstream marshes and wetlands may be susceptible to alteration of riparian habitat and changes in water quality. Grassland and woodland areas may also be sensitive to management of the San Pablo Planning Area. For example, establishment of invasive species in the Planning Area may encroach onto sensitive habitats on San Pablo Ridge. Thus, considerations must be made of outside communities when managing within the Planning Area.

California red-legged frog (*Rana aurora draytonii*). This species is listed as federally threatened and as a California Species of Special Concern. The Planning Area does not occur within the designated critical habitat units for this species in Contra Costa County. Red-legged frogs reside in lowlands and foothills in or near permanent or semi-permanent water sources, such as lakes, stock ponds, and slow moving streams with deep pools and dense shrubs or emergent aquatic vegetation. Where water sources are not permanent, red-legged frogs require access to dry-season upland aestivation habitat in the form of mammal burrows. Red-legged frogs require at least 11 weeks of permanent water after egg laying for larval development. San Pablo and Wildcat Creeks, as well as adjacent wetlands, may provide potential habitat for this species.

Western pond turtle (Actinemys *marmorata*). The northwestern pond turtle, a former federal Species of Concern and California Species of Special Concern, is a thoroughly aquatic turtle found in permanent ponds, rivers, streams, channels, and irrigation ditches with rocky or muddy bottoms, and emergent vegetation. Basking areas used by this species include partially submerged logs, rocks, vegetation mats, and open mud banks. Habitat destruction and stream course degradation are the primary threats to this species. Potentially suitable habitat for this species occurs in and on the banks of San Pablo and Wildcat creeks, as well as in the larger wetlands on Wildcat Creek in the southeast corner of the Planning Area.

Bridges coast range shoulderband (*Helminthoglypta nickliniana bridgesi*). The Bridges coast range shoulderband snail is a former federal species of concern and tends to inhabit tall grasses and weeds. The CNDDB shows three recorded occurrences for this species of snail; the closest of which is located approximately one mile east of the Planning Area along San Pablo Creek; this record was updated in 2005.

California Listed

Loma prieta hoita (*Hoita strobilina*). Loma prieta hoita is a California native plant society (CNPS) list 1B.2 species and is considered rare and fairly threatened in California. This perennial species is a member of the pea family and has a purple inflorescence visible from May through October. Habitat particular to this species is located on serpentine soils within chaparral, cismontane woodland, and riparian woodland areas. It is unlikely that serpentine soils located within riparian woodland habitats are within San Pablo; therefore it is unlikely that this species would grow in the city. However, the CNDDB shows one recorded occurrence for this species (dated 2004) approximately 0.6 miles east of the Planning Area.

Monarch butterfly (*Danus plexippus*). Monarch butterflies are listed on CDFG's Special Animal List. This species migrates from north and south similar to bird migration routes. Monarch butterflies spend summer and spring in areas with lots of milkweed since in their caterpillar form, the species relies on milkweed for food. In the winter monarch butterflies inhabit areas with lots

of trees. The CNDDB shows four recorded occurrences for this species; the closest of which is located approximately 1.2 miles north of the Planning Area.

Central Valley and central California coast steelhead (*Oncorhynchus mykiss*). Steelhead populations in the Central California Coast ESU and Central Valley Distinct Population Segments (DPS) are listed as threatened under the federal Endangered Species Act. Steelhead possesses the ability to spawn repeatedly, maintaining the mechanisms to return to the Pacific Ocean after spawning in freshwater. Juvenile steelhead may spend up to four years residing in fresh water prior to migrating to the ocean as smolts. Both steelhead DPSs migrate through San Pablo Straight waters between freshwater spawning and rearing areas and the Pacific Ocean. Both San Pablo and Wildcat Creek once supported steelhead runs.

Special-status Bat Species

The Planning Area provides potential foraging and roosting habitat for three special-status bat species. **Yuma myotis** (*Myotis yumanensis*) also roost in buildings and mines and have been observed roosting in abandoned swallow nests and under bridges.[9] The **fringed myotis** (*Myotis thysanodes*) occurs throughout California and is most frequent in coastal and montane forests and near mountain meadows.[10] This species uses echolocation to find moths, beetles, and other prey and forms nursery colonies in caves and old buildings.[11] The **long-eared myotis** (*Myotis evotis*) inhabits nearly all brushlands, woodlands, and forests, seeming to prefer coniferous forests and woodlands. Roosts include caves, buildings, snags, and crevices in tree bark. This species is highly maneuverable in its forays for arthropods over water, open terrain, and in habitat edges. These bat species may utilize vacant or underutilized buildings, eucalyptus trees, or trees along the riparian corridors in the Planning Area for roosting and may forage over open areas and along the stream corridors. These, as well as other special-status bat species found, or with suitable habitat, adjacent to the Planning Area, are listed in Appendix C.

Protected Nesting Birds

Cooper's Hawk (*Accipiter cooperii*). The Cooper's hawk is protected under CDFG's 3503.5 – Protection for nesting species of Falconformes (hawks) and Strigiformes (owls) and is listed on CDFG's Special Animals List. The Cooper's hawk ranges over most of North America, and may be seen throughout California. It is more common as a winter migrant, and nesting pairs have declined throughout the lower elevation, more populated, parts of the state; however, Cooper's hawks likely breed in Contra Costa County. The Cooper's hawk forages in open woodlands, wood margins[12], nests in tall trees, often in riparian areas, and can be found in wooded/shrubby suburbs.

Allen's hummingbird (*Selasphorus sasin*). The Allen's hummingbird is a former United States Fish and Wildlife Service (USFWS) Species of Concern and is similar in appearance to the Rufous

---

[9] Zeiner et al., 1990.

[10] Peeters and Peeters, 2005.

[11] *Ibid.*

[12] Robbins et al., 1966.

Hummingbird, but its breeding range is limited to coastal scrub, forests, and riparian areas along California and southern Oregon. This species spends winters near forest edges. The CNDDB does not show any recorded occurrences for this species within five miles of the Planning Area; however, potential habitat is present near and within the Planning Area.

American kestrel (*Falco sparverius*). The American kestrel is protected under CDFG's 3503.5 and is listed on CDFG's Special Animals List. The American kestrel is a small, common, raptor that migrates from Alaska to Tierra del Fuego. American kestrels use tall trees or telephone poles to perch from when looking for prey. This raptor is a cavity nesting bird and can be found in trees, buildings, and nest boxes. There are no known occurrences of this species with 5 miles of the Planning Area; however, habitat is present near and within the Planning Area.

Great horned owl (*Bubo virginianus*). The great horned owl is protected under CDFG's 3503.5 and is listed on CDFG's Special Animals List. Great horned owls occur throughout North America and are found in a variety of wooded habitats. These large raptors prey on small- to medium-sized mammals such as voles, rabbits, skunks, and squirrels. Great horned owls can often be seen and heard at dusk, perched in large trees. They roost and nest in large trees such as pines or eucalyptus. They often use the abandoned nests of crows, ravens, or sometimes squirrels.[13] Great horned owls may use large eucalyptus located within the Planning Area, as well as larger trees along the riparian corridors for roosting or nesting and may forage over grasslands and marsh habitat along the creeks for voles and other small mammals.

Red-tailed hawk (*Buteo jamaicensis*). The red-tailed hawk is protected under CDFG's 3503.5 and is listed on CDFG's Special Animals List. Red-tailed hawks are commonly found in woodlands and open country with scattered trees. These large hawks feed primarily on small mammals, but will also prey on other small vertebrates, such as snakes and lizards, as well as on small birds and invertebrates. Red-tailed hawks nest in a variety of trees in urban, woodland, and agricultural habitats. Larger trees along San Pablo and Wildcat Creeks as well as taller non-native trees such as eucalyptus, may be used by red-tailed hawks for nesting within the Planning Area. This species was observed along Wildcat Creek by ESA.

Red-shouldered hawk (*Buteo lineatus*). The red-shouldered hawk is protected under CDFG's 3503.5 and is listed on CDFG's Special Animals List. Red-shouldered hawks are relatively common in both rural and urban situations and can be found in residential neighborhoods and along riparian corridors or other water bodies. These hawks hunt primarily for mammals, reptiles, and amphibians (Sibley, 2001). Large eucalyptus and trees along the riparian corridors in the Planning Area provide potential nesting habitat for this species.

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*). The common yellowthroat is a former USFWS Species of Concern and a California Species of Special Concern. This is a small warbler with a complex of subspecies. The salt marsh subspecies is recognized as a distinct

---

[13] Sibley, 2000.

breeding population, with geographic distribution, habitats, and subtle differences in morphological traits that distinguish it from other subspecies. It inhabits tidal salt and brackish marshes in winter, but breeds in freshwater to brackish marshes and riparian woodlands during spring to early summer. Nests are placed on or near the ground in dense emergent vegetation or shrubs. The subspecies is a state species of concern due to major decline of both habitat and populations in the past decade, but is not currently listed as endangered or threatened. The common yellowthroat is also protected under the Migratory Bird Treaty Act. This species is known from the Wildcat and San Pablo marshes and may use freshwater marsh and riparian habitat along the creeks within the Planning Area for breeding.

San Pablo song sparrow (*Melospiza melodia samuelis*). The San Pablo song sparrow is a California Species of Special Concern. The San Pablo song sparrow is one of three morphologically distinct song sparrow subspecies that occur in the San Francisco Bay region. This particular subspecies is endemic to the marshes bordering San Pablo Bay and is a state Species of Concern. Intermixed stands of bulrush (*Scirpus* spp.), cattail (*Typha* spp.), and other emergent vegetation provide suitable habitat in brackish marshes. San Pablo song sparrows nest in tall tules with local pickleweed. They also frequent tall vegetation along the edges

This special-status species list, presented in complete form in Appendix C, does not constitute an exhaustive list of the special-status species which could potentially occur in San Pablo or the vicinity, but only refers to those with documented sightings listed in the CNDDB. More detailed surveys may be necessary as part of subsequent project-specific CEQA review.

Bird Strikes

It is estimated that, in North America alone, millions of songbirds are killed due to collisions with buildings and other structures each year.[14] Collisions are currently recognized as one of the leading causes of bird population declines worldwide.[15] Daytime collisions occur most often when birds fail to recognize window glass as a barrier. Recent increases in glass surfaces used to better daylight buildings can be considered a "biologically significant" issue, potentially affecting the viability of local and regional bird populations.[16] Nighttime collisions occur due to artificial lighting.[17] Collisions are considered a potential direct effect to migrating birds and can lead to death or injury. Indirect effects may include delayed arrival at breeding or wintering grounds, and reduced energy stores necessary for migration, winter survival, or subsequent reproduction.[18] Both special-status bird species and other birds are affected.

---

[14] Lochhead, 2008.
[15] Brown et al., 2010.
[16] New York City Audubon Society, 2007.
[17] Ogden, 1996.
[18] Gauthreaux and Belser, 2006.

REGULATORY SETTING

This section describes federal and state regulations, and local plans and policies relevant to biological resources in the City of San Pablo.

Definitions

Special-Status Species. The term "special-status species" as used in this section is defined to include the following:

- Plants and animals that are legally protected or proposed for protection under the California Endangered Species Act or Federal Endangered Species Act;
- Plants and animals defined as endangered or rare under Section 15380(b) of the state CEQA Guidelines;
- Plants and animals designated as species of special concern by the U.S. Fish and Wildlife Service or California Department of Fish and Game;
- Species designated "special animals" by the state;[19]
- Animals listed as "fully protected" in the Fish and Game Code of California (Sections 3511, 4700, 5050, and 5515);[20]
- Raptors (birds of prey), which are specifically protected by CDFG's Code Section 3503.5, which prohibits the take, possession, or killing of raptors and owls, their nests, and their eggs;[21] and
- Plants listed in the California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California.

---

[19] Species listed on the current CDFG Special Animals List (July 2009), which includes 883 species. This list includes species that CDFG considers "those of greatest conservation need." The list is available at http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp; reviewed September 14, 2009.

[20] These sections prohibit the "take or possession" of designated species, except for scientific research (or for livestock protection, in the case of bird relocation). The "fully protected" designation, dating from the 1960s, before enactment of the federal or state endangered species acts, was California's earliest effort in to identify and protect rare animals and those possibly facing extinction. Most "fully protected" species have also subsequently been listed as threatened or endangered species under endangered species laws and regulations. About three dozen species are "fully protected."

[21] The inclusion of birds protected by CDFG Code Section 3503.5 is in recognition of the fact that these birds are substantially less common in California than most other birds, having lost much of their habitat to development, and the recognition that the populations of these species are therefore substantially more vulnerable to further loss of habitat and to interference with nesting and breeding than are most other birds. It is noted that a number of raptors and owls are already specifically listed as threatened or endangered by state and federal wildlife authorities.

Take. "Take," as defined in Section 9 of the federal Endangered Species Act, is broadly defined to include intentional or accidental "harassment" or "harm" to wildlife. "Harass" is further defined by the U.S. Fish and Wildlife Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering. "Harm" is defined as an act which actually kills or injures wildlife. This may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

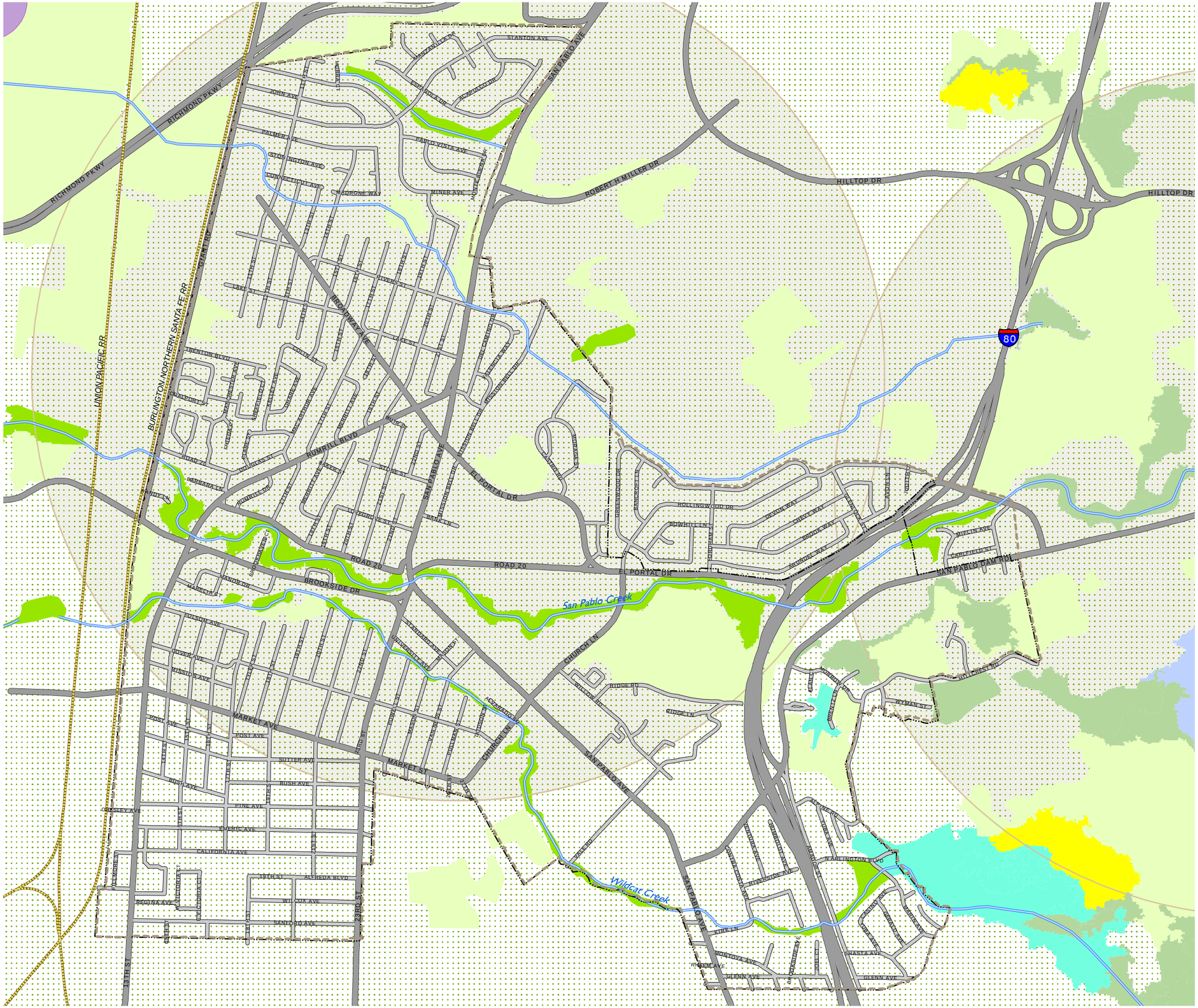


Figure 3.6-1

Vegetation and Special Status Species

Special Status Species

- California clapper rail/San Pablo vole
- Alameda whipsnake/monarch butterfly
- San Pablo song sparrow

Vegetation

- Annual Grassland
- Blue Oak Woodland
- Coastal Oak Woodlands
- Coastal Scrub
- Eucalyptus
- Valley Foothill Riparian

- Creeks
- Planning Area
- City Limits
- Major Roads
- Minor Roads
- Railroads

0 0.25 0.5
Miles

SOURCE: ESA, 2009; CNDDB, 2010; Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.6-1

Federal Regulations

Federal Endangered Species Act

The USFWS, which has jurisdiction over plants, wildlife, and most freshwater fish, and the National Marine Fisheries Service (NMFS), which has jurisdiction over anadromous fish, marine fish, and mammals, oversee implementation of the federal Endangered Species Act. Section 7 of the Act mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agencies actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. A federal agency is required to consult with USFWS and NMFS if it determines a "may effect" situation will occur in association with the proposed project. The Endangered Species Act prohibits the "take" of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery.

Under Section 9 of the Endangered Species Act, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the removal, possession, damage or destruction of any endangered plant from federal land. Section 9 also prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in nonfederal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species, and species that are proposed or under petition for listing, receive no protection under Section 9 of the Act.

Section 10 of the Act requires the issuance of an "incidental take" permit before any public or private action may be taken that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt (i.e., take) any individual of an Endangered or Threatened species. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of individuals that may occur, incidental to implementation of the project by providing for the overall preservation of the affected species through specific mitigation measures.

Critical Habitat

The USFWS designates critical habitat for species listed under the federal Endangered Species Act. Critical habitat areas are occupied by the species, are located within a specific geographic region determined to be critical for survival, and are protected from destruction and adverse modification. The Federal Endangered Species Act allows the USFWS to designate critical habitat for threatened and endangered species. Critical habitat has been established in Contra Costa County for the longhorn fairy shrimp, vernal pool fairy shrimp, Delta smelt, Alameda whipsnake, California red- legged frog, Santa Cruz tarplant, Antioch Dunes evening-primrose, Contra Costa wallflower, Contra Costa goldfields, and soft bird's beak. None of these habitats are within the Planning Area.

Central California Coho salmon were listed June 2005 (70 FR 37160). Critical habitat for the Central California Coho salmon was designated in May 1999 (64 FR 24049) and includes all river reaches accessible to listed coho salmon from Punta Gorda in northern California south to the San Lorenzo River in central California, including Arroyo Corte Madera Del Presidio and Corte Madera Creek, and tributaries to San Francisco Bay.

Central California coast steelhead was listed January 2006 (71 FR 834). Critical habitat for the Central California coast steelhead was designated September 2005 (70 FR 52488) and includes all

river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River to Aptos Creek, California (inclusive), and the drainages of San Francisco and San Pablo Bays. Also included are the all waters of San Pablo Bay westward of the Carquinez Bridge and all waters of San Francisco Bay from San Pablo Bay to the Golden Gate Bridge. Excluded is the Sacramento-San Joaquin River Basin of the California Central Valley as well as other areas such as dams. Steelhead is mapped as being present within Wildcat and San Pablo creeks.

California Central Valley steelhead were listed as federally threatened January 2006 (71 FR 834) and critical habitat was designated on September 2005 (70 FR 52488). Critical habitat for the California Central Valley steelhead is designated to include all river reaches accessible to listed steelhead in the Sacramento and San Joaquin Rivers and their tributaries in California. Also included are the river reaches and estuarine areas of the Sacramento-San Joaquin Delta, all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait, all waters of San Pablo Bay westward of the Carquinez Bridge, and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge. Steelhead salmon are mapped as being present within Wildcat and San Pablo creeks.

Sacramento winter-run Chinook salmon was listed January 1994 (59 FR 440). Critical habitat was designated June 1993 (58 FR 33212) for the Sacramento winter-run Chinook salmon and includes the Sacramento River from Keswick Dam to Chipps Island at the westward margin of the Sacramento-San Joaquin Delta, all waters from Chipps Island westward to Carquinez Bridge, all waters of San Pablo Bay north of the San Francisco/Oakland Bridge.

Central Valley spring-run Chinook salmon populations were listed June 2005 (70 FR 37160). Central Valley spring-run Chinook salmon critical habitat was designated September 2005 (70 FR 52488) and includes Contra Costa County. Critical habitat for the Central Valley spring run Chinook is designated to include stream habitat in the Sacramento River basin and 254 square miles of estuary habitat in the San Francisco-San Pablo-Suisun Bay complex.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing or possessing migratory birds is unlawful. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not.

If a project site contains vegetation which supports nesting birds, the removal of that vegetation during the nesting season could result in a violation of the MBTA.

Waters of the United States

The term “waters of the United States,” as defined in the Code of Federal Regulations (33 CFR Section 328.3[a]; 40 CFR Section 230.3[s]), refers to:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters including interstate wetlands;

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:

   – which are or could be used by interstate or foreign travelers for recreational or other purposes; or

   – from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

   – which are used or could be used for industrial purposes by industries in interstate commerce.

4. All impoundments of waters otherwise defined as waters of the United States under the definition;

5. Tributaries of waters identified in paragraphs (1) through (4);

6. Territorial seas; and

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).

8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA (33 CFR 328.3[a][8]).

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance of wetlands has increased due to their value as recharge areas and filters for water supplies and to their widespread filling and destruction to enable urban and agricultural development. Examples of wetlands may include freshwater marsh, seasonal wetlands, and vernal pool complexes that are adjacent to waters of the United States. In a jurisdictional sense, there are two commonly used wetland definitions, one adopted by the USEPA and U.S. Army Corps of Engineers (Corps) and a separate definition, originally developed by USFWS, which has been adopted by agencies in the State of California that have regulatory authority over wetlands. Both definitions are presented below.

Federal Wetlands

Under federal law, wetlands are a subset of "waters of the United States" and receive protection under Section 404 of the Clean Water Act (CWA). Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration that are sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically

adapted for life in saturated soil conditions. Wetland determination under the federal wetland definition adopted by the Corps requires the presence of three factors: (1) wetland hydrology; (2) plants adapted to wet conditions; and (3) soils that are routinely wet or flooded [33 C.F.R. § 328.3(b)]. In January 2001, the Supreme Court of the United States ruled that certain isolated wetlands do not fall under the jurisdiction of the CWA (*Solid Waste Agency of Northwestern Cook County v. United States Army Corps of Engineers et al.*).

Other Waters of the United States

"Other waters of the United States" refers to additional features that are regulated by the CWA but are not wetlands (33 CFR 328.4). To be considered jurisdictional, these features must exhibit a defined bed and bank and an ordinary high water mark. The term ordinary high water mark refers to a line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other means appropriate to the characteristics of the surrounding areas. Examples of other waters of the United States include rivers, creeks, ponds, and lakes.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Regulations

The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the CWA. Projects that would result in the placement of dredged or fill material into waters of the United States require a Section 404 permit from the Corps. Some classes of fill activities may be authorized under General or Nationwide permits if specific conditions are met. Nationwide permits do not authorize activities that are likely to jeopardize the existence of a threatened or endangered species (listed or proposed for listing under the federal Endangered Species Act). In addition to conditions outlined under each Nationwide Permit, project-specific conditions may be required by the Corps as part of the Section 404 permitting process. When a project's activities do not meet the conditions for a Nationwide Permit, an Individual Permit may be issued.

Section 401 of the CWA requires an applicant for a Corps permit to obtain state certification that the activity associated with the permit will comply with applicable state effluent limitations and water quality standards. In California, water quality certification, or a waiver, must be obtained from the Regional Water Quality Control Board (RWQCB) for both Individual and Nationwide Permits.

The federal government also supports a policy of minimizing "the destruction, loss, or degradation of wetlands." Executive Order 11990 (May 24, 1977) requires that each federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

In recent years several Supreme Court cases have challenged the scope and extent of the Corps' jurisdiction over waters of the United States and have led to several reinterpretations of that authority. The most recent of these decisions are the case of *Solid Waste Agency of Northern Cook County* (SWANCC) *v. the Army Corps of Engineers* (January 9, 2001) and *Rapanos v. United States* (June, 2006). The SWANCC decision found that jurisdiction over non-navigable, isolated,

intrastate waters could not be based solely on the use of such waters by migratory birds. The reasoning behind the SWANCC decision could be extended to suggest that waters need a demonstrable connection with a 'navigable water' to be protected under the CWA. The introduction of the term 'isolated' has led to the consideration of the relative connectivity between waters and wetlands as a jurisdictionally relevant factor. The more recent *Rapanos* case further questioned the definition of "waters of the United States" and the scope of federal regulatory jurisdiction over such waters but resulted in a split decision which did not provide definitive answers but expanded on the concept that a 'significant nexus' with traditional navigable waters was needed for certain waters to be considered jurisdictional.

On June 5, 2007 the EPA and the Corps released guidance on CWA jurisdiction in response to the Rapanos Supreme Court decisions, which can be used to support a finding of CWA coverage for a particular water body when either a) there is a significant nexus between the stream or wetland in question and navigable waters in the traditional sense; or b) a relatively permanent water body is hydrologically connected to traditional navigable waters and/or a wetland has a surface connection with that water. According to this guidance the Corps and the U.S. EPA will take jurisdiction over the following waters: 1) Traditional navigable waters, which are defined as all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; 2) Wetlands adjacent to traditional navigable waters; including adjacent wetlands that do not have a continuous surface connection to traditional navigable waters; 3) Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and 4) Wetlands adjacent to non-navigable tributaries as defined above; that have a continuous surface connection to such tributaries (e.g. they are not separated by uplands, a berm, dike, or similar feature).

The EPA and the Corps decide jurisdiction over the following waters based on a fact-specific analysis to determine if there is a significant nexus, as defined below, to a traditional navigable water: a) Non-navigable tributaries that are not relatively permanent; b) Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and c) wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The EPA and the Corps *generally* do not assert jurisdiction over: 1) swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow) or 2) ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The EPA and the Corps have defined the significant nexus standard as follows:

- A significant nexus analysis assesses the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters;
- Significant nexus analysis includes consideration of hydrologic and ecologic factors including: a) volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary; b) proximity to a traditional navigable water; c) size

of the watershed; d) average annual rainfall; e) average annual winter snow pack; f) potential of tributaries to carry pollutants and flood waters to traditional navigable waters; g) provision of aquatic habitat that supports a traditional navigable water; h) potential of wetlands to trap and filter pollutants or store flood waters; and i) maintenance of water quality in traditional navigable waters.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Act transfers oversight authority of the CWA NPDES program from the federal EPA to the state California State Water Resources Control Board (SWRCB). California oversees this federal program within and throughout the state via Regional Water Quality Control Boards (RWQCB).

State Regulations

California Endangered Species Act

Under the California Endangered Species Act, CDFG has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code 2070). CDFG also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. In addition, CDFG maintains lists of "species of special concern," which serve as "watch lists." Pursuant to the requirements of the California Endangered Species Act, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present on the Planning Area and determine whether the proposed project could have a potentially significant impact on such species. In addition, CDFG encourages informal consultation on any proposed project that may impact a candidate species.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed CDFG to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. The California Endangered Species Act expanded upon the original NPPA and enhanced legal protection for plants. The Act established threatened and endangered species categories, and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

California Fish and Game Code

Fully Protected Species. CDFG Code sections 3511, 4700, 5050 and 5515 designate fully protected species and protection measures. Fully protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except when collecting these species is necessary for scientific research and relocation of bird species is necessary for livestock protection.

Protection of Nesting Birds. Nesting birds are protected under CDFG Code Section 3503, which makes it (1) unlawful to take, possess, or destroy the nests or eggs of any such bird of prey (i.e., species in the order Falconiformes and Strigiformes) except as otherwise provided by the code; and (2) protect the active nests of all other birds (except English sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*)). Disturbance that causes nest abandonment and/or reproductive failure is considered a take. No take permits are issued under these statutes.

Species of Special Concern. The CDFG designates species of special concern, which are species with limited distribution, diminishing habitat, and declining populations, or species that otherwise possess unusual scientific, recreational, or educational value. The Species of Special Concern list is intended to be a land-use management tool.

Special-Status Natural Communities

Special-status natural communities are identified as such by CDFG's Natural Heritage Division and include those that are naturally rare and those whose extent has been greatly diminished through changes in land use. The California Natural Diversity Database (CNDDB) tracks 135 such natural communities in the same way that it tracks occurrences of special-status species: information is maintained on each site in terms of its location, extent, habitat quality, level of disturbance, and current protection measures. CDFG is mandated to seek the long-term perpetuation of the areas in which these communities occur. While there is no statewide law that requires protection of all special-status natural communities, CEQA requires consideration of the potential impacts of a project to biological resources of statewide or regional significance.

California Native Plant Protection Act (NPPA). CDFG Code sections 1900-1913 comprise the NPPA and seek to preserve, protect, and enhance rare or endangered California plants. The agency is responsible for establishing criteria to determine what native plants are rare or endangered, and for governing the take, possession, propagation or sale of such plants. The California Native Plant Society (CNPS) also identifies rare or endangered plants and lists them as 1A, 1B, 2, 3, and 4 species. Plants appearing on CNPS List 1A, 1B, or 2 meet CEQA significance criteria and CDFG sections 1901, 2062, and 2067 criteria as rare or endangered species.

California's Natural Communities Conservation and Planning Act (NCCPA). This act exists as a natural community conservation planning tool and was initiated to help declining species by conserving natural communities and by allowing complimentary land uses. It is designed to identify and protect individual species that have already declined significantly mainly because the endangered species listing process is long and extensive and often highly controversial. The CDFG takes jurisdiction under CDFG Section 2800-2835.

California Wetland Definition

The CDFG and the California Coastal Commission (CCC) have adopted the USFWS Cowardin (1979) definition of wetlands. While the federal definition of wetlands requires three wetland identification parameters to be met, the Cowardin definition can be satisfied under some circumstances with the presence of only one parameter. Thus, identification of wetlands by State agencies may include areas that are permanently or periodically inundated or saturated and without wetland vegetation or soils, such as rocky shores, or areas that presume wetland hydrology based on the presence of at least one of the following: a) a seasonal or perennial

dominance by hydrophytes[22] *or* b) the presence of hydric[23] soils. CDFG does not normally assert jurisdiction over wetlands unless they are subject to Streambed Alteration Agreements (CDFG Code Sections 1600–1616) or they support state-listed endangered species.

State regulation of activities in waters and wetlands resides primarily with CDFG and the State Water Resources Control Board (SWRCB). In addition, the CCC has review authority for wetland permits within its planning jurisdiction. CDFG provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. CDFG is also authorized under the California Fish and Game Code, Sections 1600-1616, to enter into a Streambed Alteration Agreement with applicants and to develop mitigation measures when a proposed project would obstruct the flow or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams.

The SWRCB, acting through the nine RWQCBs, must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act).

Other Plans and Policies

City of San Pablo Municipal Code-Tree removal

The City of San Pablo regulates tree removal and pruning within Chapter 12.6 – Trees, Shrubs, and Plants in Public Places of their municipal code.

12.16.010 – Permit – Required to trim, cut or remove – Supervision authorized.

- It is unlawful for any person to cut, trim, remove, mutilate, injure or in any way impair the growth of any tree, shrub or plant being or growing in or on public ground or parking strip in the city without a permit issued by the director of public works, who may refuse such permit upon reasonable and lawful grounds.
- The director of public works may require the work mentioned in subsection A of this section or any part thereof to be done under his supervision.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed San Pablo General Plan would have a potentially significant impact on the environment if it would:

Criterion 1: 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

[22] A hydrophyte is, literally, a water loving plant, i.e., one that is adapted to growing in conditions where the soil lacks oxygen, at least periodically during the year, due to saturation with water.

[23] A hydric soil is one that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile.

or regional plans, policies, or regulations; by the California Department of Fish and Game; or by the U.S. Fish and Wildlife Service, and found to have moderate or high potential to occur in the Planning Area.

Criterion 2: Have a substantial adverse effect on riparian habitat, federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.), or other sensitive natural community identified in local or regional plans, policies, and regulations; by the California Department of Fish and Game; or by the U.S. Fish and Wildlife Service, through direct removal, filling, hydrological interruption, or other means.

Criterion 3: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Criterion 4: Conflict with the provisions of adopted local conservation policies, resource protection and conservation plans, or other applicable adopted local, regional, or state habitat conservation plans.

The following CEQA *Guidelines* sections provide further description of what may be found significant:

- Section 15065 state that the EIR must make mandatory findings of significance if projects "…substantially 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, substantially reduce the number or restrict the range of an endangered, rare or threatened species…"
- Section 15380 states that a plant or animal species, even if not on an official list, may be treated as "rare or endangered" if, for example, it is likely to become so in the foreseeable future.

METHODOLOGY AND ASSUMPTIONS

Potential impacts resulting from implementation of the proposed San Pablo General Plan were evaluated based on a review of the following data sources:

- Existing resource information and aerial photographs of the Planning Area.
- Data presented in the CNDDB[24], CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California[25], and USFWS (2010) for the San Rafael and Novato USGS 7.5 minute topographic quadrangles, which include the preferred Planning Area and vicinity.

---

[24] CDFG, 2010.

[25] CNPS, 2010.

- Standard biological references (e.g., Hickman, 1993; Mayer and Laudenslayer, 1988; Sibley, 2001).
- Previous environmental impact reports, other environmental documents, resources, and surveys for the City of San Pablo and the northern San Francisco Bay.
- Other available literature regarding the natural resources of the area.

Based on a review of relevant maps and biological resources documentation for the City of San Pablo, this EIR presents a list of special-status species that were observed or had the potential to occur in the Planning Area, due to the presence of the basic habitat types that they inhabit. A species is designated as having a "low potential" for occurrence if (1) their known current distribution or range is outside of the Planning Area, (2) only limited or marginally suitable habitat is present within the Planning Area, (3) their specific habitat requirements (e.g., serpentine grasslands, as opposed to grasslands occurring on other soils) are not present, or (4) they are presumed, based on the best scientific information available, to be extirpated from the study area or region. A species is designated as having a "moderate potential" for occurrence if there is low to moderate quality suitable habitat within the Planning Area or immediately adjacent areas, even though the species was not observed during biological surveys. A species would be designated as having a "high potential" for occurrence if (1) moderate to high quality habitat is present within the Planning Area, and (2) the Planning Area is within the known range of the species.

IMPACT SUMMARY

Proposed Project Impact	*Mitigation Measure*	*Significance after Mitigation*
Implementation of the San Pablo General Plan could result in effects, either directly or through habitat modifications on special-status species.	None required	Less than significant
Implementation of the San Pablo General Plan could result in the direct loss of nesting birds.	None required	Less than significant
Implementation of the San Pablo General Plan has the potential to affect migratory and breeding birds through building collisions and increases in night lighting.	None required	Less than significant
Implementation of the San Pablo General Plan may adversely impact special-status bat species through removal of potential roosting habitat and through increases in noise levels during construction.	None required	Less than significant
Implementation of the San Pablo General Plan could result in the filling of wetlands and other waters.	None required	Less than significant
Implementation of the San Pablo General Plan could result in could interfere substantially with the movement of native resident or migratory fish or wildlife species.	None required	Less than significant

Proposed Project Impact	*Mitigation Measure*	*Significance after Mitigation*
Subsequent development projects associated with the implementation of the San Pablo General Plan in conjunction with other past, present, pending and reasonably foreseeable development in the County of Contra Costa or the City of San Pablo would/would not result in cumulative adverse impacts on special-status species, wetlands, or other waters of the United States.	None required	Less than significant

IMPACTS AND MITIGATION MEASURES

Impact

3.6-1 Implementation of the San Pablo General Plan could result in negative effects, either directly or through habitat modifications, on special-status species. (*Less than Significant*)

The monarch butterfly, California red-legged frog, the western pond turtle, the San Pablo song sparrow, and the Bridges coast range shoulderband snail are special-status animal species that may be present within the City of San Pablo, along with the plant known as Loma Prieta hoita.

The monarch butterfly, Bridges coast range shoulderband, and Loma Prieta hoita are most likely located within forested riparian areas. The Bridges coast range shoulderband may also be found within grasslands and weedy areas near the creeks and the monarch butterflies may be found in eucalyptus groves. Habitat for these sensitive species is limited within the City of San Pablo. Riparian corridors associated with both San Pablo Creek and Wildcat Creek are identified as sensitive natural communities by the CNDDB and Significant Ecological Resource Areas by the Contra Costa County General Plan. Any work within these areas could directly impact sensitive species which would result in significant impacts. Indirect impacts could occur through the loss of habitat or the introduction of non-native species within the vicinity which could contribute to the loss of sensitive species by out-competing.

Potential habitats for California red-legged frog and western pond turtle are also located in both San Pablo Creek and Wildcat Creek. While both creeks are surrounded by urban development, relatively undisturbed upstream habitats could contain breeding populations of California red-legged frog and western pond turtle. Individuals from upstream populations could move downstream and into sections of either creek within the Planning Area. Upland habitat for California red-legged frogs is only present in small, marginal patches, and it is not anticipated that individual frogs present in either creek would move upland from the riparian corridor. Project activities will not be likely to adversely affect California red-legged frogs or western pond turtles, but discharge of hazardous materials into either creek could significantly affect habitat quality for both species. However, potential impacts on aquatic special-status species possibly present in either creek would be reduced to less-than-significant levels through General Plan policies.

Proposed General Plan Policies that Reduce the Impact

OSC-G-3 *Protect and enhance wetlands, creek systems, and rare and endangered species and their habitats.*

OSC-G-4 *Ensure both access and ecological functionality of the creek system in San Pablo.*

OSC-G-5 *Protect water supply and quality through conservation and good stormwater management practices.*

OSC-I-4 Require protection of sensitive habitat areas and "special status" species through measures implemented in new development in the following order: 1) avoidance, 2) on-site mitigation, and 3) offsite mitigation, and require assessments of biological resources prior to approval for any development within 300 feet of any creeks, wetlands, or other sensitive habitat areas.

The City will coordinate with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Game, and Regional Water Quality Control Board to ensure City staff is providing developers with the best guidance and standards for project design to avoid impacts to creeks, wetland features, woodlands, or other sensitive natural features.

OSC-I-5 Develop a list of native plants and landscaping guidelines that residents and business owners should use for public and private landscaping plans. Make this list and guidance accessible through the Planning Department, the Public Library, and the City website.

Urban landscaping design and planting choices should be managed to maximize ecological and health benefits for the whole community.

OSC-I-6 Prohibit the use of invasive plant species, such as pampas grass and ivies, adjacent to wetlands, riparian areas, or other sensitive habitat.

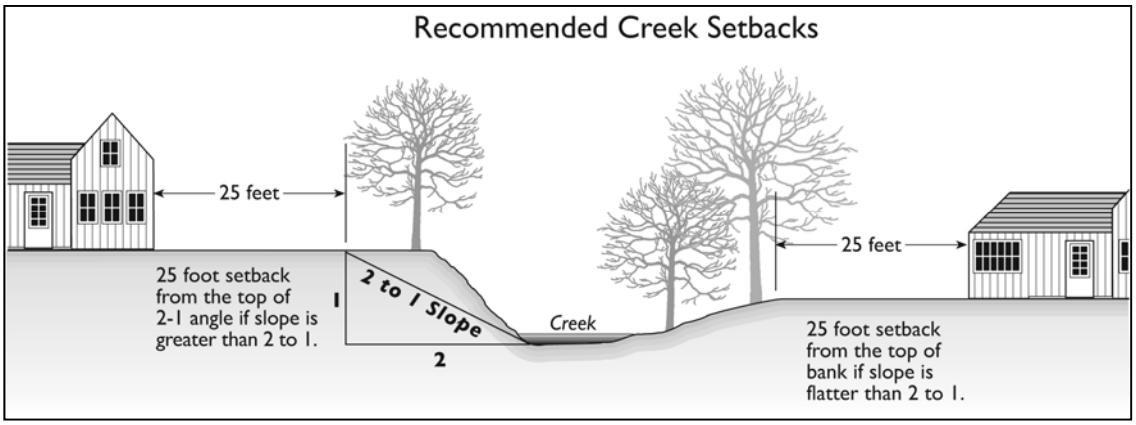
Invasive plants are introduced species that can thrive in areas beyond their natural range of dispersal. These plants are characteristically adaptable, aggressive, and have a high reproductive capacity. Their vigor combined with a lack of natural enemies often leads to outbreak populations that overwhelm local plant species.

OSC-I-7 Preserve and protect undeveloped hillside areas for their potential habitat value and as a visual and open space resource.

OSC-I-10 Maintain, protect, and enhance San Pablo's creeks, including Rheem, San Pablo, and Wildcat creeks, as local environmental and aesthetic resources, with approaches including, but not limited to:

- Establishing a Creek Improvement Program to widen, day-light, and improve San Pablo and Wildcat creeks for the enjoyment of residents;

- Strengthening stormwater management requirements for properties adjacent to the creek areas by applying techniques that maintain or restore nature character;
- Enforcing restrictions on the planting of invasive species near creek areas;
- Identifying and working with property owners to take advantage of unique opportunities where human active use (e.g. through trail development) would enhance creek appreciation without disrupting ecological function;
- Working with developers to "daylight" portions of creeks that have historically been channelized underground under existing paved areas (e.g. parking lots); and
- Requiring minimum setbacks from the top of the creek bank for development proposed adjacent to creeks, in keeping with City regulations and Best Management Practices.



OSC-I-11 Require property owners with properties adjacent to creeks to pay for creek improvement maintenance.

OSC-I-12 Continue to work with the Regional Water Quality Control Board (RWQCB) to protect and improve ground- and surface-water quality in the region.

OSC-I-20 Require developers to use best management practices (BMPs) to reduce particulate emissions and dust associated with construction activities as a condition for approval of subdivision maps, site plans, and grading permits. These BMPs include, but are not limited to, regular materials and vehicle tire watering, covering, and dust prevention measures during clearing, grading, earth-moving, or excavation operations.

SN-I-36 Use the Community Noise Level Exposure Standards, shown in Table 9.6-1 in the General Plan, as review criteria for new land uses. Require all new development that would be exposed to noise greater than the "normally acceptable" noise level range to reduce interior noise through design, sound insulation, or other measures.

SN-I-37 Require proposed industrial, commercial, and other uses with potential noise and vibration-producing activities to submit a noise study report identifying noise and vibration mitigation measures that would reduce the adjacent noise level to acceptable ranges based on the Community Noise Environment Standards.

SN-I-38 Require new, fixed noise sources (e.g. mechanical equipment) to use best available control technology (BACT) to minimize noise and vibration.

Noise from mechanical equipment can often be reduced by applying soundproofing materials, mufflers, or other controls provided by the manufacturer.

PSCU-I-34 Update zoning standards to minimize storm water runoff rates and volumes, control water pollution, and maximize recharge of local groundwater aquifers. New development will be required to include features that reduce impermeable surface area and increase infiltration. Such features may include, but are not limited to:

- Canopy trees or shrubs to absorb rainwater;
- Grading that lengthens flow paths and increases runoff travel time to reduce the peak hour flow rate;
- Removing curbs and gutters from parking areas where appropriate to allow stormwater sheet flow into vegetated areas;
- Permeable paving and parking area design;
- Stormwater detention and retention basins to facilitate infiltration; and
- Integrated or subsurface water retention facilities to capture rainwater for use in landscape irrigation and other non-potable uses.

Mitigation Measures

None required.

Impact

3.6-2 Implementation of the San Pablo General Plan could result in the direct loss of nesting birds. (*Less than Significant*)

Some nesting birds have adapted to urbanized areas and can be found utilizing trees, shrubs, or even buildings for nesting habitat. Other species of birds are more sensitive and tend to utilize less disturbed areas. The forested riparian corridors associated with San Pablo and Wildcat creeks are ideal habitat for nesting birds and raptors.

Most migratory birds, their nests, and their eggs are protected under the Migratory Bird Treaty Act. In addition, CDFG Code Section 3503 prohibits the destruction of nests or eggs of most bird species, including all raptors. Destruction of active nests or overt interference with nesting activities is prohibited. Although San Pablo is a highly urbanized, developed area, there is the possibility that common bird species may use any vegetation for nesting. With the exception of English sparrow (*Passer domesticus*), European starling (*Sturnus vulvaris*), and rock dove (pigeon, *Columba livea*), the nests, eggs, and nestlings of all birds are protected under the California Fish and Game Code. Development in line with the proposed San Pablo General Plan could have direct and indirect effects on nesting birds through removal of vegetation, equipment noise or vibration, or through the creation of environments more suitable for opportunistic avian species such as European starlings. These effects, when applied to nesting special-status bird species, including raptors, would be considered significant.

Adherence to the existing regulations above and to General Plan Policies would ensure that potential impacts to nesting birds and raptors would be less than significant.

Proposed General Plan Policies that Reduce the Impact

OSC-I-8 If site work or construction (i.e., ground clearing or grading, including removal of trees or shrubs) activities are to occur during the nesting bird breeding season (February 1 through August 31), the City will require a pre-construction survey by a qualified wildlife biologist, assessing potential special-status bird nesting habitat within 500 feet of the project site, no more than two weeks in advance, of the planned activity. All identified nests should be buffered from the construction activity as recommended by the biologist and confirmed by City staff, in accordance with the nature of the construction and nesting activities.

Construction activities scheduled to occur during the non-breeding season (September 1 through January 31) do not require a survey. Construction activities commencing during the non-breeding season and continuing into the breeding season also do not require surveys. Nests initiated during construction activities would be presumed to be unaffected by the activity, and a buffer zone around such nests would not be necessary. However, a nest initiated during construction cannot be moved or altered.

Furthermore, proposed General Plan policies listed under Impact 3.6-1 would also help to reduce this potential impact to a level that is less than significant.

Mitigation Measures

None required.

Impact

3.6-3 Implementation of the San Pablo General Plan has the potential to affect migratory and breeding birds through building collisions and increases in nighttime lighting. (*Less than Significant*)

The proposed General Plan would accommodate infill development within the City of San Pablo, but does not contemplate large-scale increases in intensity or substantive increases in building heights, compared to existing conditions. The General Plan envisions an entertainment district along San Pablo Avenue near San Pablo Dam Road, along with other intensification of land use along San Pablo Avenue. Focus areas along San Pablo Avenue are anticipated to increase from 1-2 stories in height today to 2-5 stories in height at General Plan buildout. According to the Massachusetts Audubon Society, birds hit every size window, and at any height, but that many deaths occur when birds fly into illuminated high-rise buildings.[26] This analysis concludes that the increase from 1-2 stories to 2-5 stories in specific focus areas of San Pablo is not a substantial enough change in building heights to suggest a potentially significant effect.

These density and intensity changes would also increase nighttime lighting along San Pablo Avenue. However, San Pablo Avenue is already a developed commercial corridor with businesses and nighttime lighting. The anticipated development intensification would not substantially increase night lighting levels beyond those that now exist in this urbanized location, and proposed General Plan policy would work to reduce the overall impact of light pollution and glare.

Proposed General Plan Policies that Reduce the Impact

Proposed General Plan policies listed under impacts 3.6-1 and 3.6-2 would also help to reduce this potential impact to a level that is less than significant.

Mitigation Measures

None required.

[26] Massachusetts Audubon Society, website: http://www.massachusettsaudubonsociety.com

Impact

3.6-4 Implementation of the proposed San Pablo General Plan may adversely impact special-status bat species through removal of potential roosting habitat and through increases in noise levels during construction. (*Less than Significant*)

Three species of special-status bats, including western red bat, long-eared myotis, and fringed myotis, could potentially roost and breed in conifers, oak trees, eucalyptus, or old buildings within the City of San Pablo. Tree removal or demolition of buildings could result in the direct mortality of special-status bats, if they are present. Such activities also have the potential to result in disturbance of maternity roosts through an increase in noise and human activity during the construction period.

Proposed General Plan Policies that Reduce the Impact

OSC-I-9 For any development projects involving removal of mature trees and/or demolition of vacant buildings (both potential habitats for special-status bats), require a pre-construction survey by a qualified wildlife biologist to determine if bats are present using an acoustic detector. Require implementation of feasible recommendations of the biologist on removal of trees with signs of bat activity during a period least likely to adversely affect the bats, or the creation of a "no disturbance" buffer, if a viable alternative.

Furthermore, proposed General Plan policies listed under impacts 3.6-1 through 3.6-3 would also help to reduce this potential impact to a level that is less than significant.

Mitigation Measures

None required.

Impact

3.6-5 Implementation of the San Pablo General Plan could result in the filling of wetlands and other waters. (*Less than Significant*)

The Planning Area contains streams and associated riparian habitat, San Pablo Creek, Wildcat Creek, Rheem Creek, and an un-named tributary. Seasonal wetlands may be isolated within the City of San Pablo or they may be associated with the streams.

Excavation, grading, placement of riprap, temporary dewatering, or other earthmoving activities within the boundary of jurisdictional waters would constitute "fill." Development and redevelopment of property within the City of San Pablo could increase surface runoff and could increase seasonal flows within the creeks which could impact the jurisdictional waters. New structures and riprap within streams or on stream banks could also disrupt natural hydrology and could also erode the banks, exposing the root masses of riparian vegetation, leaving it vulnerable. If vegetation is not restored properly following construction, invasive plant species could become

established in and near jurisdictional waters, further impacting these complex systems. During and after construction of projects implemented pursuant to the San Pablo General Plan, rainfall could erode banks and sediment could be deposited within jurisdictional waters. There would also be potential for hazardous materials spills into jurisdictional waters from refueling, leaks from machinery, or products used in construction, such as adhesives, solvents, paints, and drilling and petroleum lubricants. Discharge of fill into State- or federal jurisdiction waters, whether temporary or permanent, would be a significant impact.

Any project resulting in permanent or temporary fill of jurisdictional waters is subject to provisions of sections 401 and 404 of the Clean Water Act, sections 1600 through 1616 of the California Fish and Game Code, and Section 401 Regional Water Quality Control Board certification or waiver. Acquisition of these permits is a regulatory requirement and is not considered in and of itself mitigation for loss of waters of the United States. However, the processes for obtaining any State or federal wetlands permits involve the development of compensatory actions similar to CEQA-derived mitigation in scope and intent.

Proposed General Plan Policies that Reduce the Impact

OSC-I-20 Require developers to use best management practices (BMPs) to reduce particulate emissions and dust associated with construction activities as a condition for approval of subdivision maps, site plans, and grading permits. These BMPs include, but are not limited to, regular materials and vehicle tire watering, covering, and dust prevention measures during clearing, grading, earth-moving, or excavation operations.

SN-I-6 Require erosion prevention of hillside areas by re-vegetation or other acceptable methods.

SN-I-7 Continue to minimize the risk of flooding to development through the development review process. Require new development within a flood plain to comply with the City's Floodplain Management and Flood Damage Prevention Ordinance and to submit hydrologic studies, identify site development and construction methods, and implement appropriate mitigation measures to minimize surface water run-off.

Developers will be required to provide an assessment of a project's potential impacts on the local storm drainage system as part of the development review process. If development is found to have a negative impact on storm drainage, mitigation measures, such as the creation of permanent or temporary detention or retention basins, provision of additional landscaped areas and green roofs, installation of pump stations, and the use of permeable paving in driveways, walkways and parking areas, may be required.

Furthermore, proposed General Plan policies listed under impacts 3.6-1 through 3.6-4 would also help to reduce this potential impact to a level that is less than significant.

Mitigation Measures

None required.

Impact

3.6-6 Implementation of the proposed San Pablo General Plan could interfere substantially with the movement of native resident or migratory fish or wildlife species. (*Less than Significant*)

While most of the City of San Pablo is heavily developed and lacks habitat value for most species, San Pablo Creek and Wildcat Creek represent important wildlife corridors connecting the bay salt marsh habitats with undeveloped oak savannah and annual grasslands in the Oakland hills. Development construction is not anticipated to directly modify these riparian habitats, but may increased water pollution or noise levels which could impact wildlife within the riparian corridors of both /creeks. Additionally, San Pablo Creek and Wildcat Creek are included in the critical habitat of the Central California Coast steelhead. Steelhead critical habitat may be affected by any increase in runoff, pollution, or human disturbance related to the implementation of the San Pablo General Plan. Also, encroachment into the riparian area would further compromise steelhead habitat. This includes structures or materials crossing the stream or any fill in the riparian corridor.

Proposed General Plan Policies that Reduce the Impact

SN-I-13 Cooperate with the County Flood Control District, California Department of Transportation, and the Army Corp of Engineers to mitigate potential flooding risks, including flood control projects on Wildcat and San Pablo creeks and the maintenance of drainage facilities and infrastructure.

Flood control projects will be designed to support the City's efforts to reestablish natural conditions in these creek corridors.

Furthermore, proposed General Plan policies listed under impacts 3.6-1 through 3.6-5 would also help to reduce this potential impact to a level that is less than significant.

Mitigation Measures

None required.

Cumulative Impact

3.6-7 Subsequent development projects associated with the implementation of the San Pablo General Plan in conjunction with other past, present, pending and reasonably foreseeable development in the County of Contra Costa or the City of San Pablo could result in cumulative adverse impacts on special-status species, wetlands, or other waters of the United States. (*Less Than Significant*)

The geographic context for analysis of cumulative impacts to biological resources in this DEIR encompasses sites within and adjacent to the City of San Pablo. This analysis evaluates whether the impacts of the proposed San Pablo General Plan, together with the impacts of cumulative development, would result in a cumulatively significant impact on special-status species, wetlands and other waters of the United States, or other biological resources protected by federal, state, or local regulations or policies (based on the significance criteria and thresholds presented earlier). This analysis then considers whether the implementation of the General Plan would contribute to cumulative impacts and have a significant effect.

The San Pablo General Plan and other future projects within the cumulative geographic context are required to comply with local, state, and federal laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on biological resources, including wetlands, other waters of the United States, and special-status species. Additionally, new projects would be required to mitigate significant effects on these biological resources to the extent feasible, although it is possible that some projects may be approved even though they would have significant, unavoidable impacts on biological resources.

Existing conditions in the City of San Pablo reflect the results of past development, which has filled or otherwise eliminated much of the original extent of the wet meadow and wetlands once present and resulted in loss and fragmentation of original habitat, as well as the introduction of night lighting and increased noise. Current industrial and residential uses provide little habitat value for the majority of the city. However, the city contains two vegetated riparian corridors that provide valuable wildlife habitat.

Unmitigated significant noise and lighting impacts resulting from the implementation of the General Plan and other reasonably foreseeable projects, combined with existing conditions resulting in part from past development, could increase the aggregate effect and be considered cumulatively significant. However, the current impact analysis has shown that the proposed project has the potential for relatively minor impacts on biological resources and that these impacts can be minimized to less than significant levels through the application of the General Plan Policies and proposed mitigation measures. When considered relative to all past, present, and reasonably foreseeable similar projects within the geographic context for this analysis, the incremental contribution of the proposed project to an already existing cumulative impact would not be cumulatively considerable. Therefore, the cumulative effect of the proposed project on biological resources would be less than significant.

Mitigation Measures

None Required.

3.7 Geology and Seismicity

This section discusses the effects of the proposed San Pablo General Plan as they relate to geology, soils, and seismicity. Topography, underlying geologic materials, and surficial soils within the Planning Area are described, as are landsliding, settlement, and soil-related issues such as erosion. Additionally, earthquake hazards including ground shaking, liquefaction, earthquake-induced landsliding, and tsunamis are assessed.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Topography and Geography

The prominent San Andreas fault zone forms the boundary between the Pacific and North American crustal plates and locally separates two distinct bedrock complexes (basement rocks) underlying the region: the Franciscan Formation and the Salinian Block. Most of the Bay Area, including the major urbanized areas and all of Contra Costa County including San Pablo, lies to the east of the San Andreas Fault and is underlain by the Franciscan Formation. The Franciscan Formation is an assemblage of sedimentary, volcanic and metamorphic rocks that formed when the Pacific crustal plate descended beneath the North American plate during the Jurassic and Cretaceous Age (between 65 and 200 million years ago). These crumbled sea floor sediments form the bulk of the Coast Ranges, and rocks of the Franciscan Formation are exposed widely over much of the Bay Area.[1]

Contra Costa County occupies portions of two geomorphic provinces, the Coast Ranges and the Great Valley. The western portion of the county, where San Pablo is located, lies within the Coast Ranges geomorphic province and is characterized by folds, thrusts, and faults that form a series of nearly parallel northwest-trending ridges, interspersed with alluvium-filled valleys. Terraces and alluvial fans skirt the ridges that border San Francisco and Suisun Bays and merge into tidal flats along the Bay margins.[2]

Flood Plains, Alluvial Fans, and Terraces in the Valleys

The youngest geologic units in the Bay Area are the thick unconsolidated alluvial deposits that underlie the valleys in the region, and the estuarine sediments that underlie San Francisco Bay and the Sacramento-San Joaquin River Delta. Alluvial deposits consist of gravel, sand, silt and clay that are many hundreds of feet thick in some areas. Estuarine deposits include soft, saturated bay mud and peat that underlie shoreline and former marsh areas. Considerable portions of urbanized areas within the region have been built on fill that was placed over soft bay mud deposits. In the county, those regions include the coastal areas of Richmond and between

---

[1] Graymer et al., 1994.

[2] USDA, 1977.

Martinez and Pittsburg.[3] Most of the San Pablo Planning Area contains alluvial deposits consisting of unconsolidated and poorly to moderately consolidated sands, silts, clays, muds, and gravel near the surface. The alluvium varies in depth, but is generally deeper in the western and central parts of the city, and thinner as it approaches the low slopes of the bedrock hillsides.[4]

Hilly to Steep Uplands in the Coast Ranges

The upland areas of the Coast Ranges—which reach San Pablo in the northernmost and easternmost hilly sections of the city—are composed primarily of sedimentary rocks consisting of shale, siltstone, sandstone, clay stone, and conglomerate folded and faulted into steep slopes. Volcanic rocks are also present within the upland areas. Bedrock within the Coast Ranges in Contra Costa is lime-enriched (contains many seams of lime), and is easily fractured and susceptible to rapid weathering. Under certain conditions, for instance, saturation from precipitation, the steep slopes and varying soil types can promote slope failures including landslides, debris flows, and surface erosion, often more severe on cut and fill slopes. Soils in the upland areas of the Coast Ranges are primarily composed of fine silts or clays.

Seismicity and Regional Active Faults[5]

The San Francisco Bay Area is considered a region of high seismic activity. The U.S. Geological Survey (USGS) along with the California Geological Survey (CGS, formerly known as California Division of Mines and Geology) and the Southern California Earthquake Center formed the 2007 Working Group on California Earthquake Probabilities which has evaluated the probability of one or more earthquakes of magnitude 6.7 or higher occurring in the state of California over the next 30 years. The result of the evaluation indicated a 63 percent likelihood that such an earthquake event will occur in the Bay Area.[6]

The Bay Area contains both active and potentially active faults, four of which extend into Contra Costa County, as shown on **Figure 3.7-1**. Only one—the Hayward fault—extends into the San Pablo Planning Area. The faults in or near the Planning Area are described below and listed in **Table 3.7-1**.

Hayward Fault

The Hayward fault extends northwestward along the western base of the East Bay Hills for a distance of 45 miles. The fault trace passes through a small portion of northern Santa Clara County, western Alameda County, and the northwestern portion of Contra Costa County, including directly through the San Pablo Planning Area. The Hayward Fault is classified as an historically active fault because there is evidence of displacement in 1836 and 1968.[7] The potential

---

[3] Helley, Graymer, 1997.

[4] 1996 San Pablo GP EIR.

[5] Expected ground shaking intensities in Contra Costa from an earthquake on specific faults within the Bay Area are derived from Earthquake Shaking Hazard Maps (ABAG, 2003a).

[6] USGS, 2008.

[7] Jennings, 1994, Radbruch, 1967.

maximum estimated ground shaking from an earthquake on the Hayward fault ranges from moderate (MM VI) to strong (MM VII) in the eastern part of the County, to very strong (MM VIII) and very violent (MM X) in the western portions of the County nearest the fault. (See **Table 3.7-2** for explanation of MM scale.)

Rodgers Creek Fault

The Rodgers Creek fault trends northwestward from San Pablo Bay up through Santa Rosa for approximately 39 miles within Sonoma County. The trend of the Rodgers Creek and Hayward faults are similar, suggesting that they may be related. The WGCEP 2007 places a 31 percent chance of an earthquake occurring on the Hayward/Rodgers Creek fault within the next 30 years. Potential ground shaking from an earthquake on the Rodgers Creek fault ranges from moderate (MM VI) to strong (MM VII) in most parts of the county, with very strong (VIII) ground shaking expected to occur along the margins of the Bay.

San Andreas Fault

The San Andreas Fault Zone is the largest in the state, extending from the Salton Sea in Southern California, near the border with Mexico, to north of Point Arena, where the fault trace extends into the Pacific Ocean. The main trace of the San Andreas Fault through the Bay Area trends northwest through the Santa Cruz Mountains and the eastern side of the San Francisco Peninsula. The San Andreas Fault Zone was the source of the two major seismic events in recent history that resulted in widespread damage throughout the San Francisco Bay region: the 1906 San Francisco earthquake, and the more recent 1989 Loma Prieta earthquake. The estimated maximum ground shaking from an earthquake on the San Andreas Fault is moderate (MM VI) throughout the majority of the county, although areas bordering the Bay are expected to experience very strong (MM VIII) to violent (MM IX) ground shaking.

Concord-Green Valley Fault

This fault is located approximately 15 miles northeast of San Pablo. Because they have similar alignments, it is believed that the Concord and Green Valley faults may be related. The Concord portion of the fault, found in Contra Costa, passes through Concord and trends in a northwestward direction into the Carquinez Strait. The total length of the fault is unknown but is thought to be between 11 and 14 miles long. The Green Valley portion of the fault lies north of Suisun Bay where it trends northwestward for approximately 24 miles from western Solano County up into the southeastern portion of Napa County. The potential maximum estimated ground shaking from an earthquake on the Concord-Green Valley fault ranges from very strong (MM VIII) to very violent (MM X) in the eastern part of the county nearest the fault, and moderate (MM VI) and strong (MM VII) elsewhere.

Calaveras Fault

The Calaveras fault splits from the San Andreas south of Hollister and trends northward along the eastern boundary of the Santa Clara Valley and into the Diablo Range. The 71-mile fault trace passes through Santa Clara County, Alameda County, and into the southern portion of Contra Costa County. The potential range of maximum estimated ground shaking from an earthquake on the Calaveras fault is moderate (MM VI) to strong (MM VII) in the majority of the county. Ground shaking intensity increases to very strong (MM VIII) along the Bay margins, and very

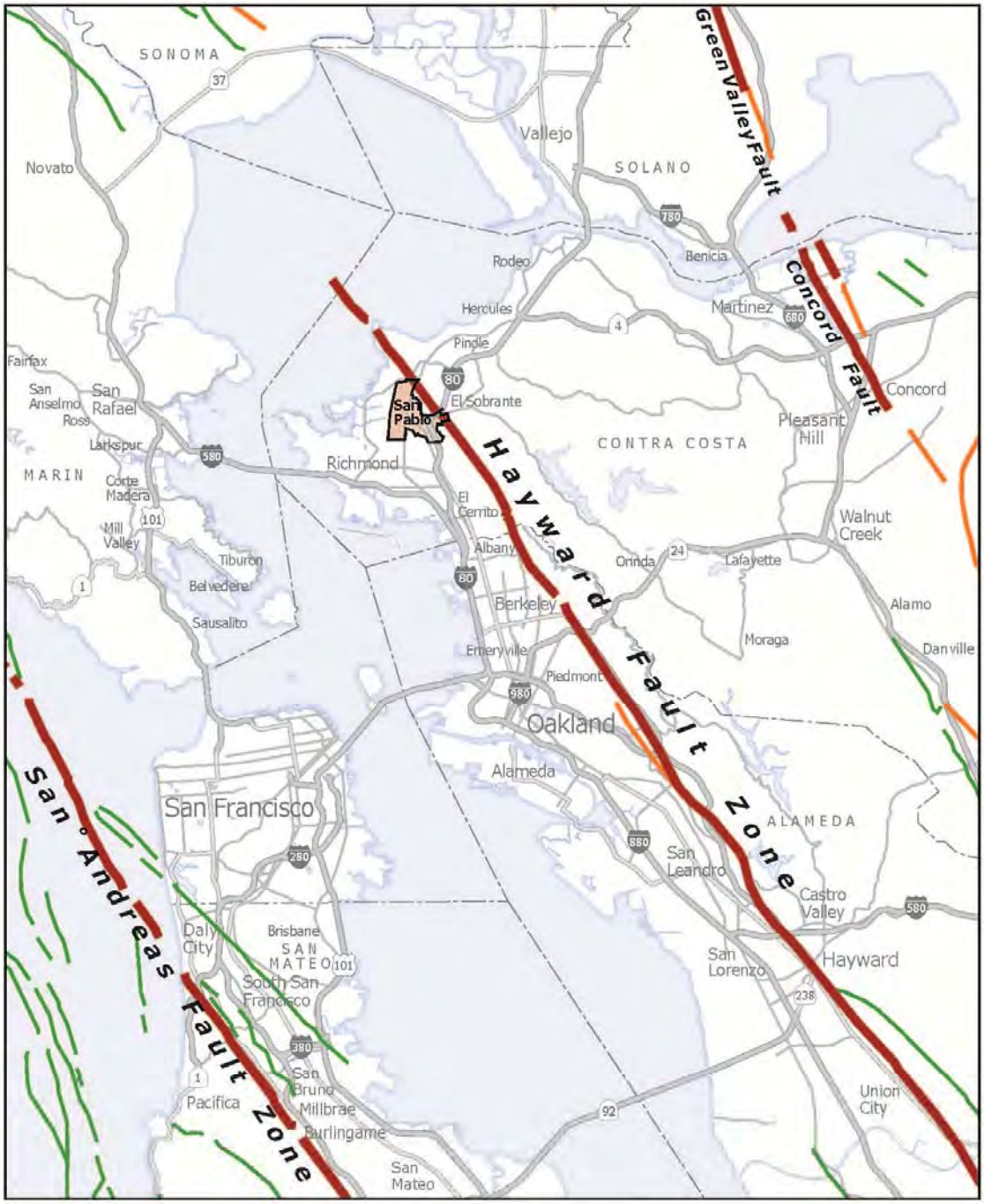
strong (MM VIII) and very violent (MM X) in the south-central portions of the county nearest the fault.

Marsh Creek/Greenville Fault

The Marsh Creek/Greenville fault trends northwestward through Livermore Valley in eastern Alameda County and into central Contra Costa. The maximum estimated ground shaking from an earthquake on the Marsh Creek/Greenville fault ranges from light (MM V) to strong (MM VII) in the majority of the county, and very strong (MM VIII) to very violent (MM X) in the areas nearest the fault.

Mount Diablo Thrust Fault

The Mount Diablo blind thrust fault is a newly recognized earthquake source for the San Francisco Bay region, and was added to seismic probability calculations during the previous (2002) Working Group findings. It has been mapped on the western base of Mount Diablo on the eastern side of the San Ramon Valley. A blind thrust fault does not exhibit a surficial expression of displacement, and is therefore not zoned under the Alquist-Priolo Act, discussed below. Potential maximum estimated ground shaking from an earthquake on the Mount Diablo thrust fault ranges from moderate (MM VI) to strong (MM VII) in the majority of the county, to very strong (MM VIII) and violent (MM IX) in areas immediately adjacent to the fault.



Active Fault with Historic (last 200 years) Displacement

Active Fault with Holocene (last 11,000 years) Displacement

Potentially Active Fault with Quaternary (last 1,600,000 years) Displacement

0 1 5 10
MILES

Figure 3.7-1
Regional Faults

Table 3.7-1 Active Faults In The Vicinity Of San Pablo

Fault	*Distance and Direction from San Pablo*	*Recency of Movement*	*Fault Classification*[1]	*Historical Seismicity*[2]	*Maximum Moment Magnitude Earthquake (Mw)*[3]
Hayward	In Planning Area	Historic (1836; 1868 ruptures) Holocene	Active	M6.8, 1868 Many <M4.5	7.1
Rodgers Creek	14 miles northwest	Historic Holocene	Active	M6.7, 1898 M5.6, 5.7, 1969	7.0
San Andreas	15 miles west	Historic (1906; 1989 ruptures) Holocene	Active	M7.1, 1989 M8.25, 1906 M7.0, 1838 Many <M6	7.9
Concord–Green Valley	15 miles northeast	Historic (1955) Holocene	Active	Historic active creep	6.9
Calaveras	27 miles southeast	Historic (1861 rupture) Holocene	Active	M5.6–M6.4, 1861 M4–M4.5 swarms 1970, 1990	6.8
Marsh Creek–Greenville	In County	Historic (1980 rupture) Holocene	Active	M5.6 1980	6.9
Mt. Diablo Blind-Thrust	In County	Historic	Active	Slip rate 3mm/yr	6.6

[1] Footnote in text describes the qualities of active faults.

[2] Richter magnitude (M) and year for recent and/or large events. Magnitude is a measure of the energy released in an earthquake. The Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave.

[3] The maximum moment magnitudes (Mw) represent characteristic earthquakes on Bay Area faults. The concept of "characteristic" earthquake means that we can anticipate, with reasonable certainty, the actual earthquake that can occur on a fault. Derived from the joint CGS/USGS Probabilistic Seismic Hazard Assessment for the State of California, 1996. (CGS OFR 96-08 and USGS OFR 96-706). Maximum moment magnitude for Mount Diablo Fault derived from USGS WGO2.

Source: Hart, 1997; Jennings, 1994; Peterson, 1996; USGS, 2002; distances not highlighted in yellow come from 1996 San Pablo General Plan EIR.

Types of Seismic Hazards

Fractures in the earth's surface along a fault are potentially very destructive in urban areas. However, the more common widespread effects of earthquakes are ground shaking and ground failures with associated damaging effects on structures and facilities. During severe earthquakes in the ocean, tsunamis (seismic sea waves) may occur due to the vertical displacement of the ocean floor. A seiche (pronounced *saysh*) occurs in enclosed bodies of water and is formed by

ground waves. Flooding may also be triggered by dam or levee failure, or by seismically induced settlement or subsidence (sinking).

Surface Fault Rupture

The magnitude and nature of fault rupture can vary for different faults or even along different strands of the same fault. Surface rupture can damage or collapse buildings, cause severe damage to roads and pavement structures, and cause failure of overhead as well as underground utilities. As a result of the damage, buildings can become uninhabitable, roads can close, and utility service can be disrupted for an undetermined length of time. Future faulting is generally expected along different strands of the same fault.[8] Ground rupture is considered more likely along active faults. Within Contra Costa, the Hayward, Calaveras, Concord-Green Valley, and Marsh Creek-Greenville Faults are likely potential sources of surface fault rupture. These faults are zoned by the CGS as Fault Rupture Hazard Zones under the Alquist-Priolo Act, as discussed below under Regulatory Setting.

Ground Shaking

Earthquakes in the Bay Area have the potential to produce strong ground shaking. Ground movement during an earthquake can vary depending on the overall moment magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. As a rule, the greater the earthquake magnitude and the closer the fault rupture to the site, the greater the intensity of ground shaking. However, different geologic materials respond differently to earthquake waves. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. The Modified Mercalli (MM) intensity scale (see **Table 3.7-2**) is commonly used to measure earthquake effects due to ground shaking. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total), and intensities ranging from IV to X could cause moderate to significant structural damage.[9] The strongest ground shaking anticipated to occur in San Pablo will be triggered by the North Hayward Fault, due to immediate proximity. Damage in areas near the fault and those underlain by estuarine deposits near creeks and the shoreline to the west could be extensive. Earthquakes on other faults will produce lower-intensity shaking in the city.

---

[8] California Geological Survey, CMDG Note 32, 1997.

[9] The damage level represents the estimated overall level of damage that will occur for various MM intensity levels. The damage, however, will not be uniform. Some buildings will experience substantially more damage than this overall level, and others will experience substantially less damage. Not all buildings perform identically in an earthquake. The age, material, type, method of construction, size, and shape of a building all affect its performance.

Table 3.7-2 Modified–Mercalli Intensity Scale (Ground Shaking)

Intensity Value	*Intensity Description*	*Average Peak Acceleration*
I	Not felt except by a very few persons under especially favorable circumstances.	< 0.0017 g
II	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	< 0.014 g
III	Felt noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly, vibration similar to a passing truck. Duration estimated.	< 0.014 g
IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	0.014–0.039 g
V	Felt by nearly everyone, many awakened. Some dishes and windows broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles may be noticed. Pendulum clocks may stop.	0.039–0.092 g
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; and fallen plaster or damaged chimneys. Damage slight.	0.092–0.18 g
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.	0.18–0.34 g
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	0.34–0.65 g
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.65–1.24 g
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	> 1.24 g
XI	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 1.24 g
XII	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 1.24 g

g (gravity) = 980 centimeters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

Source: ABAG and California Geological Survey, 2003.

More remote faults, however, are still capable of producing earthquakes with ground shaking in Contra Costa that may achieve levels considered strong or very strong (MM VI–MM VIII). Of the historically recorded earthquakes greater than moment magnitude 5.0 in the Bay Area since 1836, only two have been centered in Contra Costa: the 1889 Antioch earthquake with a moment magnitude of 5.6 and the 1955 Concord-Walnut Creek earthquake with a moment magnitude of 5.4.[10,11]

Liquefaction

Areas with high liquefaction potential within Contra Costa are those underlain by Bay Mud or artificial fill along the shoreline of the Bay, the delta lowlands, and in areas of poorly drained soils on basins, valley fill, and floodplains, as shown on **Figure 3.7-2**. Most of the lowland areas of San Pablo are mapped as having potentially moderate, high, or very high liquefaction hazards, with the highest hazard areas occurring along the San Pablo and Wildcat creeks.[12]

Tsunami

Tsunamis affecting the Bay region would most likely originate west of the Bay, within the Pacific Rim. Areas that are highly susceptible to tsunami inundation tend to be located in low-lying coastal areas such as tidal flats, marshlands, and former Bay margins that have been artificially filled. Inundation or damage caused by tsunamis may disrupt highway traffic in those low-lying areas. According to the most recent tsunami inundation maps from July, 2009[13], the City of San Pablo is not directly vulnerable, however nearby communities such as Richmond could see inundation which could indirectly affect the functioning of transportation systems and services for San Pablo as well.

---

[10] USGS, 1983.

[11] Magnitude data before 1945 are incomplete and some earthquakes of magnitude greater than moment magnitude 5.0 may have gone unreported.

[12] ABAG, 2009.

[13] Initial tsunami modeling was performed by the University of Southern California (USC) Tsunami Research Center funded through the California Emergency Management Agency (CalEMA) by the National Tsunami Hazard Mitigation Program. Local tsunami sources considered include offshore reverse-thrust faults, restraining bends on strike-slip fault zones and large submarine landslides capable of significant seafloor displacement and tsunami generation. Distant tsunami sources considered include great subduction zone events that are known to have occurred historically (1960 Chile and 1964 Alaska earthquakes) and others which can occur around the Pacific Ocean "Ring of Fire."

To enhance the result from the 75- to 90-meter inundation grid data, a method was developed utilizing higher-resolution digital topographic data (3- to 10-meters resolution) that better defines the location of the maximum inundation line (USGS, 1993; Intermap, 2003; NOAA, 2004). The location of the enhanced inundation line was determined by using digital imagery and terrain data on a GIS platform with consideration given to historic inundation information (Lander, et al., 1993). This information was verified, where possible, by field work coordinated with local county personnel. The accuracy of the inundation line shown on these maps is subject to limitations in the accuracy and completeness of available terrain and tsunami source information, and the current understanding of tsunami generation and propagation phenomena as expressed in the models. Thus it remains possible that actual inundation could be greater in a major tsunami event. This map does not represent inundation from a single scenario event. For this reason, all of the inundation region in a particular area will not likely be inundated during a single tsunami event.

Slope Instability and Failure

The susceptibility of land sliding/slope failure is dependent on the slope and geology as well as the amount of rainfall, excavation or seismic activities. An earthquake can also cause movement of active slides and can trigger new slides in the same general areas of previous slides. Land that has experienced sliding in the past is often more slide-prone and more sensitive to human-induced changes, such as grading, watering, removing or changing the type of vegetation, and changing drainage patterns. The CGS has not yet evaluated Contra Costa County for potential designation as a Seismic Hazard Zone for earthquake-induced landslides, discussed below.

Weak Soils

Portions of San Pablo are underlain by Bay Mud, as well as portions of the communities of Richmond, Pinole, Hercules, Rodeo, Martinez, Pittsburgh, Antioch, Concord, Pleasant Hill, Alamo, Danville, San Ramon, the Tassajara Valley, Byron and Brentwood. In addition to liquefaction hazards, Bay Mud and other soft soils have a low bearing strength, often leading to foundation failure or excessive differential settlement.

Expansive Soils

Almost 60 percent of the soils that underlie San Pablo are expansive soils which possess severe building site restrictions based on their shrink-swell potential. **Table 3.7-3** lists soil types and the building site restrictions for each based on shrink-swell potential.

Table 3.7-3 Planning Area Soils and Building Site Development Restriction

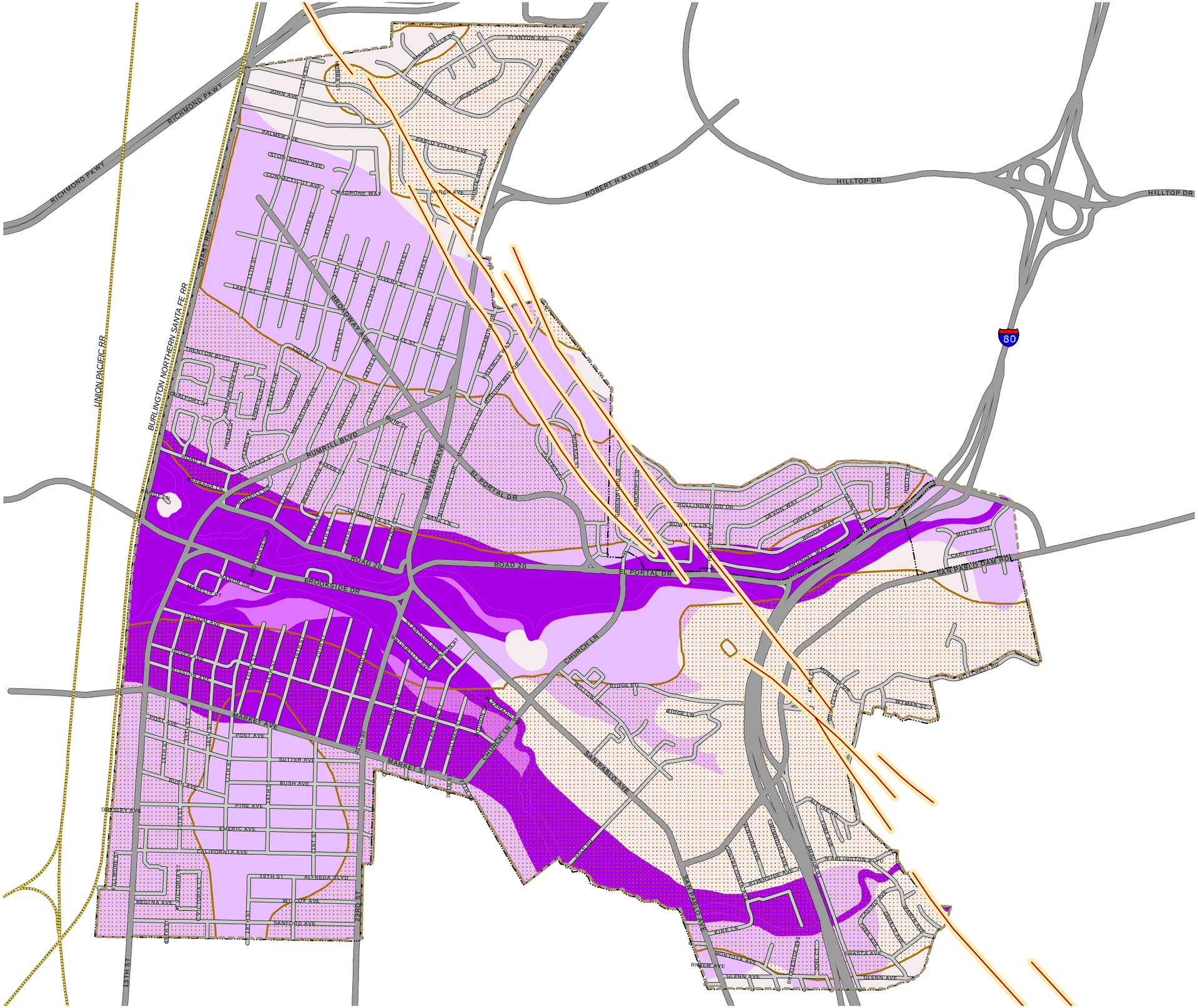
Map Symbol/ Soil Name	*Building Site Development Restriction*[1]	*Acres*	*Percent of Planning Area*[2]
BaA/ Botella clay loam, 0 to 2 percent slopes	Moderate	9	0.5
Cc/ Clear lake clay	Severe	737	41.2
CeA/ Conejo clay loam, 0 to 2 percent slopes	Moderate	340	19.0
CkB/ Cropley clay, 2 to 5 percent slopes	Severe	50	2.8
CnE/ Cut and fill land-los osos complex, 9 to 30 percent slopes	Severe	169	9.4
CoE/ Cut and fill land-millsholm complex, 9 to 30 percent slopes	Severe	2	0.1
GcF/ Gilroy clay loam, 30 to 50 percent slopes	Severe	3	0.2
LhF/ Los osos clay loam, 30 to 50 percent slopes	Severe	101	5.6
TaC/ Tierra loam, 2 to 9 percent slope	Moderate	379	21.2
W/ Water	NA	1	0.1
Total		**1,790**	**100.0**

[1] Indicates development restrictions due to shrink-swell potential. Soils with shrink-swell rating of 0.5 are given a moderate rating while those with 1.00 are given a severe rating as it indicates the greatest negative impact on use.
[2] Totals may not add up due to rounding.

Source: US Department of Agriculture, Natural Resources Conservation Service. Soil Survey of Contra Costa County, 1977.

Figure 3.7-2

Liquefaction Susceptibility and Shrink-Swell



Hayward Fault

Alquist-Priolo Zone

Severe Shrink-Swell Potential

Liquefaction Susceptibility

- Very Low
- Low
- Moderate
- High
- Very High
- Water

Planning Area

City Limits

Major Roads

Minor Roads

Railroads

0 0.25 0.5

Miles

SOURCE: ABAG, 2009; NRCS, 2008; USGS 2005; Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.7-2

REGULATORY SETTING

Definitions

- **Active/Potentially Active Faults.** An "active" fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 10,000 years). A "potentially active" fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not mean that faults lacking evidence of surface displacement are necessarily inactive. "Sufficiently active" is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches.[14]
- **Alluvial Fan.** An alluvial fan is an outspread, gently sloping mass of alluvium deposited by a stream. In geologic terms, an alluvial fan can be defined as "A low, outspread, relatively flat to gently sloping mass of loose rock material, shaped like an open fan or a segment of a cone, deposited by a stream (esp. in a semiarid region) at the place where it issues from a narrow mountain valley upon a plain or broad valley, or where a tributary stream is near or at its junction with the main stream…"[15]
- **Alluvium.** Alluvium is "a general term for clay, silt, sand, gravel, or similar detrital material, deposited by a stream or other body of running water (during comparatively recent geologic time) as a sorted, semi-sorted, or stratified sediment in the bed of the stream or on its flood plain or delta, [or] as a cone or fan at the base of a mountain slope…"[16]
- **Expansive Soils.** Expansive soils swell in density and volume as they absorb water and contract as they lose water. Associated problems include cracking and deterioration of roadway surfaces, as they expand and contract during seasonal wet and dry cycles. Soils with high shrink swell potential are also poor candidates for construction of tall buildings or basements.
- **Geomorphic Provinces.** Geomorphic provinces are geologic regions that have distinctive characteristics of structure, relief, drainage and landscape. There are 11 geomorphic provinces within California.
- **Landslide/Slope Failure.** A landslide is a mass of rock, soil, and debris displaced down-slope by sliding, flowing or falling.
- **Liquefaction.** Liquefaction is the rapid transformation of sediment to a fluid-like state. It occurs when water-saturated, loose to medium dense, relatively clay-free sands and silts are subjected to earthquake ground motion. These ground vibrations tend to compact soils which increases water pressure on the soils, forcing the grains apart, and generating a "quicksand" or liquefied condition. The widespread destruction of property in the Marina District of San

---

[14] Hart, 1997.

[15] Bates and Jackson, Glossary of Geology 1987, p. 17.

[16] *Ibid.*, p. 18

Francisco in the 1989 Loma Prieta earthquake was caused by the liquefaction of hydraulically placed fill material.[17]

- **Surface Fault Rupture.** Seismically induced surface fault rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves.
- **Tsunami.** Tsunamis are long period waves that are caused by underwater seismic disturbances, volcanic eruptions, or submerged landslides.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act (1972)

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act) requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazard of fault rupture; however, surface fault rupture is not necessarily restricted to the area within the Alquist-Priolo Zone. The Alquist-Priolo Act prohibits the location of most structures for human occupancy across active fault traces. Within these zones, cities and counties must regulate certain development, which includes withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement. The CGS has designated the Hayward fault as a Fault Rupture Hazard Zone. The extent of this zone within San Pablo is depicted on **Figure 3.7-2**.

Hospital Facilities Seismic Safety Act of 1973

The Alfred E. Alquist Hospital Facilities Seismic Safety Act (HSSA) was passed in 1973 to ensure that hospitals in California conform to high construction standards and are reasonably capable of providing services to the public after a disaster. The HSSA requires the establishment of rigorous seismic design regulations for hospital buildings and requires that new hospitals and additions to hospitals have the capacity, as far as is practical, to remain functional after a major earthquake. State law requires that all existing hospital buildings providing general acute care as licensed under provisions of Section 1250 of the California Health and Safety Code be in compliance with the intent of the HSSA by the year 2030.

This act applies to Doctor's Medical Center in San Pablo, however, as of an April 2008 article in the San Francisco Business Times, Doctors Medical Center in San Pablo is emerging from an October 2006 bankruptcy filing with help from a joint powers arrangement with Contra Costa County, a state emergency fund, Kaiser and John Muir. According to the article, Contra Costa County Supervisor John Gioia reported the budget for the next three years "does not build in any money for seismic," and neither the hospital nor the county had studied Doctors' seismic replacement needs and related costs. A January 2010 article on the same subject suggests that the medical center's ability to meet the HSSA deadline is still uncertain.[18]

---

[17] Seed, et al, 1990.

[18] San Francisco Business Times, various dates.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a Seismic Hazard Zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. Geotechnical investigations conducted within Seismic Hazard Zones must incorporate standards specified by CGS Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards.[19] The purpose of the Seismic Hazard Mapping Act is to identify where special provisions, beyond those contained in the UBC, are necessary to ensure public safety. This need has not been recognized for the hazard of ground shaking. Design provisions contained in the UBC are believed to be representative of current knowledge and capability in earthquake-resistant design.[20]

Contra Costa County has not yet been investigated for delineation under the Seismic Hazards Mapping Act and is not included among areas that are planned for future mapping.

California Building Standards Code

The California Building Standards Code (CBC) has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The 2010 CBC was published on July 4, 2010 and will be effective January 1, 2011. This is timed with the use of the 2009 IBC in CA. In addition, the CBC contains necessary California amendments which are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from

---

[19] CGS, 1997.

[20] CGS, 2004.

SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

California Department of Transportation (Caltrans)

Jurisdiction of the California Department of Transportation (Caltrans) includes State and interstate routes within California. Any work within the right-of-way of a federal or State transportation corridor is subject to Caltrans regulations governing allowable actions and modifications to the right-of-way. Caltrans standards incorporate the California Building Code, and contain numerous rules and regulations to protect the public from seismic hazards such as surface fault rupture and ground shaking. In addition, Caltrans standards require that projects be constructed to minimize potential hazards associated with cut and fill operations, grading, slope instability, and expansive or corrosive soils, as described in the Caltrans Highway Design Manual (HDM).

Regional and Local Regulations

Multi-jurisdictional Local Hazard Mitigation Plan for the Bay Area (MJ-LHMP)

San Pablo participates in the preparation of the MJ-LHMP which covers the nine-county Bay Area. The last MJ-LHMP was prepared in 2005, and the 2010 update is expected to be adopted early this year. The document provides a compendium of natural hazard assessments and mitigation measures to reduce identified hazard risk. For each of the potential mitigation strategies, local governments have been asked to choose their own priority for the strategy. The priorities in each of these local government Annexes were selected based on: the level of hazards identified in Appendix C, the Bay Area preliminary risk assessment conducted and described in Appendix C, supplementary hazard and risk assessment information developed by ABAG for each local government on the interactive internet site http://quake.abag.ca.gov/mitigation, and any specific studies conducted by the local government and included in that local government's Annex to this plan.

Contra Costa County General Plan (2005-2020) Policies

General Seismic Hazard Policies

10-1. Contra Costa County, as part of an area with high seismicity, shall recognize that a severe earthquake hazard exists and shall reflect this recognition in its development review and other programs.

10-2. Significant land use decisions (General Plan amendment, rezoning, etc.) shall be based on a thorough evaluation of geologic-seismic and soils conditions and risk.

10-3. Because the region is seismically active, structures for human occupancy shall be designed to perform satisfactorily under earthquake conditions (see Table 10-6).

10-4. In areas prone to severe levels of damage from ground shaking (i.e., Zone IV on Map 10-4), where the risks to life and investments are sufficiently high, geologic-seismic and soils studies shall be required as a precondition for authorizing public or private construction.

10-5. Staff review of applications for development permits and other entitlements, and review of applications to other agencies which are referred to the County, shall include appropriate recommendations for seismic strengthening and detailing to meet the latest adopted seismic design criteria.

10-6. Structures for human occupancy, and structures and facilities whose loss would substantially affect the public safety or the provision of needed services, shall not be erected in areas where there is a high risk of severe damage in the event of an earthquake.

10-7. The County should encourage cooperation between neighboring government agencies and public and private organizations to give appropriate attention to seismic hazards to increase the effectiveness of singular and mutual efforts to increase seismic safety.

Groundshaking Policies

10-8. Ground conditions shall be a primary consideration in the selection of land use and in the design of development projects.

10-9. In areas susceptible to high damage from ground shaking (i.e., Zone IV on Map 10-4), geologic-seismic and soils studies shall be required prior to the authorization of major land developments and significant structures (public or private).

10-10. Policies regarding liquefaction shall apply to other ground failures which might result from groundshaking but which are not subject to such well-defined field and laboratory analysis.

Faults and Fault Displacement Policies

10-11. Classify as active those faults which have ruptured the ground surface during Holocene geologic time, roughly the last 10,000 years. Classify as potentially active faults which displace Quaternary geologic units, those formed during approximately the last 2 to 3 million years.

10-12. Prohibit construction of structures for human occupancy, and structures whose loss would affect the public safety or the provision of needed services, over the trace of an active fault.

10-13. In areas where active or inactive earthquake faults have been identified, the location and/or design of any proposed buildings, facilities, or other development shall be modified to mitigate possible danger from fault rupture or creep.

10-14. Preparation of a geologic report shall be required as a prerequisite before authorization of public capital expenditures or private development projects in areas of known or suspected faulting.

10-15. To the extent practicable, the construction of structures requiring a high degree of safety and other critical structures shall not be allowed in an active or potentially active fault zone.

10-16. When such a critical structure must be located in a fault zone, the structure shall be carefully sited, designed and constructed to withstand the anticipated earthquake stresses.

10-17. Locate roads, particularly those which carry important utilities or large volumes of traffic, over active faults only where other alternatives are impractical.

Liquefaction Policies

10-18. This General Plan shall discourage urban or suburban development in areas susceptible to high liquefaction dangers and where appropriate subject to the policies in 10-20 below, unless satisfactory mitigation measures can be provided, while recognizing that there are low intensity uses such as water related recreation and agricultural uses that are appropriate in such areas. (For the Bethel Island Area, the adopted specific plan policies will apply.)

10-19. To the extent practicable, the construction of critical facilities, structures involving high occupancies, and public facilities shall not be sited in areas identified as having a high liquefaction potential, or in areas underlain by deposits classified as having a high liquefaction potential.

10-20. Any structures permitted in areas of high liquefaction danger shall be sited, designed and constructed to minimize the dangers from damage due to earthquake-induced liquefaction.

10-21. Approvals to allow the construction of public and private development projects in areas of high liquefaction potential shall be contingent on geologic and engineering studies which define and delineate potentially hazardous geologic and/or soils conditions, recommend means of mitigating these adverse conditions; and on proper implementation of the mitigation measures.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed San Pablo General Plan would have a potentially significant adverse impact if it would:

Criterion 1: Increase exposure of people or structures to the risk of property loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.

Criterion 2: Result in substantial soil erosion or topsoil loss.

Criterion 3: Be located on: a geologic unit or soil that is unstable or that would become unstable as a result of the project; expansive soils (high shrink-swell potential), as defined in Section 1802A.3.2 of the 2007 California Building Code; or weak, unconsolidated soils, creating substantial risks to life or property from on- or off-site landslide, lateral spreading, liquefaction, or collapse.

Criterion 4: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Criterion 5: Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

METHODOLOGY AND ASSUMPTIONS

This evaluation reviews project plans, applicable regulations and guidelines, and published geologic, soils, and seismic maps and studies to determine the exposure of the planning area to geological and seismic risks. These documents and maps provide broad information on fault locations, estimated ground shaking response, and liquefaction potential. Programmatic impacts are consequently discussed in broad, qualitative terms. Due to the scale of these maps and programmatic level of project detail provided, this analysis should be used in the most general sense; and does not satisfy the need for subsequent site-specific surveys for individual projects.

IMPACT SUMMARY

The entire Bay Area, including San Pablo, is susceptible to impacts associated with seismic events on one of the many active or potentially active faults in the region. These faults could potentially generate seismic ground shaking capable of damaging existing and proposed structures. As a consequence, new structures would be exposed to both the direct and indirect effects of earthquakes, such as groundshaking, as well as other existing geological hazards such as landslides and unstable soils. New facility and structure designs would be required by existing building codes to make use of the latest information available on seismic hazards to structures.

Direct Impacts

Direct impacts associated with earthquakes include construction of new buildings and infrastructure that would be exposed to ground shaking, liquefaction, and earthquake-induced landslides. Over time, settlement of unconsolidated soils also can pose problems to facilities, however, building to current construction standards and prohibiting development of critical or habitable facilities within the Alquist-Priolo Earthquake Hazard Zone will ensure that these potential seismic impacts are less than significant.

Short-term impacts are those that could potentially occur during construction of buildings or infrastructure improvements. Soil erosion hazards could occur during preliminary stages of construction, especially during initial site grading. In addition to causing sedimentation problems in storm drain systems, rapid water erosion could remove topsoil, cause deeply incised gullies on slopes, or undermine engineered soils beneath foundations and paved surfaces. Use of appropriate construction methods, earthwork design, and road cut design can reduce this potential impact to a less-than-significant level.

Longer-term erosion impacts could be caused by projects on steep grades or those requiring substantial amounts of cut and fill would pose the greatest potential for slides and erosion impacts. Engineered soils could also erode due to poor construction methods and design features or lack of maintenance. Use of appropriate construction methods, earthwork design, and road cut design can reduce this potential impact to a less-than-significant level.

Indirect / Cumulative Impacts

The projected population increase in the Bay Area will result in increased travel on all modes of transportation. This then would result in an increased risk of exposure of people and property to the potentially damaging effects of strong seismic shaking, fault rupture, seismically-induced ground failure and slope instability on both existing and proposed buildings and infrastructure. However, proposed improvements would be constructed to current building and seismic engineering standards which are generally more conservative than those that have existed in the past. The cumulative impacts are essentially the same as the direct impacts outlined above.

Other Impacts

There are no known mineral resources within San Pablo or the Planning Area, and therefore the proposed General Plan has no impact to mineral resources or locally-important mineral resource recovery sites. These issues are discussed no further in this EIR.

IMPACTS AND MITIGATION MEASURES

Impact

3.7-1 Implementation of the proposed General Plan could expose people or property to loss, injury, or death related to seismically-induced surface rupture, ground failure, ground shaking, liquefaction, landslides, or tsunamis. (*Less than Significant*)

The proximity of the planning area to the Hayward Fault makes new development under the proposed General Plan subject to damage from large earthquakes by means of liquefaction, lateral spreading/lurching, landsliding, ground shaking, and possibly inundation from dam failure in the headwaters of San Pablo Creek. What follows is a description of several types of seismic activities and their possible implications for the city.

Surface Fault Rupture

Any new structures constructed across an active fault could be severely damaged or destroyed by fault rupture and creep. No structure of even the best design could withstand a substantial displacement of the earth on a fault without experiencing severe damage and possible collapse. The best approach to reducing damage potential is to avoid placing critical structures or buildings with large occupancies within the highest risk areas, notably, Alquist-Priolo Earthquake Hazard Zones.

However, a review of the proposed General Plan land use map reveals no instances where proposed new or changed land uses would overlap with the 50-meter Alquist-Priolo buffer around the Hayward Fault through the city. Rather, proposed General Plan policy SN-I-2 directs the City to continue to review development project proposals in order to ensure no critical or habitable structures are built in the Hazard Zone.

Ground Shaking and Damage Susceptibility Zones

ABAG Earthquake Program maps (2009) indicate that all of San Pablo falls within the most severe shaking intensity zones in the Bay Area. These regions are near active faults (also depicted in the latest California Geological Survey Earthquake Fault Maps, 2010) and are expected on-

average to experience stronger earthquake shaking more frequently. This intense shaking can damage even strong, modern buildings. From this perspective, all proposed new development and redevelopment in San Pablo is subject to very high earthquake shaking potential and thus has the potential to increase exposure of people and structures to personal or property loss, injury, or death associated with seismic activity.

As an example of how a large-scale earthquake could have severe consequences for San Pablo infrastructure systems, we can look at the impacts of the 1989 Loma Prieta earthquake on the San Andreas Fault, which caused the collapse of a nearly 1.5-mile long, two-tiered elevated section of Interstate 880 in Oakland and an upper deck panel on the Bay Bridge. Loma Prieta resulted in serious damage to other structures in San Francisco and nearer the epicenter in Santa Cruz County. Ground shaking levels in the Bay Area, and specifically Contra Costa, during the 1989 Loma Prieta earthquake were considerably smaller than estimated maximum ground shaking levels around this fault.

However, proposed new development and redevelopment will also be subject to the most current Uniform Building Code standards which require specific design parameters for construction in various seismic environments. The purpose of these parameters is to ensure construction of buildings that will resist collapse during an earthquake. These parameters do not protect buildings from all earthquake shaking hazards, but are designed to reduce hazards to a manageable level. Redevelopment and reinvestment under the proposed General plan would be expected to reduce vulnerability compared to existing conditions by replacing older, non-conforming structures with ones that are fully "up to code."

Liquefaction and Earthquake-Induced Landslides

ABAG Earthquake Program maps (2009) also indicate that much of San Pablo has moderate, high, or very high susceptibility to liquefaction. In terms of new or increased risk related specifically to the proposed Project, proposed redevelopment along Road 20 and at the intersection of Road 20 and San Pablo Avenue is subject to very high liquefaction risk, as is any redevelopment along 23rd Street north of Market Avenue.

Tsunamis and Seiches

Due to San Pablo's location inland from the borders of the Bay, there is no direct risk of loss to property, injury, or life due to tsunamis or seiches. However, destruction of transportation and other infrastructure closer to the shore would be expected to indirectly affect San Pablo through the potential for re-routing of traffic and other resources further inland.

Proposed General Plan Policies that Reduce the Impact

SN-I-1 Amend the Zoning Ordinance to include provisions for a geologic hazards abatement district for hillside areas at risk of landslides in San Pablo.

The Geologic Hazard Abatement District is a potentially useful tool to effectively abate a landslide hazard that crosses property boundaries. It is a mechanism that responds to the physical realities of landslides, and allows property owners to cooperate in solving a common problem. It removes much of the stigma of legal liabilities among adjacent landowners and allows them to cooperate rather than

litigate. It also provides for a cost-effective solution, requiring only one geotechnical engineering firm and one plan to solve the problems of several landowners.

SN-I-2 Pursuant to the requirements of the Alquist-Priolo Earthquake Fault Zone Act, continue to review individual projects to prohibit the development of critical or habitable structures within the Fault Zone.

SN-I-3 Continue to maintain and enforce appropriate standards in the Uniform Building Code to ensure new development is designed to meet current safety standards associated with seismic activity.

SN-I-4 Continue to identify and catalogue structures that may be subject to serious structural damage in the event of a major earthquake, and provide information to property owners on ways to pay for rehabilitation of existing buildings, including available State and other financing resources.

SN-I-5 Support efforts by State and regional agencies to promote public awareness of potential geologic and seismic hazards.

Regardless of whether the proposed General Plan is adopted, people who live and work in San Pablo—as in nearby cities and counties—are subject to the risks associated with living in a seismically-active region. Additional growth and development will occur regardless of whether the proposed General Plan is adopted, increasing potential population exposure to this risk. However, the proposed Plan acknowledges the existence of that underlying regional risk, and provides policies to proactively reduce it, for instance the creation of a Geologic Hazard Abatement District, the prohibition of critical or habitable development in the Alquist-Priolo Earthquake Hazard Zone around the Hayward Fault, and the identification of at-risk buildings and promotion of state and federal funding sources to support necessary safety retrofits.

Furthermore, new development in San Pablo is subject to the same stringent building standards as all development in California, and those stringent standards are designed to reduce vulnerability to seismic events for which California is well known. While this assessment does not assume all risk can be mitigated, mandatory compliance with the building codes and construction standards established in the California Building Code (based on the Uniform Building Code), the requirements of the City of San Pablo Municipal Code, and policies contained in the proposed General Plan would reduce vulnerability to seismic-related ground shaking to an acceptable level that is less than significant.

Mitigation Measures

None required.

Impact

3.7-2 Implementation of the proposed General Plan could require significant earthwork and road cuts, increasing the potential for short-term and long-term soil erosion and slope failure. (*Less than Significant*)

The Soil Survey for Contra Costa County indicates the hazard of erosion of site soils varies from slight where gently sloping, to moderate in the hilly areas at the northern and eastern edges of the

Planning Area. However, erosion hazards are highest during construction activities because excavation, backfilling, grading, and demolition can remove stabilizing vegetation and expose areas of loose soil that, if not properly stabilized, can be subject to soil loss and erosion by wind and stormwater runoff. Concentrated storm water runoff, if not managed or controlled, can eventually result in significant soil loss that can threaten foundations and undermine sidewalks and roadways. Development and redevelopment projects that disturb areas that are greater than one acre are required to obtain a National Pollution Discharge Elimination System (NPDES) General Construction Permit which must include a Storm Water Pollution Prevention Plan (SWPPP). These SWPPPs typically contain numerous erosion control measures that effectively reduce the potential for erosion and loss of topsoil. Projects that are less than one acre, with implementation of the mitigation measure below would reduce the potential impact from erosion and loss of topsoil to less than significant levels.

All construction activities and design criteria are required to comply with applicable codes and requirements of the most current version of the California Building Code (Title 22), and applicable local construction and grading ordinances.

Proposed General Plan Policies that Reduce the Impact

SN-I-6 Require erosion prevention of hillside areas by re-vegetation or other acceptable methods.

Mitigation Measures

None required.

Impact

3.7-3 Implementation of the proposed General Plan could cause new development to be built on highly compressible, expansive, or weak, unconsolidated soils, creating substantial risks to life or property from on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. (*Less than Significant)*

Slope failures could occur over time as a result of rainfall, seismic activity, or human activity such as earthwork and grading. Although construction in accordance with the proposed Plan would likely occur within previously graded or developed areas, some projects could affect local slopes such as road cuts or hillside development. The creation of new loads such as fills or other improvements as well as the excavation of the toe of slopes can cause existing stable slopes to become unstable. However, by implementing appropriate slope conditioning measures such as compaction standards, slope terracing, drainage control, and other slope stability measures, any existing potential slope stability hazards can be reduced to less than significant levels through current geotechnical industry standards, local grading ordinances, and the California Building Code.

Likewise, inadequate soil and foundation engineering on weak or unconsolidated soils (such as poorly engineered artificial fill) could cause soils and overlying structures to settle unevenly, thereby weakening structural facilities. Low-strength soils subjected to settlement could, over

time, cause damage to underground utilities such as pipelines and tunnels. Structures placed directly on expansive soils could be subject to seasonal shrink-swell effects, causing structural damage and possibly damage to underground utilities.

Proposed General Plan Policies that Reduce the Impact

The policies listed under impacts 3.7-1 and 3.7-2 reduce this impact to a level that is less than significant, and are incorporated here by reference.

Mitigation Measures

None required.

Cumulative Impact

3.7-4 Implementation of the proposed General Plan, combined with regional population growth, would result in an increased risk of exposure of people and property to geologic hazards. (*Less than Significant Cumulative Impact*)

Regardless of whether the proposed General Plan is adopted, people who live and work in San Pablo—as in nearby cities and counties—are subject to the risks associated with living in a seismically-active region. Additional growth and development will occur regardless of whether the proposed General Plan is adopted, increasing population exposure to this risk. The proposed Plan acknowledges the existence of that underlying regional risk, and provides policies to proactively reduce it, for instance the creation of a Geologic Hazard Abatement District, the prohibition of critical or habitable development in the Alquist-Priolo Earthquake Hazard Zone around the Hayward Fault, or the identification of at-risk buildings and promotion of state and federal funding sources to support necessary safety retrofits.

3.8 Public Services, Facilities, and Utilities

This chapter presents the environmental setting and impact analysis for public services, facilities, and utilities in the City of San Pablo related to the proposed San Pablo General Plan. The public services included in this EIR include public safety services and facilities, schools, parks, and other public facilities. This section also describes infrastructure conditions and needs for the following utility systems: potable water, wastewater, and solid waste. Water quality and stormwater management are evaluated in Section 3.5 Hydrology, Flooding, and Water Quality.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Fire and Other Emergency Services

The Contra Costa County Fire Protection District (CCCFPD) provides fire and emergency services to residents of the City of San Pablo, including fire fighting and rescue, fire prevention and training, and emergency medical care. The CCCFPD is the first responder providing supplemental basic life support (BLS) and advanced life support (ALS). Transportation is provided by American Medical Response (AMR), a private ambulance service contracted by the CCCFPD.

The District currently operates one fire station (Station #70) within the Planning Area. The Fire Station is located at 13928 San Pablo Avenue. The San Pablo Fire Station is actively manned 24 hours a day, 7 days a week. There are currently two engine companies (with a three-man team to each fire-engine) assigned to the San Pablo Fire Station. The district employs a total of 364 personnel, including 325 uniformed personnel, 12 Battalion Chiefs, and approximately 39 civilian personnel. Each three-person firefighting crew includes a paramedic.[1]

Fire dispatch is handled through the Contra Costa County Regional Communications Center. In addition to fire suppression and emergency medical services, overall capabilities and resources of the Fire District include vehicle extrication ("jaws of life"), trench rescue, water rescue, high-angle rescue, building collapse, confined space rescue, fire and arson investigation, code enforcement, building plan review, and public education, such as Community Emergency Response Training (CERT).

Service Response

The CCCFPD has set service level goals throughout its jurisdiction based upon nationally recognized standards. The CCCFPD's goal is to deploy and initial full alarm assignment (five engine companies, one truck Company and a Battalion Chief) within a ten minute response time to 90 percent of all emergency incidents. In 2009, the CCCFPD responded to 2,347 Code 3 calls

[1] Contra Costa County Fire Protection District website, http://www.cccfpd.org/ accessed August 2, 2010.

in the City of San Pablo. The CCCFPD responded to 30.7 percent of calls in less than 5 minutes and 95.9 percent of calls in less than 10 minutes. **Table 3.8-1** shows the percentage of responses times for all Code 3 calls in San Pablo.[23]

Table 3.8-1 CCCFPD Response Times

Area	*Year*	*<5 Min*	*<6 Min*	*<7 Min*	*<8 Min*	*<9 Min*	*<10 Min*
San Pablo	2009	30.7%	51.6%	70.4%	85.0%	92.9%	95.9%

Source: Contra Costa County Fire Protection District, 2010.

Currently, the CCCFPD has an Insurance Service Office (ISO) rating of 3, on a scale of 1 to 10 with 1 being the highest.[4] The CCCFPD has a mutual aid agreement with the Richmond Fire Department to ensure quick and adequate response to any fire emergency. The closest Richmond Fire Stations are Station #68 located at 2904 Hilltop Drive, Richmond, and Station #62 located at 1065 7th Street, Richmond. Both stations are located just half a mile away from San Pablo's Planning Area boundary.

Fire Flows and Funding

Water pressures typically range from 40 to 140 psi throughout the Planning Area. The City of San Pablo is served by three pressure zones; Berryman A2A, Aqueduct G1AA, and Central GOA. Water pressure and fire flow requirements are addressed on a case-by-case basis as development projects are submitted.[5]

Most of the CCFPD's funding is derived from local property tax revenues. Additional funding comes from fees, intergovernmental revenues, and dispatching services.

---

[2] Code 3 means emergency response in an emergency vehicle when it is driving with its lights flashing and the siren going.

[3] Interview with CCCFPD Battalion Chief, Lon Goetsch, July 9, 2010.

[4] Interview with CCCFPD Facilities Manager, Mr. Ron Guelden, August 21, 2008.

[5] Interview with CCCFPD Battalion Chief, Lon Goetsch, July 9, 2010.

Figure 3.8-1

Parks, Schools, and Community Facilities

Community Facilities

- San Pablo Library
- Community Center
- Senior Centers
- Hospital
- Fire Station
- Police Station

Schools

Existing Parks

Existing Open Space

Proposed Parks

Potential Park Location

Possible location for Community Garden

5 Minute Walking Distance from Schools and Parks

Major Roads

Minor Roads

Railroads

City Limits

Planning Area

0 0.25 0.5

Miles

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.8-1

Police

The San Pablo Police Department provides crime prevention and law enforcement services within the City's boundaries. Operating from a central station along San Pablo Avenue, the Police Department maintains a combination of 53 professional sworn officers and 22 non-sworn positions.[6] The Department is a full service law enforcement agency. The agency's administration is separated into three divisions: Patrol, Investigations, and Support Services and managed by the Chief of Police. The Department has five patrol teams, a fleet of 39 vehicles, and four police canines.

Service Response

The current level of service is 1.6 officers to 1,000 residents[7], which is lower than the national average of 2.5 officers per 1,000 residents.[8] The Department does not have a mandated police-to-population ratio, but maintains an informal police patrol coverage standard with minimum staffing at one supervisor and three officers. The deployment levels vary to provide the maximum level of service to the City within the Department's budgetary constraints, and day-to-day deployment is determined by current conditions within the community.

According to the Department's spokesperson, one of the Department's most pressing needs is space, as the size of the Police building and its parking lot are insufficient to meet future growth. To maintain current service levels and provide adequate police protection, the Department's facility, equipment and budget would need to grow proportionately with additional personnel.

The Department does not have a response time mandate or maps. Although it does have response time mapping capabilities, due to San Pablo's geographic size, response times are similar throughout the City and vary primarily on call priority and officer availability. According to records, 90 percent of priority-one calls are handled within 11 minutes, priority-two calls within 16 minutes, and priority-three calls within 16 minutes. The Department participates in a County-wide mutual assistance program and has mutual assistance agreements with cities in the vicinity, including the Sheriff's Department and the El Cerrito, Richmond, and Pinole police departments.

Funding

According to the City Budget Report, police services make up the majority of city expenditure at about 60 percent annually. The primary source of funding for the Police Department is the City General Fund. Police expenditures were $12.8 million in Fiscal Year 2008–09. Of this amount, 83 percent was spent on salary and benefits, 15 percent on services and supplies, and the rest on

---

[6] Information provided by the San Pablo Police Department for the General Plan on September, 2008 , and updated on September 9, 2010 by Walter N Schuld, Chief of Police.

[7] *Ibid.*

[8] According to the 2003 Bureau of Justice Law Enforcement and Management Administrative Statistics (LEMAS) survey, municipal police departments employed an average of 2.5 full-time officers per 1,000 residents. Departments serving 25,000 to 99,999 residents had the lowest average ratio (1.8 officers per 1,000 residents), followed by cities with 100,000 to 249,999 residents (1.9), and cities with 10,000 to 24,999 residents (2.0). Cities with a population of 250,000 or more had 2.5 officers per 1,000 residents. http://bjs.ojp.usdoj.gov/

miscellaneous fees. The City reports that the current financing level is generally adequate to deliver services at an appropriate service level and there are no plans to reduce essential services.[9]

Other Law Enforcement Agencies

In addition to San Pablo Police Department, the California Highway Patrol provides patrol services along Interstate 80 which passes through the middle of San Pablo.

Schools

Enrollment and Capacity

The Planning Area is served by the West Contra Costa Unified School District (WCCUSD). WCCUSD operates five elementary and one middle school within the Planning Area. Outside the Planning Area, two other elementary schools, and one high school have attendance areas that include portions of the city. Based on 2008-2009 school year, WCCUSD schools located within the Planning Area and those with attendance areas in San Pablo have a K-12 enrollment of approximately 6,380 students. This consists of 3,594 elementary school students, 755 middle school students, and 2,031 high school students. On average, the schools are about 16 percent under capacity. The only schools that are close to full capacity are Riverside Elementary School, with only one percent vacancy; and Middle College High School, with three percent vacancy. **Table 3.8-2** summarizes enrollment and capacity counts for these schools.

Table 3.8-2 Existing Public Schools in San Pablo

School	*2008-09 Enrollment*	*Total Capacity*	*Percent Available Capacity*
Elementary			
Bayview Elementary	562	649	13%
Dover Elementary[2]	567	725	22%
Downer Elementary	678	800	15%
Lake Elementary	463	528	12%
Riverside Elementary	378	380	1%
Ford Elementary[1]	421	532	21%
Highland Elementary[1]	525	637	18%
Elementary School Subtotal	*3,594*	*4,251*	15%
Middle			
Helms Middle School	755	1,141	34%
Middle School Subtotal	*755*	*1,141*	34%
High School			
Middle College	307	315	3%
Richmond High[1]	1,724	1,853	7%

[9] Rodriguez, Matt , *City of San Pablo Annual Budget 2010-2011.*

Table 3.8-2 Existing Public Schools in San Pablo

School	*2008-09 Enrollment*	*Total Capacity*	*Percent Available Capacity*
High School Subtotal	*2,031*	*2,168*	*6%*
Total	**6,380**	**7,560**	**16%**

[1] Schools are not physically within the Planning Area but have attendance areas that include parts of the Planning Area.
[2] Dover Elementary only serves grades K-5.

Source: West Contra Costa Unified School District, 2009; Jack Schreder & Associates, 2008; DataQuest, California Department of Education, 2009.

St Paul's School, a parish school located on Church Lane, provides private elementary and middle school education. The school is one of the more sought after schools in the region and had an enrollment of 244 students in 2007-2008.

There are two schools that provide special education in San Pablo. The first, Middle College, provides non-traditional high school to "at risk" San Pablo and regional residents. The school is located in Contra Costa College and has an enrollment of about 309 students. Besides Middle College, there is also North Campus High School, which is a four-year continuation school with an enrollment of about 120 students. Many of the school's students are adults.

Contra Costa College

Contra Costa College (CCC) is a regional community college located in San Pablo. The College encompasses 23 buildings on 80 acres of land, and had a student enrollment (both full-time and part-time) of 8,743, as of fall 2008. According to the College's Research Department, student enrollment has shrunk in recent years due to budget constraints.[10] Most students come from the cities of San Pablo, Richmond, El Cerrito, Hercules, Pinole, El Sobrante, and Rodeo. There were 144 out-of-state or international students in 2008. The CCC does not have dormitory facilities and all students arrange their own housing. A master plan to improve the College has recently (2007) been completed. Under that plan, existing facilities will be modernized and a number of new buildings will be built.

Parks

The City owns and administers seven parks, varying in size and amenities from the 0.1 acre 14th Street Park (a neighborhood park) to the 11.6 acre Davis Park (one of the city's community parks.) Approximately 22.0 acres of parkland are located within the city. The Parks and Recreation Division is responsible for managing the City's recreation services, its parks and open spaces, recreational programs; and maintaining and improving all City-owned street trees, and landscaping.

In 2008, the City population was estimated to be 31,720. With a total of 22 acres of parks, the existing park ratio is 0.7 acres per 1,000 population. The existing parks, trails, and schools near

[10] Interview with Tim Clow, Dean of Research and Planning, Contra Costa College, November 25, 2008.

the Planning Area are shown in **Figure 3.8-1**. Currently, the City has cooperative agreements with the West Contra Costa Unified School District to share facilities for recreation. The City sends two to three staff members to each of the five elementary schools on a daily basis to provide recreation opportunities in the after-school program.[11] The joint use agreement is limited to afterschool hours. Even with this agreement, the existing demand for recreational facilities exceeds the number of parks available to the public.

Existing Parks and Recreation Facilities

Neighborhood Parks

There are two neighborhood parks within the Planning Area – Brentz Lane Park and 14th Street Park. These parks are located in existing residential neighborhoods. Brentz Lane Park is an 0.8-acre park at the corner of Morrow Drive and Brentz Lane, with picnic tables, children's playground and an exercise area. 14th Street Park, at only 0.1 acres is located at 14th Street. The small park has a landscaped space and a pedestrian rest area.

Community Parks

Davis Community Park (also known officially as John Hubert Davis Park) is located at the corner of Folsom Avenue and 17th Street near Brookside Drive. This 11.6 acre park has BBQ pits, a group picnic area that can be reserved, as well as soccer and baseball fields, tot and youth play areas, and trails. Currently the park is used by both San Pablo Baseball and San Pablo United Youth Soccer for practices and games. There are three buildings located at the park which are used by San Pablo seniors and most of our summer youth programs. Wildcat Creek also runs through Davis Park.

Kennedy Plaza is located at the junction of 23rd Street and Brookside Drive. This 1.8 acre linear park is the focal point for the Summer Concert Series and other community events. The park has a high fence that protects people from the creek area as well as a short decorative fence along Brookside Drive. There are grilling stations and picnic tables at one end of the park and a gazebo close to the fountain wall.

El Portal Soccer field is located at 2600 Moraga Street, adjacent to the Contra Costa Community College campus. The field used to be the school field of the El Portal elementary school. When the school was closed, the School District sold the property to the City of San Pablo. The City is using the field as the primary soccer field for San Pablo Youth Soccer. In the summer, the field hosts the City's 4th of July and the Movie in the Park events.

The Wanlass Community Park is the newest park in the City. Completed in 2009, the park includes an Environmental Education Center which employs "Green" technology including solar power, a restroom building, play areas, paved pathways, landscaping with native plants, drainage, improvements to mitigate runoff to adjacent residential properties, a masonry block wall separating the park from adjacent residences, park entry features, parking area, creek restoration,

[11] Interview with Mike Heller, City of San Pablo Recreation Division Manager, August 4, 2008.

and a vehicular access bridge across the creek. The park is located along San Pablo Avenue, and bordered on two sides by Rivers Street and 20th Street.

Regional Parks and Trails

The East Bay Regional Park District maintains two regional parks near the City limits. Alvarado Park is adjacent to the City's eastern border, and Point Pinole is approximately a mile to the northwest. Both of these parks have generally passive recreational opportunities, including hiking trails and picnic areas.

Alvarado Park is physically linked by trail to the Wildcat Canyon Regional Park and is about 420 acres in size. Popular with hikers, joggers, and mountain bikers, the park is also home to various fauna and flora species. A stonework bridge spans Wildcat Creek in the park main entrance. Because of the park's history and depression era stone work, Alvarado Park is included in the National Register of Historic Places.

Recreation

The Recreation Department offers a variety of programs for youth, teens, and seniors. Sports classes and leagues, including soccer, are offered throughout the year at various community and neighborhood parks. Youth summer camps and day camps are also offered. Classes such as dance club, babysitting, swimming lessons, and fulsol, Latin and ballroom dancing classes and others are scheduled at Maple Hall and the Davis Park Senior Center. Applications are also accepted online.[12]

Park Acquisition and Maintenance

The standard defined in the San Pablo Municipal Code is to "three acres per one thousand residents, or 0.003 acres per resident." The City of San Pablo receives land for parks through land dedications or purchases funded through park fee collection. All park dedication requirements are based on the Quimby Act, the State law regulating park exactions. Article 16.2 of the Subdivision Ordinance contains the criteria for park dedications and fees.

Besides parkland dedication, the Department has also issued bond measures in the past to assist with parkland projects. Additionally, it regularly applies for various state and federal grants to fund specific park projects and upgrades. Day-to-day maintenance of the City parks is funded by the General Fund.

Other Community Facilities

Community Facilities

The City of San Pablo defines community facilities as buildings needed to support daily operations of the City, as well as other buildings designed for community meetings, indoor recreational and instructional programs, and social activities. Examples of community facilities in San Pablo include:

---

[12] City of San Pablo Recreation website, http://www.ci.san-pablo.ca.us/main/recreation.htm, Date accessed August 16, 2010.

- **The Davis Park Senior Center**, located at 1661 Folsom Avenue, offers recreational activities and a nutritional lunch twice per week to seniors 60 years and up or 50 and disabled. The facility has a large banquet hall, a stage, and a small utility kitchen.
- **The San Pablo Senior Adult Center**, located at 1943 Church Lane, offers recreational and educational activities, social services, and a daily congregate meal program serving 130 seniors per day. The facility has one meeting room, a pool room, and an event floor that are available for rent to local residents for meetings and special events.
- **The Maple Hall Community Center**, located at 13831 San Pablo Avenue inside the City Hall Complex has four meeting rooms, a commercial size kitchen, a stage area and fire place pit. The center can accommodate up to 250 persons and can be rented for private events, recreational activities, or social gatherings.
- **The San Pablo Blume House and Alvarado Adobe**, located at 1 Alvarado Square, serve as local museums. They house historical exhibits and photos chronicling the history of San Pablo and offer space for artistic and historical presentations. Both museums are managed by the San Pablo Historical Society.
- **The San Pablo Public Library** located at 2300 El Portal Drive boasts 35,000 books, DVD's, magazines and tapes and offers materials in English, Spanish & Vietnamese. The library is open six days a week and managed by Contra Costa Library.

Water Supply

Water supply to the Planning Area is provided by the East Bay Municipal Utility District (EBMUD), which derives its water source from the Mokelumne River in the Sierra Nevada. This pristine water is transmitted, via aqueduct, to storage and treatment facilities throughout EBMUD's service area, then distributed to customers. EBMUD operates five terminal reservoirs within East Bay: Briones, Chabot, Lafayette, Upper San Leandro, and San Pablo.[13] The San Pablo Reservoir is located in a valley north of Orinda, California and south of El Sobrante and Richmond, east of the Berkeley Hills.

The total capacity of the EBMUD water supply system is constrained by the inherent dependence on seasonal rainfall and collected snowpack in the Sierra Nevada watershed. On an average annual basis, approximately 90 percent of the water used by EBMUD comes from this source. The secondary source of water is the runoff from local watersheds at EBMUD's terminal reservoirs in the East Bay area.

Water Use

According to EBMUD's 2008 Annual Report, the total average water production was 205 million gallons per day (mgd). San Pablo's estimated share of the total, calculated using proportionate share of the total population, is only 4.8 mgd or about 2.3 percent of the total. Over the past four years, the water demand has been relatively stable for the EBMUD service area. (**Table 3.8-3**)

[13] EBMUD Urban Water Management Plan 2005, page 2-1

Table 3.8-3 Historic Average Daily Water Production

Year	*EBMUD Service Area (MGD)*[1]	*San Pablo's Share*[2] *(MGD)*	*Percent Change*
2008	205	4.8	-3%
2007	211	4.9	0%
2006	211	4.9	3%
2005	205	4.8	-8%

[1] MGD = Million gallons per day
[2] San Pablo's share calculated by proportion of population.

Source: East Bay Municipal Utilities District, Water Annual Reports, 2006 to 2008.

Single-family residential customers category is the largest water use category followed by multifamily dwelling units, commercial, industrial, institutional, and irrigation users. **Table 3.8-4** presents the water consumption characteristics for the EBMUD service area which includes the City of San Pablo. Approximately 63 percent of total water consumption, based on historical average, is delivered to EBMUD's residential customers.

Table 3.8-4 Historical Average Water Use by Land Use Type

Land Use	*EBMUD Service Area (Percent)*
Single-Family Residential	46%
Multi-Family Residential	17%
Industrial	17%
Commercial and Institutional	14%
Landscape Irrigation	6%
Other	<1%
Total	**100%**

[1] Based on CY 1975-2004 metered historical consumption data.

Source: East Bay Municipal Utility District, Urban Water Management Plan, 2005.

Water Quality

EBMUD's water quality consistently surpasses the standards set by the California Department of Health Services and the U.S. Environmental Protection Agency. This is because it comes from the remove, mostly undeveloped watershed of the Mokelumne River. This watershed is 75 percent forest land and open space, with the remaining areas being orchards, vineyards, and recreational areas (including winter sport facilities). Runoff from the snowmelt is collected at Pardee Reservoir in the Sierra foothills before being transported by large aqueducts to East Bay.

EBMUD further protects water quality at Pardee Reservoir through the purchase of conservation easements in areas with significant potential for residential development. As a result, the raw water is not exposed to common sources of contaminants such as pesticides, agricultural or urban runoff, municipal sewage discharges or industrial toxics.

On rare occasions, the water supply in Pardee Reservoir is affected by short term events that may stir up sediments. High turbidity, for instance, caused by unusually heavy late winter storms and/or landslides into Pardee Reservoir, can create poor water quality events that briefly interrupt the supply. In such cases, the Mokelumne Aqueducts that transport water from Pardee Reservoir to the EBMUD service area are shut down, or their flows are reduced until turbidity levels are reduced to allowable limits.

After arrival via aqueducts to East Bay, EBMUD applies conventional treatment/disinfection, flocculation, sedimentation, and filtration to ensue water meets public health standards. A number of tests are applied to look for substances and impurities including bacteria, metals, inorganic contaminants, petroleum products, and by-products of water-treatment processes. Generally, only minimal treatment is necessary before the water is delivered to EBMUD customers.

Projected Demand

The demand for water by East Bay communities is expected to increase over the next 20 years. According to EBMUD's 2005 Urban Water Management Plan, EBMUD requires approximately 258 mgd of water to supply all its service areas in 2010. After taking into account conservation and other water recycling programs each city is expected to adopt on their own, EBMUD still requires 225 mgd of water to meet demand (see **Table 3.8-5**). By 2030, the planning demand is expected to increase by 3 percent to 232 mgd. Of this amount, San Pablo's proportionate share is expected to be 5.1 mgd.

Table 3.8-5 Projected Water Demand and Supply in EBMUD Service Area[1]

	2010	*2020*	*2030*
Population			
EBMUD Service Area Population	1,380,000	1,475,000	1,598,000
San Pablo Population	32,200	33,580	34,950
Percent of San Pablo to EDMUD Population	2.3%	2.3%	2.2%
Demand			
Total EBMUD Water Demand[2] (mgd)	258	277	281
Adjusted for Conservation (mgd)	21	35	35
Adjusted for Recycled Water (mgd)	12	14	14
EBMUD Planning Demand	225	228	232
San Pablo's Planning Demand[3] (mgd)	5.3	5.2	5.1

[1]EBMUD service areas include both incorporated and unincorporated areas in Alameda and Contra Costa Counties. The incorporated areas include the following: ALAMEDA COUNTY - incorporated cities of Alameda, Albany, Berkeley, Emeryville, Hayward, Oakland, Piedmont, and San Lendro; and CONTA COSTA COUNTY- City Spheres of Influence of Danville, El Cerrito, Hercules, Lafayette, Moraga, Orinda, Pinole, Pleasnat Hill, Richmond, San Pablo and Walnut Creek and the subregional study area os San Ramon. The unincorporated areas include the following: ALAMEDA COUNTY - Castro Valley, Cherryland-Fairview, Ashland, and San Lorenzo; and CONTRA COSTA COUNTY - Crockett-Rodeo and Blackhawk-Alamo. Other unincorporated areas fall under the City Spheres of Influence.

[2]All units in million gallons per day (mgd)

[3]The demand for San Pablo calculated by multiplying the expected population by the per capita planning demand for EBMUD's service area. The per capita planning demand is derived from dividing EBMUD's planning demand by EBMUD's expected service area population for 2010, 2020, and 2030.

Source: East Bay Municipal Utilities District, Urban Water Management Plan 2005; Dyett & Bhatia, 2010.

EBMUD has no problem meeting water demand in a normal, non-drought year. However, in a one-year drought, EBMUD expects a demand-to-supply shortfall of five percent. The expected shortfall becomes greater the longer the drought lasts. The water supply is insufficient to meet customer needs even if aggressive water conservation and recycled programs are put in place in a multi-year drought. During the most recent drought from 2007 to 2009, for example, water levels in EBMUD reservoirs dropped to its lowest levels in a decade. The water agency had to ask for voluntary customer water use reductions in 2007 while EBMUD kept a watchful eye on precipitation and snowpack conditions. In May 2008, EBMUD declared a water shortage emergency and mandated water rationing to protect against a third dry year. The dry spell was only broken in 2010 when heavier than usual rainfall brought along by El Nino replenished the snowpack in the Sierra Nevada mountain ranges.

To improve water supply reliability in future droughts, EBMUD is adopting a multi-prong approach to reduce water demand, increase water storage capacity, and find alternative sources of water supply. Some ongoing programs include:

- **The Freeport Regional Water Project.** In 2002, EDMUD reached an agreement with the City and County of Sacramento to share water from the Sacramento River during drought years. Construction on the Freeport Regional Water Project began in June 2007, and in 2009

EBMUD completed the 19 miles of pipeline that would allow water to be moved from the Sacramento River to EBMUD's system through the Folsom South Canal. The project is expected to be completed by late 2010. Once completed, the East Bay would be able to acquire up to 100 mgd of water from the Sacramento River during dry years.

- **Seawater Desalination Research.** EBMUD has been working with other Bay Area water agencies to explore ways to add desalinated water to the local water supply. Pilot testing is under way in eastern Contra Costa County.
- **Groundwater Banking Program.** In 2008, EBMUD began constructing a state-of-the-art groundwater injection well that will move some water deep underground into a clean aquifer beneath San Leandro. Once completed, water can be injected when it is available in wet years and banked. Up to one million gallons of water per day can be drawn out as needed from this locally-stored supply.

Water Conservation

Water conservation and recycling measures are critical elements of EBMUD's water management plan. The agency takes a rigorous approach to water conservation, and expects to conserve and recycle about 49 mgd of water per day; equivalent to a 17 percent reduction of the daily demand by 2030. EBMUD promotes water conservation through education and outreach as well as offering water conservation programs that help residential and business customers save money and increase efficiency. Its water conservation programs include free water audits, rebates for high-efficiency toilets and clothes washers, rebates for high-efficiency irrigation equipment upgrades, and grants for drought-tolerant landscaping in public areas. In addition to residential and business customers in San Pablo, EBMUD also works directly with local schools and civic groups to help them reduce water use and recycle.

While the City of San Pablo does not offer financial incentives like EBMUD does, it promotes water conservation through other means, including city regulations requiring new and remodeled homes to install high-efficiency toilets and the use of drought-resistant plants in city parks and gardens. The City also regularly publish water conservation and recycling information in its newsletters to promote the use of water recycling systems and remind residents of rebate and grant programs available to them from EBMUD.

Wastewater

Wastewater treatment and disposal services in the Planning Area is provided by the West County Wastewater District (WCWD). WCWD has a service area of 16.9 square miles which includes the City of San Pablo, all of the northern subdivisions of Richmond, portions of the City of Pinole, communities of El Sobrante, East Richmond Heights, Tara Hills, Rollingwood and Bayview, and portions of the unincorporated County. The wastewater collection system consists of 242 miles of sewer gravity pipelines, 18 pumping stations, 11 miles of force mains, and a wastewater treatment plant located in North Richmond. Here, anaerobically digested sludge is dried in lagoons via evaporation and remaining biosolids are removed and buried in regional landfills.

The treatment plant has a hydraulic capacity of 12.5 mgd and has three flow equalization basins for managing wet weather flows. In 2008, the total influent flow for the whole service area (including San Pablo and other cities) was 277.9 million gallons and the annual average influent

flow was about 9.2 mgd, as summarized in **Table 3.8-6**. The WCWD does not keep records specific to San Pabmlo, however, based on the San Pablo's population relative to WCWD's entire service area population, the Planning Area's proportionate share of the annual average influent flow was 2.3 mgd.[14]

Table 3.8-6 Historical Wastewater Flows, 2008

	Influent flow for entire WCWD Service Area	
Month	*Average (mgd)*	*Total (million gallons)*
January	14.0	430.0
February	12.0	340.7
March	9.0	290.0
April	9.0	262.5
May	8.0	263.0
June	8.0	244.5
July	8.0	246.0
August	8.0	250.0
September	8.0	237.0
October	8.0	240.0
November	9.0	262.8
December	9.0	268.0
AVERAGE	**9.2**	**277.9**

mgd= million gallons per day

Source: West County Wastewater District, 2010.

The sewer lines in San Pablo are generally 40 to 60 years old and older, and made of vitrified clay pipe and some ductile iron. Certain zones within the sanitary sewer system experience high infiltration rates (i.e. water flowing into pipe joints) due to sewer line conditions and groundwater levels.[15]

According to Paul Winnicki, WCWD's District Engineer, there are no current or anticipated problems with the system. The current infrastructure is sufficient to meet existing demands. However, because infrastructure is designed based on current zoning classifications (which allow lower density than what is anticipated in 2030); larger pipes will be required if new developments generate higher flows than anticipated. The WCWD is constantly updating its facilities and have been upsizing pipelines for peak storm events in the San Pablo Planning Area as recommended in its 2001 Capacity Analysis Study and 2006 flow monitoring efforts. All pipelines deficient for

[14] There is a slight discrepancy in the reported population of WCWD's service area. According to the 2002 WCWD Wastewater Facilities Master Plan Update, the WCWD is projected to serve a population of 120,100 in 2010; according to WCWD's website, however, the district serves a population of 126,100. (source: http://www.wcwd.org/general.htm). The latter estimate is used here to calculate San Pablo's share.

[15] West County Wastewater District Capacity Analysis, May 2001.

peak design storms will be upsized through WCWD's Capital Improvement Program that uses a five-year planning horizon. Examples of recent and upcoming projects in San Pablo include:

- Replacement of 1,295 feet of 10-inch pipe with 18-inch pipeline on Church Street from Ridge Road to San Pablo Avenue (MH 6-1-9 to MH 6-1-1);
- Replacement of 258 feet of 12-inch pipe with 18-inch pipeline along San Pablo Avenue (MH6-4-7 to MH 6-4-3);
- Replacement of 440 feet of 10-inch pipe with 18-inch pipeline through Contra Costa College along Lancaster Drive *MH20-1-1 to MH 13-4-10); and
- Replacement of 311 feet of 15-inch pipe with 18-inch pipeline along Church Lane from San Pablo Avenue (MH 6-11-1 to MH 7-2-5).

WCWD has an industrial pre-treatment program and monitors all the industrial discharges. The wastewater receives secondary treatment and is pumped to a dechlorination facility at Point Richmond where it is combined with the City of Richmond's Municipal Sewer District (RMSD) effluent. The combined effluent is discharged in a deep water outfall into San Francisco Bay at Point Richmond. Currently, approximately 3.5 mgd of the WCWD effluent is recycled by EBMUD for reuse at the Chevron Refinery and 0.7 mgd is recycled for irrigation at the Richmond Country Club Golf Course.[16]

Storm Drainage Conveyance

The City of San Pablo Public Works Division is in charge of maintaining the storm water drainage system in the Planning Area.

In San Pablo, storm water runoff is discharged through a combination of natural and man-made drainage structures. Falling rain in the city are first directed to a system of street gutters, underground pipes, culverts, ditches before they are channeled into storm drains located along San Pablo Avenue, Rumrill Boulevard, Broadway Avenue, and El Portal Drive, as well as San Pablo and Wildcat Creeks. Of these drainage features, the creeks are most prone to flooding because of their shallow bed and high water table. The City cannot control the creek flow or capacity because portions of the creeks are located on private property. To prevent flooding, the city encourages homeowners along the creeks to help keep them clear of obstructions and to purchase flood insurance as a precaution. Besides areas around the creeks, drains around Pullman and Van Ness and the Old Town area of the City are also prone to overflowing during the rainy season.

The City of San Pablo participates in the Contra Costa Clean Water Program, which implements the National Pollution Discharge Elimination System (NPDES) countywide. The NPDES's purpose is to efficiently utilize available assessment funding to reduce pollution of the storm water and effectively maintain public storm drain facilities through inspection and enforcement activities and industrial outreach.

[16] Telephone and email interview with Paul Winnicki of WCWD on December 1, 2008.

Solid Waste

West Contra Costa Integrated Waste Management Authority (WCCIWMA) is the regional authority responsible for solid waste management in the Planning Area. WCCIWMA is required by State law to implement provisions of the Integrated Waste Management Act of 1989 for West Contra Costa County.

Solid waste collection and recycling services is provided by Richmond Sanitary Services, an affiliate of Republic Services, Inc. through an agreement with WCCIWMA. Currently, solid waste and recyclables from San Pablo are taken to a transfer station in Richmond, where they are sorted before shipment. Approximately 90 percent of the non-recyclable wastes are brought to the Keller Canyon Landfill at Pittsburg while about 10 percent are brought to the Potrero Hills Landfill in Solano County. The Keller Canyon facility has a maximum capacity of 75 million cubic yards and has about 20 years of additional capacity.[17] The Potrero Hills facility has a maximum capacity of 21 million cubic yards and has an additional eight to ten years of permitted capacity.[18] Permit applications to expand the Potrero Hills facility are pending. If approved, the landfill's capacity would be quadrupled. [19]

While landfill capacity is not an issue, the service agreements between WCCIWMA and Republic Services for solid waste disposal, recycling processing, and composting is due to expire on December 31, 2013. The Authority is currently conducting strategic planning sessions to determine its plans after 2013. However, it is unlikely that another company besides Republic Services would win the bidding process for landfill disposal since Republic Services owns all the recycling and transfer station infrastructure in West County.[20]

Recycling and Hazardous Wastes

Residential, commercial, industrial and office recycling is available through Richmond Sanitary Services. Working with the collection company, the City has several programs to encourage recycling and reuse in San Pablo. In addition to curbside recycling, the City provides options for recycling additional materials such as household hazardous waste, electronic waste, and green wastes.[21]

Recyclable waste (blue cart) and green waste (green cart) are collected on alternate weeks while non-recyclable garbage (brown cart) is collected every week from San Pablo homes. There is no door-to-door hazardous waste collection service in San Pablo but residents and non-profits may

---

[17] The expected closure date for Keller Canyon Landfill is 31 December, 2030, according to CalRecycle's website.

[18] The expected closure date for Potrero Hills Landfill is 1 January, 2011, according to CalRecycle's website. However, the Potrero Hills EIR (available on the Solano County website) indicates that it has additional capacity beyond this date. In any case, the future expansion of this facility is tied up in litigation because it would expand into a marsh. There is also legal action against Solano County Measure E, an initiative passed by Solano County voters in 1984 to limit the amount of garbage imported to local landfills. County officials say the law is unconstitutional according to the commerce clause of the US Constitution, interfering with interstate commerce.

[19] Interview with Chris Lehon, Executive Director of West Contra Costa County Integrated Waste Management Authority, April 2010.

[20] *Ibid.*

[21] Green wastes includes grass clippings, weeds, leaves, wood, and other plant material.

drop off their household hazardous waste at no cost. A mobile collection service is available for disabled residents and senior citizens by appointment.

Solid Waste Diversion

To reduce waste disposal and promote recycling, the California Integrated Waste Management Act of 1989 (AB 939) promotes an integrated approach to managing waste. The California Public Resources Code Section 41780 (A)(2) requires that cities and counties divert 50 percent of all solid waste produced within their jurisdiction through source reduction, recycling, and composting. As shown in **Table 3.8-7**, WCCIWMA had a diversion rate of 53 percent in 2006 which met the State requirement. In 2007, the California Department of Resources Recycling and Recovery (CalRecycle) changed the method of calculating diversion rates to one based on the average per capital solid waste disposal rate. WCCIWMA had a residential per capita disposal rate of 4.8 pound per person per day in 2007 and 4.4 pound per person per day in 2008; which met the targets set for both years[22].

Table 3.8-7 West Contra Costa Integrated Waste Management Authority Diversion Rates

		Population Disposal (PPD)[1,2]		*Employment Disposal (PPD)*	
Year	*Diversion Rate[1]*	*Target*	*Annual*	*Target*	*Annual*
2005	49%	-	-	-	-
2006	53%	-	-	-	-
2007	-	5.4	4.8	22.1	18.5
2008	-	5.4	4.4	22.1	16.9

[1] In 2007, California Department of Resources Recycling and Recovery (CalRecycle) introduced a new system of measuring diversion rates based on a per capita disposal measurement system equivalent to the 50 percent diversion requirement. The previous system is no longer used. The new per capita disposal measurement system is one of several "**factors**" in determining a jurisdiction's compliance with the intent of AB 939, and allows CalRecycle and jurisdictions to set their primary focus on successful implementation of diversion programs.
[2] PPD = Pound per person per day.

Source: California Department of Resources Recycling and Recovery, 2010.

Electricity, Gas, and Telecommunications

Electricity

Pacific Gas & Electric provides electricity and natural gas to the Planning Area. The city is served by four distribution lines from substations outside San Pablo. The electrical lies in the City are typically overhead, except for a portion of San Pablo Avenue. The overhead line infrastructure is approximately 60 to 70 years old. There is an ongoing maintenance program in the City to replace damaged poles and infrastructure, and the City has a policy requiring all new large subdivisions to underground electric cables.

There is currently spare capacity for service in the City and PG&E does not foresee any issues meeting the gas and electricity needs for the development area. If increased capacity is needed,

[22] Source: http://www.calrecycle.ca.gov/LGCentral/Tools/MARS/JurDrDtl.asp?Flag=1&Yr=2007&Ju=568

PG&E can increase demand from regional power plants and natural gas fields or construct new electrical substations in the region, as necessary.

Natural Gas

PG&E provides local natural gas service to the Planning Area. Three natural gas transmission lines feed into the San Pablo station at Rumrill Boulevard and Folsom. An eight-inch distribution main serves the City from this substation. Since most proposed General Plan development sites are located within urban infill areas close to existing development, serving these areas are not expected to be a problem. However, the distribution is designed for normal loads and pressures. Any large new industrial use may require loading increase that would require additional gas pressures and/or pipelines.

Telecommunications

Pacific Bell is the primary provider of residential and commercial telephone service in the City. Pacific Bell also provides or hosts a variety of telecommunication services such as Digital Subscriber Lines (DSL), Internet Service Providers (ISP), web hosting, virtual private networking, and wireless/cellular paging services. AT&T and Comcast are also internet Service Providers (ISP) in the City. These networks are privately owned and maintained.

REGULATORY SETTING

Definitions

Emergency Response Time

The National Fire Protection Association (NFPA) defines "response time" as "the travel time that begins when units are en route to the emergency incident and ends when units arrive at the scene."

ISO Rating System

Insurance Service Office (ISO) is a private company that inspects and ranks fire departments across the country to help insurance companies determine premiums for homeowners in the areas they serve. The ISO collects and analyzes firefighting capability information on nearly 46,000 areas and rates departments on fire suppression ability, water availability and communications. ISO's methodology, known as the Fire Suppression Rating Schedule, assigns a class rating on a scale of 1 to 10, with Class 1 given to exemplary fire departments and Class 10 to departments that do not meet minimum criteria.

Community Center

Community centers consist of buildings, other than City Hall, designed for community meetings, indoor recreational and instructional programs, and social activities. Included in the definition of community centers are such specialized facilities as senior centers, youth centers, and gymnasiums.

Federal, State, and Local Regulations

Fire

Fire Code

The California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout the State of California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

Contra Costa County Fire Protection District

The Contra Costa County Fire Protection District (CCCFPD) provides fire and life safety services in Contra Costa County. The District follows the regulations and standards established in the California Fire Code to provide acceptable levels of fire protection in its service area which includes the City of San Pablo.

Police

Law enforcement services are provided by the City of San Pablo Police Department along with additional law enforcement services provided by the California Highway Patrol.

Emergency Response and Disaster Preparedness

Multi Jurisdictional Local Hazards Mitigation Plan

In San Pablo, hazard mitigation planning is carried out collectively at the regional level owing to the proximity of different cities and their joint exposure to earthquakes and other regional hazards. ABAG is the lead agency on the multi-jurisdictional Local Hazard Mitigation Plan (MJ-LHMP) for the San Francisco Bay Area. The most recent MJ-LHMP was adopted in 2005. A new plan is currently being updated and is expected to be reviewed and adopted by 2011.

The City's Public Works Division is responsible for carrying out policies in the MJ-LHMP. The MJ-LHMP focuses on the assessment of identified risks and implementation of loss reduction measures to ensure critical City services and facilities survive a disaster.

City of San Pablo Emergency Operations Manual

The California Emergency Services Act (Government Code Section 8550-8668) requires each city to prepare and maintain an Emergency Plan for natural, manmade, or war-caused emergencies that result in conditions of disaster or in extreme peril to life. The San Pablo Emergency Operations Manual was adopted in 1999. The Manual outlines the City's response to different types of disaster situations including seismic hazards, extreme weather conditions, and flooding. It establishes the chain of command, operational areas and responsibilities for different City departments as well as individuals, and defines the City's response in four response and recovery phases: increased readiness, initial response operations, extended response operations, and recovery operations. The Manual is meant to work in conjunction with other disaster mitigation plans of the region, such as the Association of Bay Area Governments (ABAG) Local Hazard Mitigation Plan (see below) and the State Emergency Plan. According to the San Pablo Police Department, the Emergency Operations Manual is currently being updated and is expected to be adopted in the end of 2010.[23]

Schools and Library

The West Contra Costa Unified School District is the provider of K-12 public schools. The District is overseen the Contra Costa County Department of Education

The Contra Costa Library System (CCLS) provides the library service for the City of San Pablo.

Parks

The 1975 Quimby Act (California Government Code section 66477) authorized cities and counties to pass ordinances requiring that developers set aside land, donate conservation

---

[23] Interview with Andrea Barte, Disaster Preparedness Coordinator of the San Pablo Police Department. January 2010.

easements, or pay fees for park improvements. The Act states that the dedication requirement of parkland can be a minimum of 3 acres per thousand residents or more, up to 5 acres per thousand residents if the existing ratio is greater than the minimum standard. Revenues generated through in lieu fees collected and the Quimby Act cannot be used for the operation and maintenance of park facilities. In 1982, the act was substantially amended. The amendments further defined acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied (nexus) to a project's impacts as identified through studies required by the California Environmental Quality Act (CEQA).

The City's Municipal Code Title 12, Chapters 12.16 and 12.20 govern the type of uses and activities permitted or prohibited in City parks and recreation facilities, and empower the Public Works Director to decide on and direct all selections, trimming, pruning, care, plantings and removals of trees and other vegetation in the public realm.

Water

Federal Clean Water Act

The Clean Water Act is the principal federal law that addresses water quality. The primary objectives include the regulation of pollutant discharges to surface water, financial assistance for public wastewater treatment systems, technology development, and non-point source pollution prevention programs. The Clean Water Act also requires that states adopt water quality standards to protect public health and welfare and enhance the quality of water.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), administered by the U.S. EPA in coordination with the states, is the main federal law that ensures the quality of drinking water. Under the SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The Department of Public Health administers the regulations contained in the Act in the State of California.

California Water Code

California Water Code (Porter-Cologne Act) establishes a program to protect water quality and beneficial uses of state water resources and includes groundwater and surface water. The State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board are the principal state agencies responsible for control of water quality.

California Department of Public Health

A major component of the State Department of Public Health, Division of Drinking Water and Environmental Management, is the Drinking Water Program which regulates public water systems. Regulatory responsibilities include the enforcement of the federal and state Safe Drinking Water Acts, the regulatory oversight of public water systems, issuance of water treatment permits, and certification of drinking water treatment and distribution operators. State regulations for potable water are contained primarily within the Food and Agricultural Code, the

Government Code, the Health and Safety Code, the Public Resources Code, and the Water Code. Regulations are from Title 17 and Title 22 of the California Code of Regulations.

The regulations governing recycled water are found in a combination of sources including the Health and Safety Code, Water Code, and Titles 22 and 17 of the California Code of Regulations. Issues related to treatment and distribution of recycled water are generally under the influence of the RWQCB, while issues related to use and quality of recycled water are the responsibility of the California Department of Public Health.

California Environmental Quality Act, SB 610, and SB 221

Section 15083.5 of the CEQA Guidelines requires the City to request certain information from the public water supply system(s) serving the planning area. This requested information includes: an indication of whether the projected water demand associated with the proposed general plan was included in its last urban water management plan; and, an assessment for any major development projects "whether its total projected water supplies available during normal, single-dry, and multiple-dry water years as included in the 20-year projection contained in its urban water management plan will meet the projected water demand associated with the proposed project, in addition to the system's existing and planned future uses."

Senate Bill 610 Senate Bill 610 became effective January 1, 2002, and requires cities in connection with CEQA review to consider water supply assessments to determine whether projected water supplies can meet the project's anticipated water demand. SB 610 also requires additional factors to be considered in the preparation of urban water management plans and water supply assessments.

SB 610 and CEQA Guidelines Section 15083.5 identifies those projects generally as a residential development of more than 500 dwelling units; a commercial or industrial business employing more than 1,000 persons; or any other project that would have a water demand at least equal to a 500 dwelling unit project. SB 221 contains similar provisions as SB 610 but is intended for use with large residential subdivisions and is usually required at the time of tentative tract map approval.

San Francisco Bay Regional Water Quality Control Board

The San Francisco Bay Regional Water Quality Control Board (RWQCB) governs many of the regulations associated with utilities, specifically potable water, sanitary sewers, storm drains, and recycled water.

RWQCB has the authority to enforce water quality regulations found in the Clean Water Act based on the Porter-Cologne Water Quality Control Act.

East Bay Municipal Utility District

EBMUD is the regional entity formed to supply water to Alameda County and parts of Contra Costa County. The district provides drinking water to over 1.3 million customers and implements programs to conserve water and increase water supply. The district also manages several reservoirs in the two county region.

EBMUD, Urban Water Management Plan

EBMUD's 2005 Urban Water Management Plan (UWMP) documents the district's planning efforts to ensure adequate water supplies to meet existing and future demands for water. The UWMP presents forecasted supplies and demands up to the year 2030 and describes the District's recycled water and conservation programs. The UWMP also describes what happens in a water shortage and discuses drought management programs.

The City of San Pablo Municipal Code Title 8, Chapter 8.38 contains standards on Approved Water Supply Systems.

EBMUD, Dam Safety Program

EBMUD has a comprehensive Dam Safety Program to prevent loss of life, personal injury and property damage from the failure of dams. The Dam Safety Program guides the City of San Pablo and other jurisdictions in ensuring the long-term safety of this dam.

Wastewater

The RWQCB administers regulations related to wastewater discharges under the Federal Water Pollution Control Act of 1972, as amended, more commonly known as the Clean Water Act. Wastewater discharges are guided by NPDES (National Pollutant Discharge Elimination System) permits granted by the RWQCB.

The City of San Pablo does not establish standards related to the sewer system, instead, it requires all existing developments comply with standards established by the West County Wastewater District (WCWD), and new developments receive certification from WCWD as to the adequacy of sanitary sewer system.

Storm Drains

The City's storm drain outfalls operate under NPDES permits granted by the RWQCB. The San Pablo Municipal Code contains regulations related to stormwater management in Title 8, Chapter 8.40. The Subdivision Ordinance contains the specific flood water and drainage requirements for development projects.

Flood Damage Prevention Ordinance

The City adopted a Flood Damage Prevention Ordinance in 1987 in compliance with requirements of the National Flood Insurance Program (NFIP) and FEMA for development in flood-plain areas. The stated purpose of the Ordinance is to promote public health, safety, and general welfare, and to minimize and to minimize public and private losses due to flood conditions in specific areas.

City Municipal Code Title 15 outlines the controls which the City imposes on development on areas of special flood hazards as identified by FEMA maps, such as creek setback requirements and minimum floor elevations above the base flood elevation. The intent of the regulations is to avoid exposing developments to flood hazards and reduce the need for future flood control

protective work. These codes are amended as needed to maintain compliance with state and federal regulations.

Solid Waste

Resource Conservation and Recovery Act (Amended 1986)

The Resource Conservation and Recovery Act is a federal act regulating the potential health and environmental problems associated with solid waste hazards and non-hazardous wastes. Specific regulations addressing solid waste issues are contained in Title 40, Code of Federal Regulations.

California Integrated Waste Management Board

The California Integrated Waste Management Board (CalRecycle) establishes the statewide regulations for solid waste collection and disposal, including state-mandated diversion goals. Regulations authored by CalRecycle (Title 14) were integrated with related regulations adopted by the State Water Resources Control Board pertaining to landfills (Title 23, Chapter 15) to form Title 27 of the California Code of Regulations.

The California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989, or AB 939, mandated that all jurisdictions in the State divert at least 50 percent by 2000 through source reduction, composting, and recycling activities. The Act gives the highest priority to source reduction and defines it as the act of reducing the amount of solid waste generated in the first place. Recycling and composting are given the next highest priority. The Act specifies that all other waste that is not diverted be properly and safely disposed of in a landfill or through incineration. The California Integrated Waste Management Act also mandates that each jurisdiction adopt a Source Reduction and Recycling Element (SRRE) which specifies how the community will meet the 50 percent goals set forth in the Act. Each community is also required to take measures to reduce solid waste generation and to provide for the safe disposal of special and hazardous wastes.

The California Solid Waste Reuse and Recycling Access Act

Subsequent to the California Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB939. The California Solid Waste Reuse and Recycling Access Act of 1991 directs the California Integrated Waste Management Board (CIWMB) to draft a model ordinance (which Contra Costa County has adopted) relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance is used by the County as the basis for imposing recycling conditions on new development projects and on existing projects that add 30 percent or more to their existing floor area. Beginning in 1994, the model ordinance requires that any new development project for which an application is submitted include adequate, accessible and convenient areas for collecting and loading recyclable materials.

The Solid Waste Disposal Measurement System Act

The Solid Waste Disposal Measurement System Act of 2008, SB 1016, amended the California Integrated Waste Management Act procedures for measuring and reporting diversion requirements. Starting in 2009, jurisdictions are required to calculate the 50 percent diversion

requirement in a per capita disposal rate equivalent. CalRecycle will determine the per capita disposal rate equivalent for each jurisdiction.

CalRecycle delegates local permitting, enforcement, and inspection responsibilities to Local Enforcement Agencies (LEA). The San Pablo Municipal Code contains regulations related to solid waste and recycling in Title 17, Chapter 30 and Title 15, Chapter 60.

Gas and Electricity

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates Investor-Owned Utilities (IOUs) including those that offer electric, natural gas, steam, and petroleum service to consumers. The CPUC regulates both electric and natural gas rates and services provided by these utilities including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing. Natural gas regulations are found in General Orders 58, 94, 96, and 112, while electrical distribution regulations are found in General Orders 95, 128, 131, 165, and 166.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed Project would have a potentially significant adverse impact if it would:

Criterion 1: Result in new development for which the provision of increased staffing, facilities and equipment necessary to maintain acceptable levels of fire and police service could cause adverse environmental effects.

Criterion 2: Interfere with the provision of existing or planned school services or allow new development for which the provision of appropriate increases in school staffing or facilities could cause adverse environmental effects.

Criterion 3: Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board.

Criterion 4: Require or result in the construction of water facilities, or expansion of existing facilities, the construction of which could cause adverse environmental effects.

Criterion 5: Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause adverse environmental effects.

Criterion 5: Require or result in new or expanded solid waste disposal systems the construction of which could cause adverse environmental effects.

Criterion 6: Conflict with existing city standards for parks provision.

METHODOLOGY AND ASSUMPTIONS

This EIR addresses impacts to City infrastructure due to projected growth arising from General Plan Land Use changes. Subsequent CEQA review at the project level may be required to determine whether significant environmental effects would result from the construction of water distribution lines, wastewater collection system components, storm drainage conveyance pipes, and any onsite storage or pumping facilities on development sites. Project-level review will occur when proposed development plans are prepared.

Population and Housing

Existing population estimates are based on those reported by ABAG Projections. Existing housing unit estimates are based on yearly estimates by Department of Finance housing tables.

Buildout household estimates are based on a household size of 3.1 persons per unit. Secondary units are assumed to have a household size of 1.5 persons per unit for all years.

Fire Protection Services

The need for additional fire stations, staffing and equipment was evaluated based on CCCFPD's goal of responding to emergency calls within 10 minutes. GIS network analysis was used to determine the approximate distance from the existing fire stations to the Planning Area on existing roads. The analysis showed that the station in San Pablo and two nearby stations could meet CCCFPD's response time standard.

Police Services

The need for additional police services was evaluated based on the City Police Department maintaining the current service ratio of having 1.6 officers per 1,000 residents. Using the estimated population increase from the residential development within the Planning Area, the number of new officers needed at buildout was determined.

Schools

The impact on local schools due to changing General Plan Land Use designations was evaluated based on West Contra Costa County Unified School District's student generation rates. WCCCUSD uses the following table of student generation rates to plan needed capacity improvements:

Table 3.8-8 Student Generation Rates

Type	*Single Family*	*Multifamily*
Elementary School	0.21	0.18
Middle School	0.06	0.08
High School	0.15	0.09

Source: West Contra Costa Unified School District, 2008.

Parks

The adequately of parks and recreation facilities was evaluated based on the City's adopted standard for park requirements which is three acres of parkland per 1,000 residents.

Water

San Pablo's projected water demand was calculated using information obtained from EBMUD's 2005 Urban Water Management Plan. San Pablo's share of the total was calculated based on per capita planning demand within EBMUD's service area for 2030.

Wastewater

San Pablo's projected wastewater flow was calculated using information obtained from WCWD. San Pablo's share of the total was calculated based on proportion of its population to WCWD service area population.

IMPACT SUMMARY

Proposed Project Impact	*Mitigation Measure*	*Significance after Mitigation*
Implementation of the proposed Plan will require additional police and fire protection services that exceed current staffing and facilities.	None required	Less than significant
Implementation of the proposed Plan will increase enrollment, but this will not exceed the capacity of existing schools.	None required	Less than significant
Implementation of the proposed Plan will increase the ratio of parkland from the existing ratio but still fall short of the City's goal of 3 acres per thousand residents.	None required	Less than significant
Implementation of the proposed Plan will result in the increase in use of existing parks, such that substantial physical deterioration of the facility could occur or be accelerated.	None required	Less than significant
Implementation of the proposed Plan will increase the percentage of residents living within 5 minutes walking or bicycling distance of a public park.	None required	Beneficial Impact
Implementation of the proposed Plan will increase the demand for public water which may exceed supply	None required	Less than significant
Implementation of the proposed Plan will generate waste water that exceed the treatment capacity of the West County Wastewater District or require additional infrastructure to meet growth demands	None required	Less than significant
Implementation of the proposed Plan may generate additional amounts of solid waste that may exceed future annual diversion targets.	None required	Less than significant

IMPACTS AND MITIGATION MEASURES

3.8-1 Implementation of the proposed Plan will require additional police and fire protection services that exceed current staffing and facilities.(*Less than Significant*)

Current police and fire protection is designed to meet the needs of the existing population and employment base. Implementation of the proposed General Plan would generate approximately 2,750 new residents, increasing the long-term demand for police assistance and emergency fire response.

To ensure new development do not adversely affect existing police services, the San Pablo Police Department will need to hire additional police officers in order to maintain the current ratio of 1.6 sworn officers to 1,000 residents. To maintain the existing ratio, it would be necessary to hire 3 new officers. **Table 3.8-9** shows the additional police officers needed at buildout.

Table 3.8-9 Additional Police Officers Needed for Buildout

Year	*Population*	*Officers*	*Ratio*
Existing Conditions (2010)	32,200	53	1.6
Proposed General Plan	34,950	56	1.6
Change	2,750	3	-

Source: Dyett & Bhatia, 2010.

According to the Department's spokesperson, one of the Department's most pressing needs is space, as the size of the Police building and its parking lot are insufficient to meet future growth. To maintain current service levels and provide adequate police protection, the Department's facility, equipment and budget would need to grow proportionately with additional personnel. The proposed General Plan has taken this into consideration and includes a policy to assess the manpower, training, facility and equipment needs of the Police Department so they may grow in concert with population growth. It also includes a policy to explore the feasibility of developing a small police station at Rumrill Boulevard and Market Avenue and/or expansion of existing facility to meet future growth.

Currently, 100 percent of San Pablo's residents are located within 1.5 mile of a CCCFD Fire Station. Portions of the Planning Area located outside of the 1.5 mile radius would have a higher than average response time than areas located within the radius. However, since buildout of the proposed General Plan focuses growth in existing urban areas, it would likely not adversely affect CCCFPD's capabilities to serve the Planning Area.

Furthermore, all projects developed under the proposed General Plan would be subject to Fire and Building Code requirements and other applicable codes which are designed to minimize risks of fire hazards. All projects shall also comply with CCCFPD's Access and Water Supply Requirements.

Policies in the General Plan will insure that new projects not only adhere to police and fire district standards, but also pay its fair share of the costs associated with the provision of additional fire and police facilities. As such, full implementation of the proposed General Plan policies set out below would result in impacts that are less than significant.

Proposed General Plan Policies that Reduce Impact

SN-I-24 Assess the manpower, training, facility and equipment needs of the Police Department periodically to ensure they meet current and future community needs.

The City will ensure the staffing ratios and response times meet national standards, and hire additional police officers, support training programs, and retrofit police-related facilities and purchase equipment, as needed.

SN-I-26 Explore the feasibility of developing a small police station at Rumrill Boulevard and Market Avenue and/or expansion of existing facility.

SN-I-27 Continue to share information and develop joint law enforcement efforts with adjacent jurisdictions and other public safety agencies.

SN-I-16 Continue to work with the County Fire Department to make San Pablo more resilient to fire hazards.

The City's Planning Division will work with the County Fire Department to plan for, maintain, and expand local fire service activities. The City's Building Division will consult with the Fire Department on new construction plan checking, building inspections, weed abatement and hazard mitigation activities, and public information resources. The City's Public Works and Planning Division will work with Fire Department to review, hydrant locations, landscaping and other fire safety criteria. The City's Police Department will work with the Fire Department to distribute fire safety information and coordinate public safety education in schools.

SN-I-18 Review the Fire District's fire hazard standards and annual report to determine if there should be a modification or additional types of services based on local population needs.

Implementation of the policies listed above would reduce this impact to a level that is less than significant. No additional mitigation is needed.

Impact

3.8-2 Implementation of the proposed Plan will increase enrollment, but this will not exceed the capacity of existing schools.(*Less than Significant*)

Buildout of the proposed General Plan will add new households to the City. Using student generation rates provided by the West Contra Costa Unified School District, these new households will add approximately 175 elementary school students, 75 middle school students, and 93 high school students to the school system. As shown in **Table 3.8-10**, population growth by 2030 will bring the total number of students to 3,769 elementary school students, 830 middle school students, and 2,124 high school students. This increase will not exceed the capacity of the schools in San Pablo. Therefore development under the proposed General Plan will not require the building of new schools and its impact to existing schools is less than significant. This issue is evaluated no further in this EIR.

Table 3.8-10 Buildout Student Population and School Demand

Type	*Additional Students at Buildout*	*Current Students*	*Total Students at Buildout*	*Capacity*	*Percent Remaining Capacity*
Elementary School (K-6)	175	3,594	3,769	4,251	11%
Middle School (7-8)	75	755	830	1,141	27%
High School (9-12)	93	2,031	2,124	2,168	2%
Total	**344**	**6,380**	**6,724**	**7,560**	**11%**

Source: West Contra Costa Unified School District, 2008; Dyett & Bhatia, 2010.

Impact

3.8-3 Implementation of the proposed Plan would increase the ratio of parkland from the existing ratio but still fall short of the City's goal of 3 acres per thousand residents. (*Less than Significant*)

The standard for parkland dedication as established in the Municipal Code (Title 16, Chapter 16.20) is 3.0 acres per thousand residents. Under existing General Plan conditions, the city has a total of 22.0 acres of parkland, not inclusive of school fields made available to city residents during non-school days under a joint-use agreement with the school district. With a population of 32,200 in 2010, the amount of parkland per thousand residents is 0.7 acres. This falls well short of the city goal.

The proposed General Plan includes a policy that aims to achieve the goal of 3.0 acres of parkland per thousand residents. Through land use changes and parkland dedication, the Plan will add 24.4 acres of parkland to the existing total (**Table 3.8-11**). This brings the future amount to 46.4 acres, or roughly 1.3 acres of parkland per thousand residents.

Table 3.8-11 Summary of Proposed Parks in San Pablo

Type	*Acreage*
Existing Parks	22.0
Proposed Parks[1]	24.4
Total Parkland at Buildout	46.4
Park Ratio (Acres per 1,000 residents)	1.3

[1]Does not include open space areas. Exact locations and sizes of proposed parks may subject to change.

Source: Dyett & Bhatia, 2010.

The relatively built-out nature of San Pablo limits the possibility of acquiring even more parkland within existing city limits under the General Plan. Although 1.3 acres per thousand residents falls short of the city goal of 3 acres per thousand residents, it is a vast improvement over existing conditions. Moreover, the proposed amount under the Plan does not preclude even more parkland to be added should the City be able to procure grant funding through other sources. The shortage of public parkland in San Pablo will be further ameliorated by the City policy to continue its joint-use agreement with the school district allowing residents the use of school facilities during non-school days.

In consideration of these measures, even though the Plan falls short of the goal of providing enough parkland to reach 3 acres per thousand residents, the overall impact would be less than significant.

Proposed General Plan Policies that Reduce Impact

PSCU-I-1 Seek to achieve a standard of 3.0 acres of parkland per 1,000 residents.

In addition to parkland dedication by developers, the City will also acquire or re-develop parkland to meet the goal of 3.0 acres of park per 1,000 residents, subject to availability of funding. Specialized recreational facilities, such as school facilities, may be counted as part of the parkland total if they become publicly accessible.

PSCU-I-4 Require residential developers to contribute to the City's parks and open space system based on their proportional share of needs generated by new residents.

PSCU-I-5 Periodically update park impact fees to assure the City's ability to maintain park and recreation infrastructure and facilities.

PSCU-I-6 Acquire land for mini-parks in Old Town and other neighborhoods where parks are needed.

The City will acquire and develop a mini-park in the Old Town neighborhood to respond to the recreational needs of that area. A playing field is also being planned on city-owned land for the Rumrill neighborhood. Along San Pablo Avenue, proposed mini-parks are shown as symbols, indicating the general location. Details will be developed in a Parks and Recreation Master Plan (see PSCU-I-2).

PSCU-I-8 Continue joint-use park and recreation agreements with West Contra Costa Unified School District and the Contra Costa College to improve the community's access to park and recreation facilities with minimal or no financial commitments by the City.

HEA-I-6 Establish an incentive system to encourage land dedication and park development beyond the minimum City requirements. Incentives may include density bonuses, and increased building height at appropriate locations. Tie incentive program to priority areas for parks development.

Implementation of the policies listed above would reduce this impact to a level that is less than significant. No additional mitigation is needed.

Impact

3.8-4 Implementation of the proposed Plan will result in the increase in use of existing parks, such that substantial physical deterioration of the facility could occur or be accelerated. (*Less than Significant*)

Proposed General Plan Policies that Reduce Impact

Most of the land use changes under the proposed General Plan are in the form of new mixed-use development along transportation corridors. Since these areas do not have a lot of vacant land to begin with, acquiring new parkland for new residents would likely be difficult. As a result, the local increase in population near development areas may cause a commensurate increase in the use of existing park facilities; accelerating the physical deterioration of these facilities.

To mitigate the impacts from urban density increase on park facilities closest to development areas, the proposed General Plan includes a policy on facility maintenance to ensure any physical deterioration of facilities is kept to a minimum. Furthermore, the City aims to involve residents and youths in 'park watches' to prevent damage to park facilities and guard against graffiti.

Besides addressing issues related to facility maintenance, the General Plan proposes seven new parks totaling 24.4 acres and preserves an additional 10.8 acres of open space. This would provide residents with more choices. Bicycle and other circulation improvements will make parks and open space located close to the city boundary more accessible to people living in the city center.

In consideration of these policies, even though the Plan may cause an increase in use of existing parks, the overall impact would be less than significant.

PSCU-I-2 Adopt a Parks and Recreation Master Plan.

The Master Plan should include the following components:

- An assessment of existing and future parks and recreational needs including neighborhood parks and facilities;
- Sustainable construction and park maintenance strategies;
- Development of an action plan to prioritize the City's needs, identify preferred sites for new facilities, identify staffing needs, and present a plan for acquisition and improvement of future facilities.

PSCU-I-3 Develop new park and recreation facilities and continue to upgrade existing ones with universal accessibility, durability, and low maintenance in mind.

PSCU-I-9 Involve citizens, especially youths, in maintaining park areas through participating in park watches, citizen-based graffiti watch, and clean up and repair.

HEA-I-2 Improve signage directing residents and visitors to public parks and recreational facilities from all parts of the community. Integrate parks signage with bikeway and pedestrian-oriented signage system throughout San Pablo.

HEA-I-5 Link park facility improvement priorities to a ranking system keyed to public health and recreational goals.

PSCU-I-1, PSCU-I-4, PSCU-I-5, PSCU-I-6, PSCU-I-8, and HEA-I-6 mentioned under **Impact 3.8-4** would also help reduce this impact to a level that is less than significant. No additional mitigation is needed.

Impact

3.8-5 Implementation of the proposed Plan will increase the demand for public water which may exceed supply. (*Less than Significant*)

Proposed General Plan Policies that Reduce Impact

According to data from EBMUD, the total average water production for EBMUD's service area was 205 million gallons per day (mgd) in 2008. San Pablo's estimated share of the total, calculated using proportionate share of the total population, was 4.8 mgd. At buildout, the proposed General Plan would increase demand by 6 percent to 5.1 mgd. **Table 3.8-12** compares existing water demand to buildout for San Pablo under the proposed General Plan.

Table 3.8-12 Estimated Water Demand

	Population	*Estimated Water Demand (mgd)[1]*	*Percent Increase from Existing Demand*
Existing Conditions (2008)	31,720	4.8	-
Proposed General Plan	34,950	5.1	6.1%

1 mgd = million gallons per day

Source: Dyett & Bhatia, 2010; East Bay Municipal Utility District, Water Annual Report, 2009; East Bay Municipal Utility District, Urban Water Management Plan, 2005.

Since EBMUD used ABAG's "Projections 2005" version of population projections to calculate projected water demand in 2030[24], and since the proposed General Plan buildout population of 34,950 is only marginally larger than ABAG's projection of 33,300 for 2030[25]; and considering San Pablo's small size in proportion to EBMUD's service area (2.3 percent) —the water agency should not encounter any difficulty meeting demand under the General Plan.

However, because EBMUD's water supply is dependent on precipitation and snowpack conditions in the western Sierra ridges, the agency's ability to meet customer demand will be chiefly dependent upon future weather conditions. According to its Urban Water Management Plan, the water agency expects no problem in meeting water demand in a normal, non-drought year; but expects a demand-to-supply shortfall of five percent in a drought year and larger shortfalls for multi drought years.

In view of this uncertainty, it is in the City's best interest to plan for contingencies and reduce water use at all times. Proposed General Plan policies will ensure that new developments are designed with low-flush toilets and other water saving features. The City plans to continue cooperative efforts with EBMUD to promote water conservation to the public. Additionally, the City plans to adopt a Water Conservation Ordinance and start a water recycling program to irrigate public parks and landscaping. The relevant policies designed to reduce water use are listed below.

In consideration of these policies, even though the Plan will cause an increase in water demand that may or may not exceed supply, the overall impact would be less than significant.

---

[24] EBMUD, 2005.

[25] ABAG releases projections for Bay Area cities every two years. Its Projections 2005 (released in 2005) projected a population of 33,300 for San Pablo in 2030. This data was used as the basis for EBMUD's Urban Water Management Plan projections. Since then, ABAG has revised its projections in its latest paper (Projections 2009) to 36,700 for 2030.

PSCU-G-6 *Support the efficient use and conservation of water.*

PSCU-I-23 Coordinate with East Bay Municipal Utilities District (EBMUD) to provide an adequate and clean water supply.

The City will work with EBMUD to update and support compliance with the District's Water Supply Management Program.

PSCU-I-24 Establish water saving and conservation standards for new development. Standards may include, but are not limited to, the following:

- Require new residential developments to install low-flush toilets and water saving shower heads;
- Require new commercial, retail, and industrial developments to install low-flush toilets and auto shut-off faucets in public bathrooms; and
- Require the installation of water meters on all new multifamily residential units, mobile homes, and common interest developments, whether owner-occupied or rented, as well as on existing multifamily units at the time of sale, or at the time of condominium conversion as a part of the subdivision mapping process.

The City will work with property owners to increase awareness of both the environmental and the economic advantages of sub-metering. Properly done, sub-metering of multifamily buildings can cut apartment resident demand by 15 percent.

PSCU-I-25 Reduce water use in municipal buildings and City operations.

The City will develop a schedule and budget for the retrofit of existing municipal buildings with water conservation features, such as auto shut-off faucets and water saving irrigation systems.

PSCU-I-26 Adopt a Water Conservation Ordinance to conserve water and reduce water waste in San Pablo.

The Water Conservation Ordinance will establish restrictions on water uses such as lawn and landscape watering and the filling of fountains and swimming pools, as well as penalties for violations. It also will establish consumption reduction measures to be adopted when State or countywide water rationing is in effect.

Landscape water conservation standards will apply to new development of more than 10,000 square feet. This ordinance also will:

- Require commercial and public right-of-way projects to submit planting plans, irrigation plans, irrigation schedules and water use estimates for City approval prior to issuance of building permits; and

- Require industrial projects to submit plans for water recycling and explain how water use will meet requirements of the National Pollutant Discharge Elimination System program during the plan review process. They are also required to submit irrigation plans for proposed landscaping.

PSCU-I-27 Promote water conservation through public education, including but not limited to the following:

- Encouraging educators to include water conservation in their curriculums;
- Promoting the use of drought resistant plants and turf in yards and gardens;
- Highlighting the availability of EBMUD water conservation programs to residents, including the free Residential Water Survey Program, Residential Landscape Rebate Program, Low-flush Toilet Replacement Program, High Efficiency Residential Clothes Washer Rebate Program and other programs; and
- Providing tips to households and businesses on water conservation.

The City will use its newsletter and website to promote water conservation, and may solicit assistance from EBMUD, environmental groups, and/or concerned citizens to provide education materials or staff time to assist in public outreach efforts.

PSCU-I-28 Consult with EBMUD about starting a recycled water program for San Pablo to irrigate parks, recreational facilities, and landscaping.

PSCU-I-29 Provide educational materials to support the development of safe and effective on-site gray water systems for local homes and businesses, consistent with State codes.

PSCU-I-30 Provide educational materials to support the development of inexpensive and effective rainwater harvesting systems for local homes and businesses.

Implementation of the policies listed above would reduce this impact to a level that is less than significant. No additional mitigation is needed.

Impact

3.8-6 Implementation of the proposed Plan will generate waste water that exceed the treatment capacity of the West County Wastewater District or require additional infrastructure to meet growth demands. (*Less than Significant*)

The West County Wastewater District treatment plant located in Richmond treated approximately 277.9 million gallons of influent in 2008, at an average daily flow of 9.2 mgd. Of this amount, approximately 2.3 mgd came from San Pablo.[26] Implementation of the proposed

[26] The WCWD does not keep records specific to San Pablo, 2.3 mgd is estimated based on the San Pablo's population relative to WCWD's entire service area population.

General Plan would cause a 10 percent increase in wastewater from population growth as shown in **Table 3.8-13**.

Table 3.8-13 Estimated Wastewater Flow

	Population	*Estimated Average Influent Flow (mgd)*	*Percent Increase from Existing Flow*
Existing Conditions (2008)	31,720	2.3	-
Proposed General Plan	34,950	2.5	10.2%

1 mgd = million gallons per day

Source: Dyett & Bhatia, 2010.

Current projections indicate that the wastewater treatment plant has sufficient capacity to meet projected treatment needs. The WCWD treatment plant has a design capacity of 12.5 mgd for dry weather flows and 21 mgd for wet weather flows. Since the 2008 average dry weather flow was 9.2 mgd, the treatment plant has approximately 26 percent excess capacity as of 2008. At buildout of the General Plan, San Pablo's population is expected to grow by only 10 percent while the rest of WCWD's service area is unlikely to grow by more than 20 percent. Added together, they are unlikely to exceed the treatment plant's available capacity.

Although treatment plant capacity is not an issue, WCWD will likely require new infrastructure, such as new pipelines, force mains, and pump-stations to meet future demands. The sewer lines in San Pablo are generally 40 to 60 years old and older, made of vitrified clay pipe and some ductile iron. They were designed based on current zoning classifications which allow lower density than what is anticipated in 2030. Larger pipes and other upgrades to the conveyance system will be required to serve higher density development.

To ensure that new development do not adversely affect the wastewater conveyance system, the proposed General Plan includes a policy that requires new developments contribute to the cost of new wastewater facilities in proportion to the demand generated by project occupants and users. Additionally, the City aims to continue cooperative efforts with the WCWD to address planning capacity and identify deficiencies in the waste water collection system. These policies and other policies included below would reduce potential impacts to a less than significant level.

Proposed General Plan Policies that Reduce Impact

PSCU-I-31 Require, as a condition of project approval, stormwater drainage and sewer improvements in proportion to a project's impacts, including upgrades, replacements, or repairs to older stormwater collection systems, as necessary.

PSCU-I-32 Maintain master storm drain system maps that identify locations where easements should be reserved for eventual installation of pipes and structures to ensure appropriate storm drainage management.

PSCU-I-33 Coordinate with the West County Wastewater District to address planning capacity and identify deficiencies in the waste water collection system.

PSCU-I-34 Update zoning standards to minimize storm water runoff rates and volumes, control water pollution, and maximize recharge of local groundwater aquifers. New development will be required to include features that reduce impermeable surface area and increase infiltration. Such features may include, but are not limited to:

- Canopy trees or shrubs to absorb rainwater;
- Grading that lengthens flow paths and increases runoff travel time to reduce the peak hour flow rate;
- Removing curbs and gutters from parking areas where appropriate to allow stormwater sheet flow into vegetated areas;
- Permeable paving and parking area design;
- Stormwater detention and retention basins to facilitate infiltration; and
- Integrated or subsurface water retention facilities to capture rainwater for use in landscape irrigation and other non-potable uses.

Implementation of the policies listed above would reduce this impact to a level that is less than significant. No additional mitigation is needed.

Impact

3.8-7 Implementation of the proposed Plan may generate additional amounts of solid waste that may exceed future annual diversion targets. (*Less than Significant*)

According to disposal data from the Department of Resources Recycling and Recovery (CalRecycle), the West Contra Costa Integrated Waste Management Authority (WCCIWMA) disposed about 162,600 tons of waste in 2008. According to Chris Lehon from WCCIWMA[27], approximately 90 percent of the non-recyclable wastes were brought to the Keller Canyon Landfill at Pittsburg while about 10 percent were brought to the Potrero Hills Landfill in Solano County. The Keller Canyon facility has a maximum capacity of 75 million cubic yards and has about 20 years of additional capacity.[28] The Potrero Hills facility has a maximum capacity of 21 million cubic yards and has an additional eight to ten years of permitted capacity. The WCCIWMA does not foresee any issues related to solid waste collection or landfill capacity for San Pablo.

The Integrated Waste Management Act of 1989 requires that all jurisdictions meet a 50 percent waste reduction requirement. In 2006, WCCIWMA had a diversion rate of 53 percent which met the State mandate. Since 2007, CalRecycle has been using a new system to measure diversion rates. This new system uses a per capita disposal threshold as one of several "factors" in

[27] Email interview with Chris Lehon, Executive Director of WCCIWMA, April 2010.

[28] The expected closure date for Keller Canyon Landfill is 31 December, 2030, according to CalRecycle.

determining a jurisdiction's compliance with diversion requirements. In 2008, WCCIWMA had a disposal rate of 4.4 pounds per person per day (ppd), which met the target of 5.4 ppd set for that year.[29] At buildout of the General Plan, the amount of solid waste generated will likely increase due to population growth. However, as long as the waste generated by each person does not increase, the city should have no trouble meeting the pound per person target set by CalRecycle each year.

To reduce residential and commercial waste streams within the city, the General Plan includes policies to reduce waste through reduction, reuse, recycling, and public education. It also includes a policy to adopt a Waste Reduction and Construction Debris Recycling Ordinance and a policy to establish design standards incorporating recycling into building design.

In consideration of these policies, even though the Plan may generate additional amounts of solid waste due to population growth, the overall impact would be less than significant.

PSCU-I-39 Require recycling collection services in all residential and non-residential buildings.

PSCU-I-40 Promote the importance of waste reduction and recycling, as well as the safe disposal of hazardous materials, to San Pablo residents and businesses owners.

PSCU-I-41 Establish design standards for new multifamily development in the Zoning Ordinance to make provisions for recycling part of the building design.

PSCU-I-42 Reduce construction waste in San Pablo by adopting a Waste Reduction and Construction Debris Recycling Ordinance that requires developers to:

- Reuse building materials, or use materials with recycled content, to the maximum extent possible;
- Submit a 'Construction and Demolition Materials Management Plan' indicating the estimated volume or weight of project construction and demolition materials, by materials type, to be generated; the maximum volume or weight of materials the project will divert; the vendor or diversion facility; and the volume or weight of residual materials that would be transported for disposal in a landfill;
- Schedule time for deconstruction and recycling activities to take place during project demolition and construction phases; and
- Divert at least 50 percent of recyclable debris (such as paper based boards, ceiling tiles, wood, or aluminum) generated from projects from landfill disposal to reuse or recycling options.

---

[29] Department of Resources Recycling and Recovery website on Diversion/Disposal Rate Report, http://www.calrecycle.ca.gov/lgcentral/Tools/MARS/JurDrDtl.asp?Flag=1&Yr=2008&Ju=568

PSCU-I-43 Reduce waste production in all City operations by using post-consumer recycled paper and other recycled materials.

PSCU-I-44 Actively promote reuse by supporting swap meets, flea markets, and providing information on donation pick-up or drop off locations, as well as other waste reduction programs, on the City website.

Implementation of the policies listed above would reduce this impact to a level that is less than significant. No additional mitigation is needed.

This page intentionally left blank.

3.9 Noise

This section evaluates the potential effect of the proposed San Pablo General Plan on noise levels within the city and the region. It describes how noise is measured and regulated, and identifies the most important sources of noise in San Pablo.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

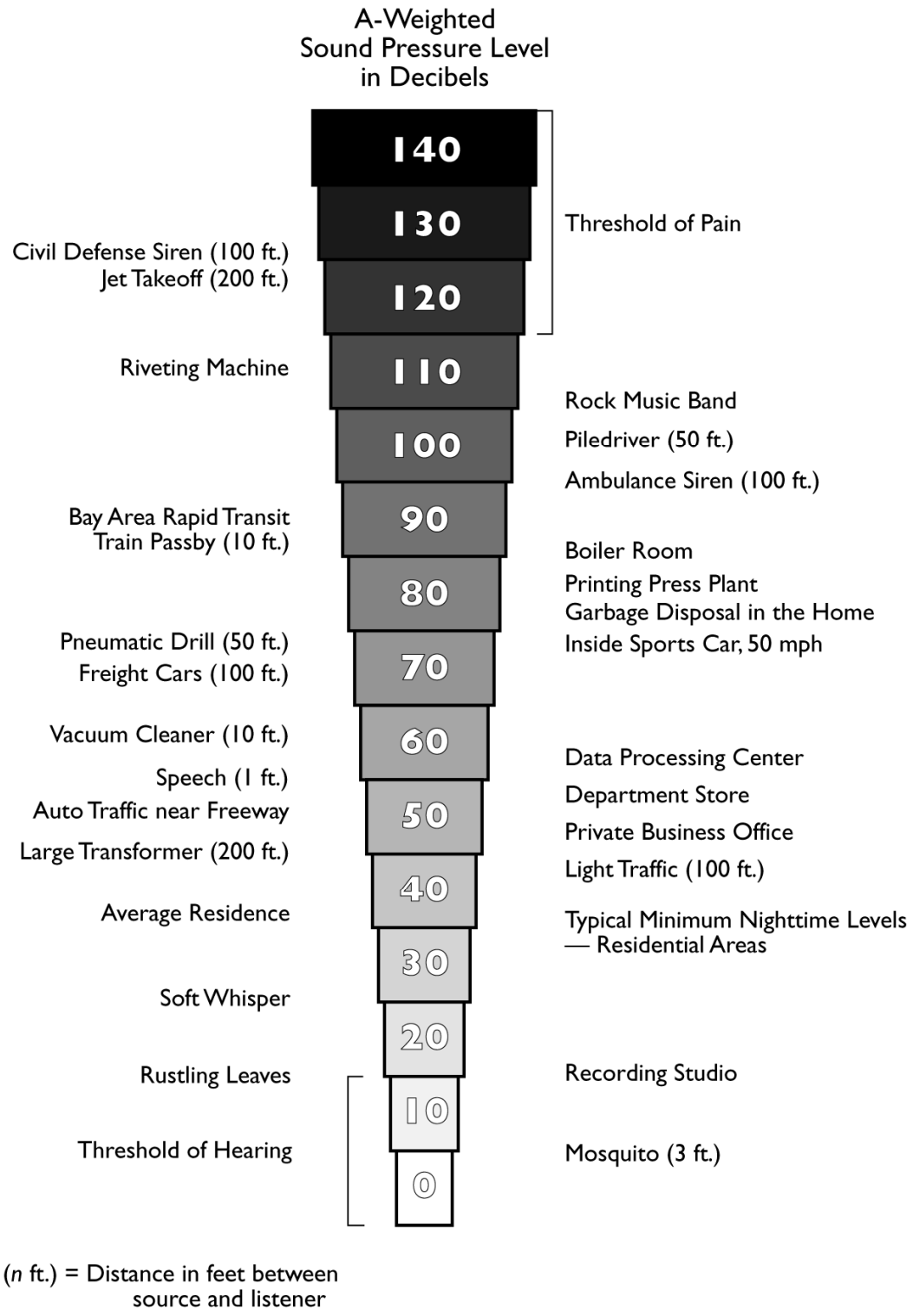
Noise Descriptors

Sound waves, traveling outward from a source, exert a sound pressure level (commonly called "sound level"), measured in decibels (dB). In general, people can perceive a two- to three-dB difference in noise level; a difference of 10 dB is perceived as a doubling of loudness. "Noise" is often defined as unwanted sound. Environmental noise is usually measured in A-weighted decibels, a metric corrected for the variation in frequency response of the human ear. The A-weighted scale is used to describe all noise levels discussed in this section.

Environmental noise levels typically fluctuate over time; different types of noise descriptors are used to account for this variability. Some descriptors characterize cumulative noise over a given period, while others describe single noise events. Cumulative noise descriptors include the energy-equivalent noise level (Leq), Day-Night Average Noise Level (DNL), and Community Noise Equivalent Level (CNEL). The Leq is the actual time-averaged, equivalent steady-state sound level, which, in a stated period, contains the same acoustic energy as the time-varying sound level during the same period. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.9-1**.

DNL and CNEL values result from the averaging of Leq values (based on A-weighted decibels) over a 24-hour period, with weighting factors applied to different periods of the day to account for their greater relative annoyance. For DNL, noise that occurs during the nighttime period (10:00 p.m. to 7:00 a.m.) is penalized by 10 dBA. The CNEL descriptor is similar to DNL, except that it also includes a penalty of approximately 5 dBA for noise that occurs during the evening period (7:00 p.m. to 10:00 p.m.). The cumulative noise descriptors, DNL and CNEL, are well correlated with the likelihood of public annoyance from transportation noise sources.

Figure 3.9-1: Typical Sound Levels



Sound Propagation and Attenuation

Sound level naturally decreases as one moves farther away from the source. This basic attenuation rate is referred to as the geometric spreading loss. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source. For a point source, such as an idling truck or jackhammer, the noise level decreases by about 6 dBA for each doubling of distance away from the source.

In many cases, noise attenuation from a point source increases by 1.5 dBA from 6.0 dBA to 7.5 dBA for each doubling of distance due to ground absorption and reflective wave canceling. These factors are collectively referred to as excess ground attenuation. The basic geometric spreading loss rate (6.0 dBA per doubling of distance) is used where the ground surface between a noise source and a receiver is reflective, such as parking lots or a smooth body of water. The excess ground attenuation rate (7.5 dBA per doubling of distance) is used where the ground surface is absorptive, such as soft dirt, grass, or scattered bushes and trees.

For a line source, such as a heavily traveled roadway, the noise level decreases by a nominal value of 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive rather than reflective, the nominal rate increases by 1.5 dBA to 4.5 dBA for each doubling of distance. Atmospheric effects, such as wind and temperature gradients, can also influence noise attenuation rates from both line and point sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict.

Trees and vegetation, buildings, and barriers reduce the noise level that would otherwise occur at a given receptor distance. However, for a vegetative strip to have a noticeable effect on noise levels, it must be dense and wide. For example, a stand of trees must be at least 100 feet wide and dense enough to completely obstruct a visual path to the roadway to attenuate traffic noise by 5 dBA.[1] A row of structures can shield more distant receivers depending upon the size and spacing of the intervening structures and site geometry. Generally, for an at-grade highway in an average residential area where the first row of houses cover at least 40 percent of the total area, the reduction provided by the first row of houses is approximately 3 dBA, there is 1.5 dBA of additional reduction for each additional row of homes.[2] Similar to vegetative strips discussed above, noise barriers, which include natural topography and sound walls, reduce noise by blocking the line of sight between the source and receiver. Generally, a noise barrier that breaks the line of sight between source and receiver will provide at least a 5 dBA reduction in noise.

Effects of Noise

The effects of noise on humans may include annoyance, interference with various activities, hearing loss, and stress-related health problems. These effects of noise are discussed below.

---

[1] California Department of Transportation, October 1998.

[2] Ibid.

- **Annoyance** is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. What one person considers tolerable can be quite unbearable to another of equal hearing capability (for instance, some people like the sound of trains, while others do not).
- **Speech interference** is one of the primary concerns associated with environmental noise. Normal conversational speech is in the range of 60 to 65 dBA and any noise in this range or louder may interfere with speech. Depending upon the distance between the talker and the listener, background noise levels may require a raised voice in order to communicate. Transportation sources can easily interfere with conversation within a few hundred feet of the source.
- **Sleep interference** is a major noise concern related to traffic-generated noise. Sleep disturbance studies have identified interior noise levels attributed to traffic noise as a key factor of sleep disturbance. However, it should be noted that sleep disturbance does not necessarily mean awakening from sleep, but can refer to altering the pattern and stages of sleep. Train noise (especially horn soundings) is a major source of complaints.
- **Potential hearing loss** is commonly associated with occupational exposures in heavy industry or very noisy work environments. Noise levels in neighborhoods, even near very noisy airports, are not sufficiently loud to cause hearing loss.
- **Physiological responses** are those measurable noise effects on the human metabolism. They are ascertained as changes in pulse rate, blood pressure, etc. While such effects can be induced and observed, the extent to which these physiological responses cause harm or are a sign of harm is not known.

Vibration

Vibration is energy radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. Sources of groundborne vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as the passby of a train or an explosion.

The effects of groundborne vibration include perceptible floor movement, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In contrast to noise, vibration is not a common environmental problem. In extreme cases, vibration can cause damage to buildings. Building damage is usually not a factor for normal transportation projects, with the exception of blasting and pile driving during construction. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Annoyance from vibration often occurs when the vibration exceeds the threshold of human perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise than others. Places where people sleep, where people require quiet for focused concentration, and where people receive medical and nursing care are all likely to be sensitive receptor locations. These uses include, but are not

limited to, residences, motels, hotels, schools, libraries, churches, auditoriums, hospitals, nursing homes, natural areas, parks, and outdoor recreation areas. Consequently, the noise standards for these land uses are more stringent than those for less sensitive uses such as commercial, office, or industrial land. Sensitive receptors of all types are located within San Pablo.

To protect various human activities in sensitive areas (e.g., sleeping, studying, recuperating), lower noise levels are generally required. For example, a maximum outdoor noise level of 55 to 60 DNL is necessary for intelligible speech communication inside a typical home. Social surveys and case studies have shown that complaints and community annoyance in residential areas begin to occur when outdoor noise reaches 55 DNL. Sporadic complaints associated with the 55 to 60 DNL range give rise to widespread complaints within the 60 to 70 DNL range. At 70 DNL and above, residential community reaction typically involves threats of legal action and strong appeals to local officials to stop the noise.

Operational Noise Sources

Noise levels vary considerably throughout the Planning Area, as indicated in Figure 3.9-2. Principal noise sources in San Pablo are freeway and arterial roadways and the railroad corridor along Giant Road at the western edge of the Planning Area. Residential neighborhoods are dominated by local traffic sounds and other human activities such as lawn mowing, leaf blowing, and music. Along major streets and freeways, the sound of traffic grows more intense because traffic levels and speeds are higher, and trucks make up a greater share of the traffic. Some industrial uses generate high noise levels beyond their property lines, although the most intense industrial sounds are usually within the industrial buildings. Rail lines are also important sources of noise, although they, like industrial uses, affect more limited areas.

Freeways and Major Arterial Roadways

Most noise within San Pablo results from automobile and truck traffic. Vehicle traffic background noise levels vary throughout the day based on the average density of noise sources in a given area. Traffic noise at a particular location depends upon the traffic volume on nearby roadways, the average vehicle speed, distance between the receptor and the roadway, intervening barriers between source and receiver, and the ratio of trucks (particularly heavy trucks) and buses to automobiles.

The major freeway passing through San Pablo is Interstate 80. Existing outdoor noise levels along the freeway are estimated to be about 80 dB CNEL within 100 feet of the centerline of the roadway, and remain at or above 65 dB CNEL for a quarter mile on either side.

Typical arterial roadways in the county have one or two lanes of traffic in each direction, with some containing as many as four lanes in each direction. Major roads in or adjacent to the Planning Area include San Pablo Avenue, Rumrill Boulevard, 23rd Street, San Pablo Dam Road, Road 20, El Portal Drive, and the Richmond Parkway. Noise from these sources can be a significant environmental concern where buffers (e.g., buildings, landscaping, etc.) are inadequate or where the distance from centerline to sensitive uses is relatively small. Noise levels along these arterial roadways currently range from 60 to 80 dB CNEL at a distance of 100 feet from the roadway centerlines.

Several factors control how traffic noise levels affect nearby sensitive land uses. These include roadway elevation compared to grade; structures or terrain intervening between the roadway and the sensitive receptors; and the distance between the roadway and receptors. For example, measurements show that depressing a freeway by approximately 12 feet yields a reduction in traffic noise relative to an at-grade freeway of 7 to 10 dBA at all distances from the freeway.[3] Traffic noise from an elevated freeway is typically 2 to 10 dBA lower than an equivalent at-grade facility within 300 feet of the freeway, assuming receivers are located at ground level. However, beyond 300 feet, the noise radiated by an elevated and at-grade freeway (assuming equal traffic volumes, truck mix, and vehicle speed) is the same.[4] Caltrans or other sponsors of freeway projects conduct detailed noise studies for their environmental documents when projects are ready for implementation.

Railroad Operations

Train noise is an environmental concern for sensitive uses located along rail lines and in the vicinities of switching yards. Trains generate high, relatively brief, intermittent noise events. Locomotive engines and the interaction of steel wheels and rails generate the primary rail noise. The latter (wheel) source creates three types of noise: 1) rolling noise due to continuous rolling contact; 2) impact noise when a wheel encounters a rail joint, turnout or crossover; and 3) squeal generated by friction on tight curves.[5]

The two basic types of railroad operations are freight and passenger rail. Generally, freight operations occur at all hours of the day and night, while passenger rail operations are concentrated within the daytime and evening periods. Freight trains are the main source of environmental noise along the Burlington Northern Santa Fe (BNSF) route within the Planning Area. This freight train noise consists of locomotive engine sound and rail car wheel-rail interaction. This line also generates high noise levels in some locations because trains are required to sound their whistles when crossing roadways at-grade.

In addition to noise, freight trains also generate substantial ground-borne noise and vibration near the tracks. Ground-borne noise and vibration is a function of quality of the track and the operating speed of the vehicles. Noise levels along these rail lines are estimated to be approximately 70 to 80 DNL at a distance of 100 feet.[6]

---

[3] Beranek, 1988.

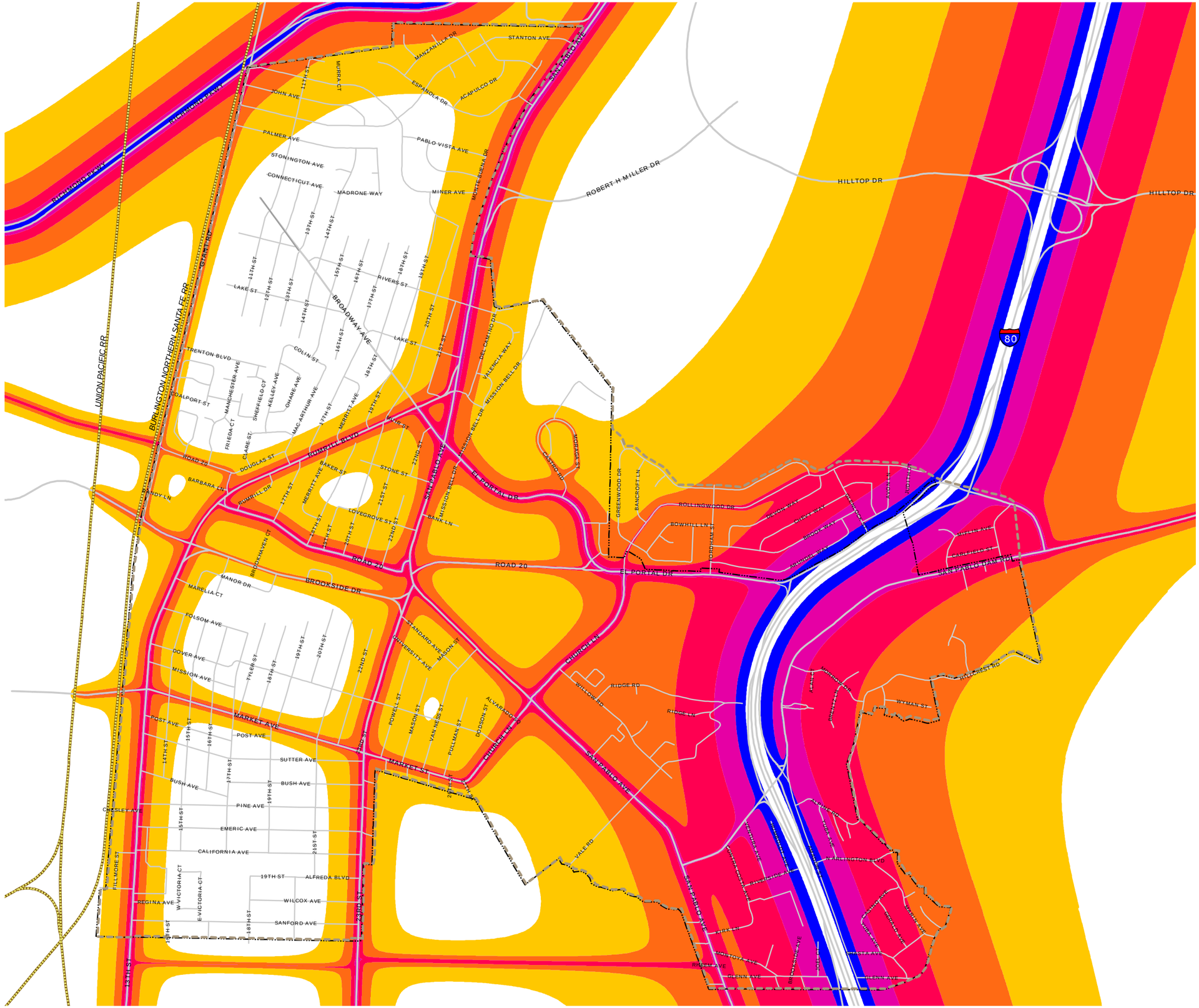
[4] *Ibid.*

[5] U.S. Department of Transportation, 2006.

[6] Contra Costa County, 2005.

Figure 3.9-2

Existing Noise Contours



- > 55 dB
- > 60 dB
- > 65 dB
- > 70 dB
- > 75 dB

- Planning Area
- City Limits
- Major Roads
- Minor Roads
- Railroads

0 0.25 0.5
Miles

SOURCE: Charles Salter Associates, 2009; Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.9-2

Construction Noise Sources

Construction is another significant, although typically short-term, source of noise. Construction noise is most significant when it takes place near sensitive land uses, and occurs at night or in early morning hours. Local governments typically regulate noise associated with construction equipment and activities through enforcement of noise ordinance standards, implementation of general plan policies, and imposition of conditions of approval for building or grading permits. **Table 3.9-1** shows typical noise levels associated with various types of construction equipment.

Table 3.9-1 Typical Noise Levels from Construction Equipment

Construction Equipment	*Noise Levels (dBA at 50 feet from source)*
Air Compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile-Driver (Impact)	101
Pile-Driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	88

Source: U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.

REGULATORY SETTING

Federal, State, and local agencies regulate different aspects of environmental noise. Generally, the federal government sets noise standards for transportation-related noise sources closely linked to interstate commerce. These include aircraft, locomotives, and trucks. The State government sets noise standards for other transportation noise sources less closely linked with interstate commerce, such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies. While local general plans identify general principles intended to guide and influence noise from development and systems operation, it is typically noise ordinances that set forth the specific standards and procedures for addressing particular noise sources and activities.

Federal Regulations

Federal regulations for railroad noise are contained in 40 CFR, Part 201 and 49 CFR, Part 210. Noise limits are implemented through regulatory controls on locomotive manufacturers. For locomotives manufactured during or after 1980, noise limits are as follows:

- Stationary locomotives (at idle throttle setting) are not to exceed 70 dBA at 15 meters (approximately 50 feet) from the track pathway centerline;
- Stationary locomotives (at all other throttle settings) are not to exceed 87 dBA at 15 meters; and
- Moving locomotives are not to exceed 90 dBA at 15 meters.

Sounding locomotive horns or whistles in advance of highway-rail grade crossings has been used as a safety precaution by railroads since the late 1880s. The manner in which horns have been sounded (two longs, one short and one long) was standardized in 1938. In response to a growing national trend towards restrictions on the use of locomotive horns under local ordinances and a related increase in collisions, Congress passed the Swift Rail Development Act, which directed the Federal Railroad Administration to develop rules addressing this issue. On December 18, 2003, the Federal Railroad Administration published an Interim Final Rule that requires the use of locomotive horns or whistles when approaching road/rail grade crossing, except in approved quiet zones, where supplementary safety measures have been installed or adopted by the state or locality. The rule establishes that a horn sound level must be a minimum of 96 dBA and no louder than 110 dBA measured 100 feet in front of the locomotive and 15 feet above the rail. The rule became effective on December 18, 2004.[7]

The federal truck passby noise standard is 80 dBA at 15 meters from the vehicle pathway centerline (trucks more than 4.5 tons, gross vehicle weight rating, under 40 CFR, Part 205, Subpart B). This standard is implemented through regulatory controls on truck manufacturers. Under regulations established by the Federal Highway Administration, noise abatement must be considered for federal or federally-funded projects involving the construction of a new highway

[7] Federal Railroad Administration, 2003.

or significant modification of an existing freeway. Abatement is considered when the project would result in a substantial noise increase or when the predicted noise levels approach or exceed the Noise Abatement Criteria (23 CFR Part 772). Under these criteria, a substantial increase is defined as a 12 dBA increase in the Leq during the traffic peak hour. The Noise Abatement Criteria differ among various activity categories and between exterior spaces and interior spaces. For sensitive uses, such as residences, schools, churches, parks, and playgrounds, the Noise Abatement Criteria for interior and exterior spaces during the traffic peak hour is 57 and 67 Leq, respectively.

State Regulations

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the passby standard is consistent with the federal limit of 80 dBA. The State passby standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline (California Vehicle Code, Section 23130 and 23130.5; 27150, et seq.; 27204 and 27206). These controls are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials. Caltrans uses Federal Highway Administration (FHWA) Noise Abatement Criteria to evaluate noise impacts.

State General Plan Guidelines suggest that for residential uses, outdoor noise levels of less than 60 DNL or less are considered "normally acceptable"; outdoor noise levels between 60 and 70 DNL are "conditionally acceptable"; and outdoor noise levels exceeding 70 DNL are "normally unacceptable." Under State guidelines, new schools, libraries, churches, hospitals, and nursing homes that are proposed in areas subject to 60 to 70 DNL should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. For many land uses, the State recommendations show overlapping DNL ranges for two or more compatibility categories. These overlapping DNL ranges indicate that local conditions (existing noise levels and community attitudes toward dominant noise sources) should be considered in evaluating land use compatibility at specific locations.

The State has also established noise insulation standards for multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards and are found in California Code of Regulations, Title 24. These standards set forth an interior standard of 45 DNL in any habitable room.

Local Regulations

To identify, appraise, and remedy noise problems in the local community, each county and city in California is required to adopt a Noise Element as part of its General Plan. Each Noise Element is required to analyze and quantify, to the extent practicable, current and projected noise levels associated with local noise sources. Beyond statutory requirements, local jurisdictions are free to adopt their own goals and policies in their Noise Elements. However, most jurisdictions chose to adopt noise/land use compatibility policies derived from State recommendations.

According to the existing San Pablo General Plan, Action PS 4.K, "*in making a determination of significant impact pursuant to the California Environmental Quality Act (CEQA), the following thresholds shall be used:*

- *The significance of noise impacts may be determined by comparison of overall noise levels (including contributions from the project) to applicable federal, state, or local noise level standards, and by the expected change in ambient noise levels which will occur as a result of the project.*
- *The overall noise level may be considered significant if the project results in noise levels which exceed the noise standards in tables 2.1 or 2.3 by .5dB or more.*
- *An increase of at least 3dB is usually required before most people will perceive a change in noise levels, and an increase of 5dB is required before the change will be clearly noticeable. Typically, a minimally perceptible increase of 3dB represents a significant increase in short term ambient noise levels.*"

Tables 2.1 and 2.3 in the existing General Plan pertain only to residential, transient lodging, hospital, nursing home, theater, auditorium, music hall, church, meeting hall, office, school, library, museum, playground, and neighborhood park uses. Of those, only residential, transient lodging, hospital, nursing home, church, meeting hall, playground, and neighborhood park uses have outdoor activity area maximum allowable noise standards. These are considered in the impact analysis below, against a broader set of state-recommended standards.

In addition to regulating noise through implementation of noise element policies, local jurisdictions regulate noise through enforcement of local ordinance standards. These standards generally relate to noisy activities (e.g., use of loudspeakers and construction) and stationary noise sources and facilities (e.g., air conditioning units and industrial activities); they also may address airport and traffic noise and land use compatibility. Generally, federal and state laws preempt local agencies from establishing noise standards for transportation-related noise sources, such as aircraft, ships, trains, and motor vehicles. The San Pablo Municipal Code regulates construction activity within the city, as follows:

San Pablo Municipal Code, Chapter 9.12 Noise Control

9.12.010 - Specific prohibitions

No person shall do, cause or suffer or permit to be done on any premises owned, occupied or controlled by such person, any of the following acts:

A. Repair any auto body or fender unless within a completely enclosed building and the noises from such repairs are reasonably confined to such building;

B. Operate or use in connection with building operations between the hours of ten p.m. and seven a.m. any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist, power-driven saw or any other tool or apparatus the use of which is attended by loud or unusual noise, except by written permission of the building inspector, and then only in case of emergency;

C. Keep or maintain any animal, crowing rooster or fowl which by any sound or cry annoys or disturbs persons owning, using or occupying property in the neighborhood;

D. Test run trucks or other similar, heavy equipment, except for a reasonable warm-up period, between the hours of ten p.m. and seven a.m., unless such testing or running in is done within a building or specially designated structure, and the noise from such testing or running in is reasonably confined to such building or structure.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed Project would have a potentially significant adverse impact if it would:

Criterion 1: Expose persons to or generate substantial temporary *construction* noise levels and groundborne vibration in excess of standards above existing levels without the project.

Criterion 2: Expose persons to or generate outdoor noise levels in excess of standards found in the existing San Pablo General Plan Noise Element.

METHODOLOGY AND ASSUMPTIONS

Noise exposure contours for the San Pablo Planning Area were modeled by Charles Salter Associates by applying the Federal Highway Administration's noise modeling procedure. These noise contours are conservative, meaning that the contours are modeled with minimal noise attenuation by natural barriers, buildings, etc. The noise level measured at a specific location may be lower than what is shown on the noise map, particularly adjacent to the sections of I-80 (most) which have physical sound barrier walls installed between the freeway and the city.

IMPACT SUMMARY

Ambient noise and groundborne vibration near areas of new development may temporarily increase due to construction activities. Development under the proposed General Plan would be required to comply with the limitations on construction activity included in Chapter 9.12 of the San Pablo Municipal Code. Compliance with these provisions and noise polices in the proposed General Plan, is mandatory and will ensure that construction impacts, while potentially a temporary nuisance, are less than significant.

Up to 22 acres of proposed new land uses may experience noise levels that exceed existing city standards in the current General Plan, according to noise modeling conducted for this EIR. According to proposed General Plan noise compatibility standards, there are currently 311 acres exposed to noise above recommended guidelines today, rising to 394 acres by Plan buildout. However, total acreage exposed to "clearly unacceptable" noise levels increases by just one acre from existing conditions to buildout. Considering proposed General Plan policies, State building code standards, and existing noise attenuation devices such as the sound barriers along the freeway (which are not factored into the noise contour modeling), the overall cumulative noise impact is mitigable with the measured provided in this analysis.

IMPACTS AND MITIGATION MEASURES

Impact

3.9-1 New development under the proposed General Plan could potentially expose existing noise-sensitive uses to construction-related increases in ambient noise and groundborne vibration. (*Less than Significant*)

Construction–related noise and groundborne vibration is considered a short-term noise impact associated with demolition site preparation, grading and other construction-related activities. **Table 3.9-1** shows typical noise levels associated with various types of construction related machinery. Construction activities associated with new development would be temporary in nature and related noise impacts would be short-term. However, since construction activities could substantially increase ambient noise levels at noise-sensitive locations, construction noise could result in potentially significant, albeit temporary, impacts to sensitive receptors. As with noise, groundborne vibration impacts associated with construction activities are also temporary in nature. Depending on the type of construction related machinery used, construction activity can result in varying degrees of vibration. Activities such as pile-driving, blasting, drilling, and excavation have the highest potential for creating groundborne vibration impacts. The potential construction-related noise and vibration impacts depend on the proximity of construction activities to sensitive receptors, the presence of intervening barriers, the number, and the types and duration of construction equipment used.

Development under the proposed General Plan would be required to comply with limitations on construction activity in the City's Municipal Code which specifically prohibits construction operations between 10 p.m. and 7 a.m. unless there is an emergency.

Proposed General Plan Policies that Reduce the Impact

SN-G-9 *Protect public health and welfare by eliminating noise problems and maintaining an acceptable indoor and outdoor acoustic environment.*

SN-I-40 Work with Caltrans, AC transit and railroad operators to mitigate transportation-related noise impacts on residential areas and sensitive uses. Additionally, continue to limit hours for construction and demolition work to reduce construction-related noises.

Compliance with existing City regulations and proposed General Plan policies would ensure that construction noise impacts would be less than significant.

Mitigation Measures

None required.

Cumulative Impact

3.9-2 Implementation of the proposed General Plan, combined with regional growth and development, could expose persons to or generate outdoor noise levels in excess of standards found in the existing San Pablo General Plan Noise Element, as well as proposed new standards based on state recommendations. *(Less than Significant)*

Higher traffic volumes, more stationary noise sources, and a larger population of receptors will all contribute to a changing noise environment in San Pablo through 2030. **Table 3.9-2** indicates acreage of new proposed land uses under the proposed General Plan which are subject to current noise levels above the maximum allowable outdoor exposure for said land uses, as indicated in the existing General Plan. For all land uses shown, the current standard for outdoor noise is 60dB. Land uses not shown in this table either a) are not subject to noise levels above the existing standards, or b) have no applicable existing standard. This table shows that only 1.1 acres of new low density residential land is proposed in an area with current outdoor noise levels at or above the existing standard. Similarly, less than one acre of new medium density residential land is proposed in an area with current outdoor noise levels at or above the existing standard. The larger potential impacts on proposed future land uses which may be interpreted to be regulated under current standards are high density residential (up to 12.4 acres) and residential mixed use (up to 7.8 acres) proposed in areas with current outdoor noise levels at or above the existing standard. However, Table 2.3 in the existing General Plan suggests that exterior noise up to 65dB "may be allowed, provided that practical exterior noise level reduction measures have been implemented and that interior noise levels are in compliance with standards." Considering proposed General Plan policies (listed below), State building code standards, and existing noise attenuation devices such as the sound barriers along the freeway (which are not factored into the noise contour modeling), it is highly likely that these few acres of proposed land uses would in fact meet the existing noise exposure standards.

Table 3.9-2 Proposed General Plan Land Use Changes in Areas with Existing Noise Exposure

	Acres by Noise Contour				
Proposed General Plan Opportunity Sites	*>60dB*	*>65dB*	*>70dB*	*>75dB*	*Total*
Low Density Residential	0.3	0.1	0.3	0.4	1.1
Medium Density Residential	0.3	0.3	-	-	0.6
High Density Residential	8.9	3.5	-	-	12.4
Residential Mixed Use	6.2	1.5	-	-	7.8
Grand Total	**15.8**	**5.4**	**0.3**	**0.4**	**21.8**

Source: Dyett & Bhatia, 2010.

Beyond current city standards, **Table 3.9-3** compares the total existing land uses and future General Plan land uses impacted by noise levels above standards considered "normally acceptable," as listed in the proposed General Plan Noise Compatibility Standards (**Table 3.9-4**), based on the Land Use Compatibility for Community Noise Environments chart contained in the 2003 Governor's Office and Planning and Research General Plan Guidelines. This guidance is somewhat more detailed than that contained in the existing General Plan. The table indicates that there are currently 311 acres exposed to noise above the State guidelines today, and that is expected to rise to 394 by proposed Plan buildout, an increase of about 27 percent. **Figure 3.9-3** depicts the future noise effects in the form of noise contours.

Table 3.9-3 Existing and Proposed Exposure to Noise Above State-Recommended Levels

Proposed General Plan Land Use	*Recommended Standard dB*	*Acres Over Standard*		*% Change*
		Existing	*Proposed Project*	
Low Density Residential	60	196	218	11%
Medium Density Residential	65	47	99	111%
High Density Residential	65	6	8	39%
Residential Mixed Use	65	2	3	55%
Commercial Mixed Use	65	14	17	23%
Mixed Use Center North	65	1	2	34%
Mixed Use Center South	65	1	2	64%
Neighborhood Commercial	70	2	2	4%
Regional Commercial	70	22	22	1%
Entertainment District	70	0	0	0%
Industrial Mixed Use	75	-	-	0%
Public/Institutional	70	18	19	2%
Parks	70	-	-	0%
Open Space	70	2	2	0%
Total		**311**	**394**	**27%**

Totals may not add up due to rounding.

Source: Charles Salter Associates, 2009; Dyett & Bhatia, 2010.

Areas subject to "conditionally acceptable" and "normally unacceptable" noise levels (per **Table 3.9-4**) can reasonably be reduced to less than significant by state building code standards and policies in the proposed General Plan. However, **Table 3.9-5** details acreage exposed to noise levels that are "clearly unacceptable" according to the guidelines proposed to be adopted with this General Plan. The total acreage potentially exposed to "clearly unacceptable" noise levels appear in **bold** in **Table 3.9-5;** they already represent about 61 acres of existing land uses today, and will represent only 62 acres at proposed General Plan buildout, for a change of just one acre under the proposed Project. This suggests that the impact of the proposed Project on "clearly unacceptable" noise exposure—in terms of both new land uses as well as new noise—is likely to be less than significant.

The following General Plan policies help to reduce the potential impact of noise in San Pablo, in particular pertaining to land uses with "conditionally acceptable" or "normally unacceptable" exposure levels.

Proposed General Plan Policies that Reduce the Impact

SN-G-9 *Protect public health and welfare by eliminating noise problems and maintaining an acceptable indoor and outdoor acoustic environment.*

SN-I-36 Use the Community Noise Level Exposure Standards, shown in **Table 3.9-4**, as review criteria for new land uses. Require all new development that would be

exposed to noise greater than the "normally acceptable" noise level range to reduce interior noise through design, sound insulation, or other measures.

SN-I-37 Require proposed industrial, commercial, and other uses with potential noise and vibration producing activities to submit a noise study report identifying noise and vibration mitigation measures that would reduce the adjacent noise level to acceptable ranges based on the Community Noise Environment Standards.

SN-I-38 Require new, fixed noise sources (e.g. mechanical equipment) to use best available control technology to minimize noise and vibration.

Noise from mechanical equipment can often be reduced by applying soundproofing materials, mufflers, or other controls provided by the manufacturer.

SN-I-39 Establish standards for noise reduction for new housing exposed to DNL noise levels above 65 dB, including but not limited to, the following:

- All facades must be constructed with substantial weight and insulation;
- Sound-rated windows with enhanced noise reduction for habitable rooms;
- Sound-rated doors with enhanced noise reduction for all exterior entries at habitable rooms;
- Minimum setbacks and exterior barriers;
- Acoustic baffling of vents is required for chimneys, attic and gable ends; and
- Installation of a mechanical ventilation system affording comfort and fresh air under closed window conditions is required.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved, provided a certified Acoustical Engineer submits information demonstrating that the required reductions can be achieved and maintained.

SN-I-40 Work with Caltrans, AC transit and railroad operators to mitigate transportation-related noise impacts on residential areas and sensitive uses.

Continue to limit hours for construction and demolition work to reduce construction-related noises.

SN-I-41 Require that all new residential building designs for sites where the DNL will exceed 65dBA achieve noise level reductions through acoustical design and construction of the building elements:

- Residential building designs must be based upon a minimum interior design noise level reduction of 35dB in all habitable areas (i.e., garages, storage areas, etc. are excepted). The 35dB criteria must provide a minimum constructed noise level reduction of 30dB; and

- Residential building designs must also be based upon a minimum design noise level reduction of 40dB in all bedrooms. The 40dB criteria must provide a minimum constructed noise level reduction of 35dB.

SN-I-42 Require that all residential building designs for sites where the DNL will exceed 65dBA include supporting information for City review and approval demonstrating that an acoustical design providing the necessary noise level reduction has been prepared by a Board Certified Acoustical Engineer for each dwelling unit prior to construction. Elements of this acoustical review process shall include:

- A letter by a Board Certified Engineer approving the acoustical design of each dwelling unit (or group of units, if identical), submitted to the City with building permit applications. This letter must be received and approved prior to the issuance of a building permit;
- Following construction, a letter by the Board Certified Engineer showing noise level reduction test results for a minimum of two habitable areas within each dwelling unit (or group of units, if identical), submitted to the City for review and approval prior to the issuance of an occupancy permit.

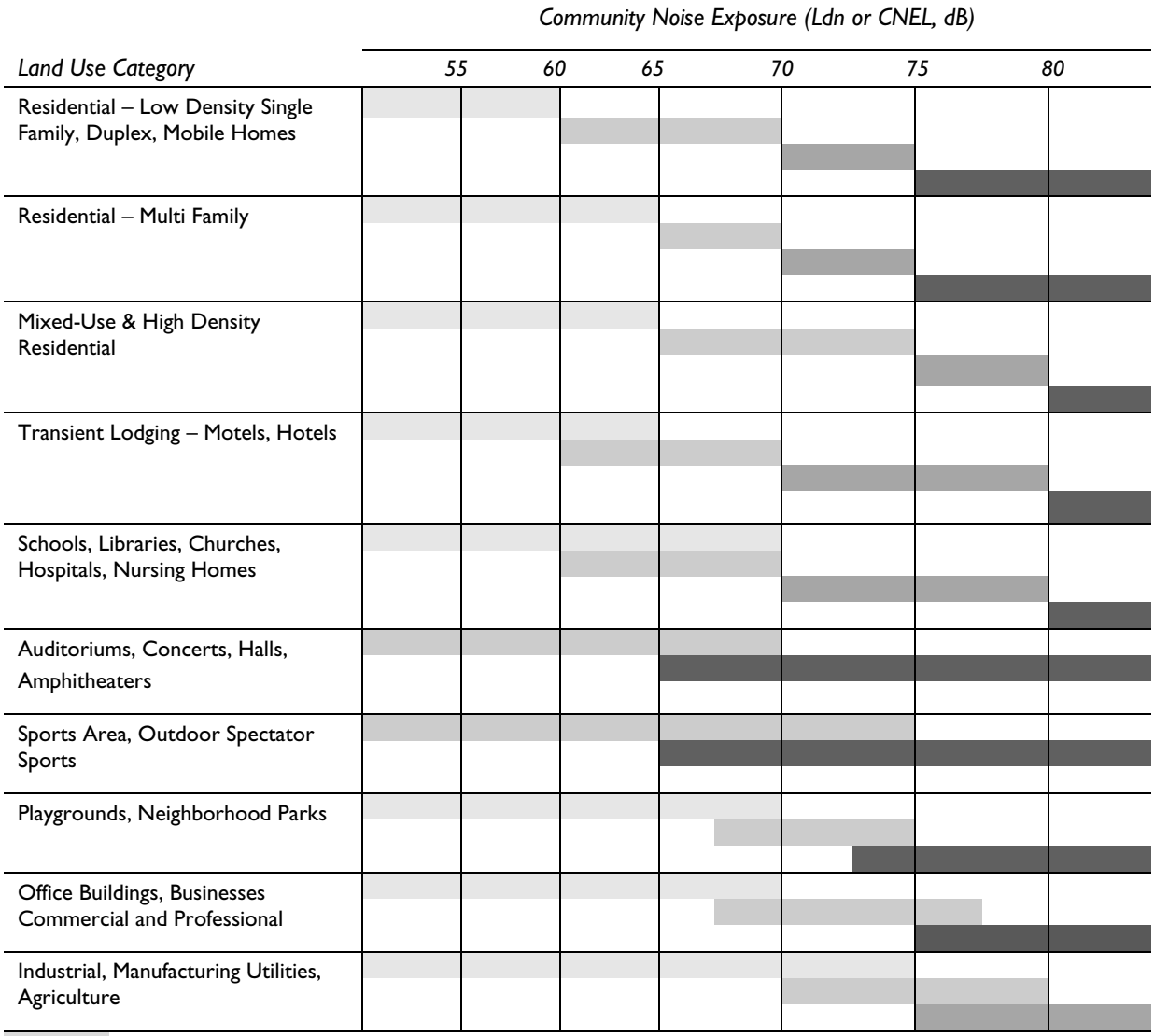
Acoustical analysis pursuant to General Plan noise standards shall be the financial responsibility of the project applicant. All acoustical engineering and measurement must be conducted under the direction of an Acoustical Engineer who is currently Board Certified by the Institute of Noise Control Engineering, USA. General review and approval of groups of buildings or prototype designs may be sufficient to meet these requirements.

With the implementation of the above policies, the potential noise impact of the proposed General Plan would be less than significant.

Mitigation Measures

None required.

Table 3.9-4 Land Use Compatibility For Community Noise Environments



	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable	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. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
	Normally Unacceptable	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development should not be undertaken.

Source: Adapted from Governor's Office and Planning and Research, General Plan Guidelines, 2003.

Table 3.9-5 Proposed General Plan Buildout Acres Exposed to Potentially Unacceptable Noise

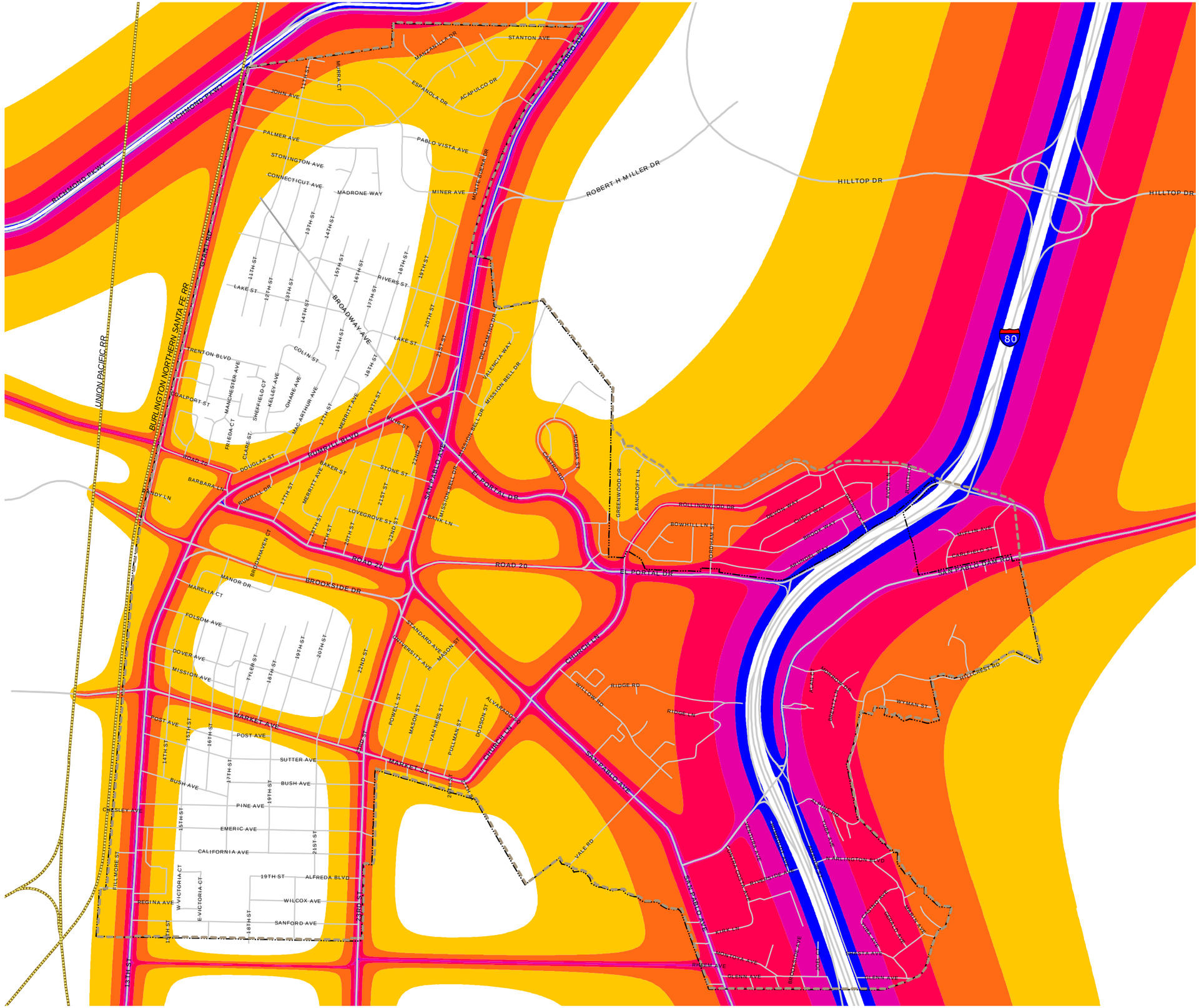
	65 dB			*70 dB*			*75 dB*		
	Existing	*Projected*	*% Change*	*Existing*	*Projected*	*% Change*	*Existing*	*Projected*	*% Change*
Low Density Residential	76.3	80.2	5%	**28.3**	**28.8**	**2%**	**6.1**	**6.3**	**4%**
Medium Density Residential	27.4	29.3	7%	**15.4**	**15.6**	**2%**	**4.2**	**4.4**	**6%**
High Density Residential	5.6	7.5	35%	-	-	-	-	-	-
Residential Mixed Use	2.1	3.3	54%	-	-	-	-	-	-
Commercial Mixed Use	13.8	17.1	24%	-	-	-	-	-	-
Mixed Use Center North	1.3	1.8	33%	-	-	-	-	-	-
Mixed Use Center South	1.0	1.7	64%	-	-	-	-	-	-
Neighborhood Commercial	4.1	6.3	54%	1.4	1.5	3%	-	-	-
Regional Commercial	30.6	31.9	4%	17.9	17.9	0%	**3.8**	**4.1**	**7%**
Entertainment District	11.3	13.2	16%	-	-	-	-	-	-
Industrial Mixed Use	1.3	2.5	90%	-	-	-	-	-	-
Public/Institutional	25.5	27.5	8%	15.5	15.8	1%	**2.8**	**3.0**	**6%**
Parks	2.4	3.1	31%	-	-	-	-	-	-
Open Space	-	-	-	1.9	1.9	-1%	-	-	-
Total Acres	202.8	225.3	11%	80.5	81.4	1%	16.9	17.8	5%

Rows with data omitted indicate areas where existing and future acreage exposed rounds down to (e.g., less than 0.5 acres), or is equal to zero.
Totals may not add up due to rounding.

Source: Charles Salter Associates, 2009; Dyett & Bhatia, 2010.

Figure 3.9-3

Future Noise Contours



- > 55 dB
- > 60 dB
- > 65 dB
- > 70 dB
- > 75 db

- Planning Area
- City Limits
- Major Roads
- Minor Roads
- Railroads

0 0.25 0.5

Miles

SOURCE: Charles Salter Associates, 2009; Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.9-3

3.10 Hazardous Materials and Wildfire Hazards

This section provides a programmatic assessment of the impact of the proposed San Pablo General Plan on hazardous materials exposure, vulnerability to wildfires, and access and effectiveness of evacuation routes. It includes a description of potential sources of hazardous materials and wastes and wildfire risk in San Pablo, as well as a summary of relevant regulations and a discussion of impacts and mitigation measures. As San Pablo is not located within an airport land use planning area, near a private airstrip, or within two miles of an airport, these safety considerations are not evaluated in this section.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Overview of Contaminated Sites

Past or present industrial, light industrial or commercial sites commonly have hazardous materials released to the subsurface soil and/or groundwater. Sites where historic or on-going activities have resulted in the known or suspected release of hazardous materials to soil and groundwater in the City of San Pablo, as identified by the San Francisco Bay Regional Water Quality Control Board (RWQCB) and California Department of Toxic Substances (DTSC), are depicted on **Figure 3.10-1**. Sites listed by the RWQCB include those that are from their Leaking Underground Storage Tank (LUST) program, other non-underground tank sites, land disposal sites (none in San Pablo), and military cleanup sites (also none in San Pablo). The DTSC database includes sites from their various programs including Federal Superfund (also referred to as National Priority List), State Response (State Superfund and Military facilities), Voluntary Cleanup Sites, and School Cleanup sites. There is only one active site within San Pablo that is overseen by the DTSC which is a Voluntary Cleanup site.

In general, sites with contamination are largely clustered around major roadways where light industrial and commercial uses are located, including Rumrill Boulevard, San Pablo Avenue, and San Pablo Dam Road. This contamination may be the result of underground storage tank (UST) releases, spills, accidental releases or other activities involving the use of hazardous materials. In general, the areas highlighted are industrial and manufacturing areas, although some represent gas stations, drycleaners or other small businesses. For a complete listing of the addresses of all Leaking Underground Storage Tank sites within San Pablo, refer to **Table 3.10-1**.

Releases, leaks, or disposal of chemical compounds, such as petroleum hydrocarbons, on or below the ground surface can lead to contamination of underlying soil and groundwater. Depending of the conditions and intensity of the release, groundwater contamination can migrate beyond the property boundary of the original release site. Disturbance of a previously contaminated area through grading or excavation operations could expose the public to health hazards from physical contact with contaminated materials or hazardous vapors. Improper handling or storage of contaminated soil and groundwater can further expose the public to these hazards, or potentially spread contamination through surface water runoff or air-borne dust. In

addition, contaminated groundwater can spread down gradient, potentially contaminating subsurface areas of surrounding properties.

Contaminated Sites in Detail

Table 3.10-1 provides a list of all active hazardous substance release sites found during the review of environmental databases conducted for this analysis. As shown in the table, most of these cases are LUST and DTSC cleanup sites. A summary of open sites follows this table.

Table 3.10-1 Reported Hazardous Substance Sites

No	*Site Name*	*Clean Up Status*	*Location*	*Type*
1	ARCO #2030	Open - verification monitoring	2550 Mission Bell Drive	Leaking Underground Tank (LUST) Cleanup Sites
2	DWB Partners Property	Open - assessment & interim remedial action	14205 San Pablo Avenue	LUST Cleanup Sites
3	Former BP Station #11152	Open - site assessment	2500 San Pablo Dam Road	LUST Cleanup Sites
4	Gallo Property	Open - site assessment	1440 23rd Street	LUST Cleanup Sites
5	San Pablo Gas and Mini Mart	Open - remediation	3363 San Pablo Dam Road	LUST Cleanup Sites
6	USA Petroleum Station #20	Open - remediation	2601 Road 20	LUST Cleanup Sites
7	World Oil #24	Open - remediation	13013 San Pablo Avenue	LUST Cleanup Sites
8	American Standard (Ibn-112)	Certified / operation & maintenance	3002 Giant Road	California Department of Toxic Substances Control (DTSC) Cleanup Sites
9	Dover Elementary School	No further action	1871 21st Street	DTSC Cleanup Sites
10	Former BNSF Property, Rumrill Blvd.	Active	Rumrill Blvd at Chelsey Avenue	DTSC Cleanup Sites
11	Hildreth Holdings	Refer: other agency	2812 Giant Road	DTSC Cleanup Sites
12	Helms Middle School Reconstruction	No further action	2500 Road 20	DTSC Cleanup Sites
13	Broadway Project American Standard	Open - inactive	3002 Giant Road	Other Cleanup Sites
14	Five Star Cleaners	Open - site assessment	2145 Rumrill Boulevard	Other Cleanup Sites

Source: EnviroStor Database, 2010; Geotracker website, 2010.

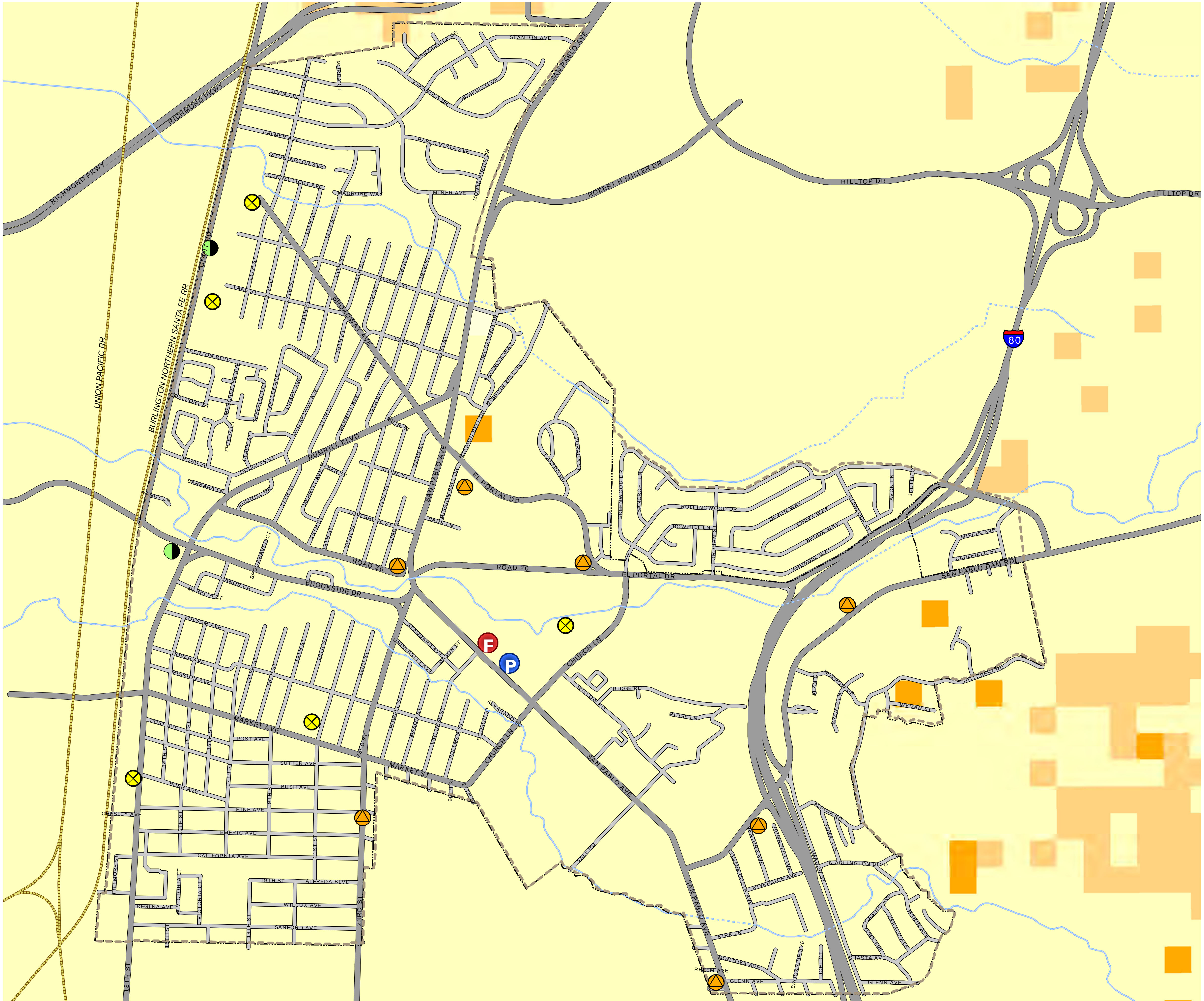


Figure 3.10-1

Hazardous Material & Wildfire Hazards

Hazardous Material

- DTSC Cleanup Sites
- Leaking Underground Tank (LUST)
- Other Cleanup Sites

Fire Threat

- Little or No Fire Threat
- Moderate Fire Threat
- High Fire Threat
- Very High Fire Threat

- Planning Area
- City Limits
- Major Roads
- Minor Roads
- Railroads

0 0.25 0.5
Miles

SOURCE: FRAP 2005; EPA, 2010; Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.10-1

Arco #2030

A preliminary site assessment was conducted for this site in April 1988 to evaluate a potential release of petroleum hydrocarbons associated with fuel USTs and a waste oil UST. Soil and groundwater samples showed that a significant mass of fuel hydrocarbons existed in the subsurface. The highest concentrations of hydrocarbons in soils were found from depths of approximately 9 to 15 feet below ground surface (bgs) near the tank farm. No total petroleum hydrocarbons as waste oil (TPHwo) were detected in samples collected from the soil boring adjacent to the waste oil tank.

In June 1988, three gasoline USTs (5,000-gallon super-unleaded, 10,000-gallon regular and 10,000-gallon unleaded tanks), and a waste oil tank were replaced. During this work, contaminated soils that were exposed were excavated and hauled to a permitted waste disposal facility. However, these overexcavation activities did not remove all contaminated soil. Soil contamination was not observed during the removal of the waste oil UST at the site.

Additional investigation activities and facility upgrades were conducted in 1992, 1996, 1997, and 2002. Soil excavated during the removal and replacement of the product lines and dispensers was stockpiled for profiling and disposal. Between January 3rd and 6th, 2003, Dillard Environmental removed approximately 73 tons of soil and transported it to a licensed disposal facility.

On November 2, 2007, three 12,000-gallon single-walled steel gasoline USTs and one 250-gallon UST were removed. All four USTs appeared to be in good condition. The USTs were transported by A1 Thomas Trucking to Vasco Road Landfill in Livermore, CA for disposal. Confirmation soil samples were collected at 13 feet bgs beneath USTs, 3.5 feet bgs at dispensers, and 8 feet bgs beneath the waste oil tank.

DWB Partners Property

A leak of diesel and gasoline from underground storage tanks at this site was discovered in 2004. Subsequent to the discovery, the site had been the subject of soil and groundwater investigations. An enforcement action from the Regional Water Quality Control Board was issued in January 2010 requiring additional investigation work to further delineate contamination at the site. A final technical report detailing the additional work was submitted to the RWQCB in August 2010.[1]

Former BP Station #11152

A leak of diesel and gasoline from underground storage tanks at this site was discovered in 2007. As a result, the site has been the subject of soil and groundwater investigations. Currently, three groundwater monitoring wells are being sampled on a quarterly basis.

---

[1] State Water Resources Control Board (SWRCB), 2010.

Gallo Property

A release of various petroleum hydrocarbon products including diesel, gasoline, waste oil, motor oil, hydraulic oil, and lubricating oil have been reported at this site. The site has been the subject of several soil and groundwater investigations. Currently, three groundwater monitoring wells are being sampled on a quarterly basis.

San Pablo Gas and Mini Mart

In 1998, a release of gasoline was documented at this site affecting soil and groundwater. Five groundwater monitoring wells are being monitored at the site and high hydrocarbon concentrations have been detected in shallow groundwater. Remediation is ongoing and additional source material are awaiting cleanup.

USA Petroleum Station #20

This site has been active since 1989 and a total of twenty groundwater monitoring wells have been installed as part of the soil and groundwater investigation. The groundwater is contaminated with gasoline and its components which have migrated 500 feet outside of the property boundary. Remediation and monitoring is ongoing for the site.

World Oil #24

A release of gasoline at this site was first documented in 1998 and the shallow groundwater has been found to have relatively high concentrations of total petroleum hydrocarbons. A total of 7 groundwater monitoring wells are sampled semi-annually and five wells are sampled annually to monitor potential offsite migration. Currently, the groundwater plume is not stable or decreasing though some remediation efforts have been taken at the site.

Dover Elementary and Helms Middle School

In 2002, DTSC investigated a complaint of leaked ballast (a component of florescent light fixtures) in a Dover Elementary classroom. The school district worked with DTSC to replace all light fixtures containing polychlorinated biphenyls with new ones. New light ballasts do not contain polychlorinated biphenyls.

In 2007, DTSC oversaw upgrading work being done on Helms Middle School and helped with the cleanup of underground contamination at the site.

No further actions are required for either school.

CLEANUP PROGRAM

American Standards – 3002 Giant Road

American Standard operated a vitrified porcelain manufacturing facility at this site from 1913 to 1967. The site consisted of three separate facilities: a 10.5 acre manufacturing facility (FMF); a 2 acre former waste disposal area and the adjacent banks of Rheem Creek (referred to as the FWDA); and a 34.5 acre adjacent property known as the Lazy J Ranch (LJR). Rheem Creek separates FMF and FWDA; Giant Road separates FWDA and FMF from LJR. Metals were used in the glazing pigmentation process. Wastewater containing glaze and other process wastes were

disposed in settling ponds at the FWDA adjacent to FMF. All three sites are considered closed with no further human health or environmental hazards present provided the land use restrictions are strictly adhered to. The land use restrictions are as follows:

- Asphalt cover not to be disturbed without approval;
- Day Care Center, Elder Care center, and any residential use prohibited;
- No excavation of contaminated soils without agency review and approval;
- Raising of food prohibited;
- No groundwater extraction at any depth without approval;
- Hospital use prohibited;
- Land use covenant enacted;
- Monitoring of groundwater to be maintained;
- No oil or gas extraction at any depth; and
- Activities prohibited which disturb the remedy and monitoring systems without approval.

Five Star Cleaners

The soil and groundwater beneath this site have been contaminated by tetrachloroethylene (TCE) from previous dry cleaning operations. Several subsurface investigations have been conducted at the site since 2004. The investigation results indicate that the dissolved PCE plume has migrated off-site (to the west) beneath the adjacent apartment building. The plume has been delineated vertically, and laterally in all directions except to the southwest. PCE concentrations in soil vapor samples collected in several on-site and off-site locations, including locations within the off-site apartment building exceed the Effects Screening Levels (levels used to determine human chemical health effects). The site cleanup options are being evaluated and a final remedial action plan is being developed as of July 2010.[2]

Lazy J Ranch/Chevron Pipeline Site

Petroleum hydrocarbons are listed as the potential contaminants of concern at this site. The status of the site, as of June 2009, was inactive. No other additional information on site activities related to site characterization or remediation was available.

WILDFIRE HAZARDS

Wildfire hazard potential is largely dependent on the extent and type of vegetation, known as surface fuels, that exist within a region. Wildfire hazards are typically highest in wooded areas as trees are a greater source of fuel than low-lying brush or grass. Residential neighborhood areas have minimal surface fuels and therefore have a lower fire hazard. Wildfire hazard data for the Planning Area is provided by the California Department of Forestry and Fire Protection's Fire

[2] SSWRCB, 2010.

and Resource Assessment Program (FRAP). According to FRAP's Statewide Fire Threat Map[3], which combines expected fire frequency with potential fire behavior to create four threat classes ranging from little or no fire threat to very high fire threat, the majority of the Planning Area is considered to have either little or no threat of wildfire.[4] Less than one percent of the Planning Area has a high or very high threat of fire.

REGULATORY SETTING

Hazardous materials and hazardous wastes are extensively regulated by federal, State, regional and local regulations, with the major objective of protecting public health and the environment. In general, these regulations provide definitions of hazardous substances; identify responsible parties; establish reporting requirements; set guidelines for handling, storage, transport, remediation, and disposal of hazardous materials and wastes; and require health and safety provisions for both workers and the public, such as emergency response and worker training programs. Sites which are subject to these regulations are identified on periodically-updated published lists at the federal, state, and local levels; the regulated sites include underground storage tank (UST) locations. The major regulations relevant to the proposed Project are summarized in the following subsections.

Definitions

Hazardous Materials

Hazardous materials are substances with certain physical or chemical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Title 22 of the California Code of Regulations, Division 4.5, Chapter 11, Article 3 groups hazardous materials into the following four categories based on their properties: toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), and reactive (causes explosions or generates toxic gasses). Hazardous materials are commonly used in commercial, agricultural and industrial applications as well as in residential areas to a limited extent.

Hazardous Waste

A hazardous waste is any waste that may (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness, or (2) pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bio-accumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed (California Health and Safety Code, Section 25141). Hazardous materials and wastes can result in public health hazards if improperly handled, released into the soil or groundwater, or released into the air through vapors, fumes, or dust.

---

[3] http://frap.cdf.ca.gov/data/frapgisdata/output/fthrt.txt

[4] Association of Bay Area Governments (ABAG), 2010.

Asbestos-Containing Materials

Asbestos is a naturally occurring fibrous material once commonly used as a fireproofing and insulating agent in building construction before such uses were banned by the EPA in the 1970s. Asbestos can also be atmospherically deposited from vehicle brake shoes. Naturally occurring asbestos can be found in serpentinite or other metamorphosed ultramafic rocks such as dunite, peridotite, and pyroxenite. According to large scale mapping of ultramafic rocks in California, there may be ultramafic rocks present at near surface locations just east of Highway 80 either in or close to the City of San Pablo.[5]

Lead and Lead-Based Paint

The presence of lead in soils above natural background levels can be a common occurrence in areas that were created by fill and in former industrial areas. Lead concentrations can also be elevated in fill materials because the fill can originate from building and industrial rubble containing or affected by sources of lead such as piping, coatings, and other construction materials. The California Code of Regulations, Title 22, considers waste soil to be hazardous if its total lead concentration exceeds 1,000 parts per million (ppm) and a soluble concentration exceeds 5 ppm. Tetraethyl lead (TEL) may be present from aerially deposited lead (ADL) from historic traffic. TEL was a gasoline additive, and although it is no longer used, it is persistent in surface and shallow soils.

Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyls (PCBs) are synthetic organic oils that were historically used in many types of electrical equipment, including transformers and capacitors, primarily as electrical insulators. Production and use of PCBs was discontinued in 1977 following the discovery that exposure to PCBs may cause various health effects including skin conditions and reduced immune system response.

Polycyclic Aromatic Hydrocarbons (PAHs)

Polycyclic Aromatic Hydrocarbons (PAHs) are a group of organic chemicals found in a wide variety of materials, including crude oil, asphalt, and creosote. Most refined petroleum products also contain PAHs, either retained from the original crude or produced during the refining process. PAHs are also produced as combustion products and therefore occur in many burned or charred materials. Chemically, PAHs have high to very high molecular weights and low solubility in water, and tend to adhere to soil particles. These factors result in generally high mobility of PAHs in the environment. Elevated concentrations of PAHs may occur in soils throughout San Pablo due to the presence of historic fill and the variety of previous uses in the area. The U.S. EPA has classified seven PAH compounds as probable human carcinogens.[6]

---

[5] California Division of Mines and Geology (CDMG), 2000.

[6] U.S. Environmental Protection Agency (EPA), 2010.

Federal Regulations

The U.S. EPA is the lead agency responsible for enforcing federal regulations that affect public health or the environment. The primary federal laws and regulations include the Resource Conservation and Recovery Act of 1976 (RCRA) and the Hazardous and Solid Waste Amendments enacted in 1984; the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and the Superfund Act and Reauthorization Act of 1986 (SARA). Federal statutes pertaining to hazardous materials and wastes are contained in the Code of Federal Regulations (CFR), Title 40.

State and Regional Regulations

The U.S. EPA has delegated much of its regulatory authority to the individual states. The DTSC of the California EPA, formerly a division of the Department of Health Services, enforces hazardous materials and waste regulations in California, in conjunction with the U.S. EPA. The DTSC is responsible for regulating the management of hazardous substances including the remediation of sites contaminated by hazardous substances. California hazardous materials laws incorporate federal standards, but are often more strict than federal laws. The primary state laws include the California Hazardous Waste Control Law (HWCL; the state equivalent of RCRA); and the Carpenter-Presley-Tanner Hazardous Substance Account Act (HSAA; the state equivalent of CERCLA). State hazardous materials and waste laws are contained in the California Code of Regulations, Titles 22 and 26.

The RWQCB is authorized by the State Water Resources Control Board (SWRCB) to enforce provisions of the Porter-Cologne Water Quality Control Act of 1969. This act gives the RWQCB authority to require groundwater investigations when the quality of groundwater or surface waters of the state are threatened and to remediate the site, if necessary. The Bay Area Air Quality Management District (BAAQMD) may impose specific requirements on remediation activities to protect ambient air quality from dust or other airborne contaminants.

State laws also regulate USTs and Aboveground Storage Tanks (ASTs) containing hazardous substances. These laws are primarily found in the Health and Safety Code, and, combined with CCR Title 23, comprise the requirements of the State UST program. The laws contain requirements for UST permitting, construction, installation, leak detection monitoring, repairs and corrective actions and closures. In accordance with State laws, the Contra Costa Department of Environmental Health implements UST and AST regulations in Contra Costa County.

Hazardous Materials Transport

The U.S. Department of Transportation regulates hazardous materials transportation. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation. Together, these agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roads.

Hazardous Materials Worker Safety Requirements

The Federal Occupational Safety and Health Administration (Fed/OSHA) and the California Occupational Safety and Health Administration (Cal/OSHA) are the agencies responsible for

assuring worker safety in the handling and use of chemicals in the workplace. The federal regulations pertaining to worker safety are contained in the Code of Federal Regulations, Title 29 (29 CFR) as authorized in the Occupational Safety and Health Act of 1970. They provide standards for safe workplaces and work practices, including standards relating to hazardous materials handling. In California, Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations; Cal/OSHA standards are generally more stringent than federal regulations.

The State regulations concerning the use of hazardous materials in the workplace are included in Title 8 of the California Code of Regulations, which contain requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA also enforces hazard communication program regulations, which contain worker safety training and hazard information requirements, such as procedures for identifying and labeling hazardous substances, communicating hazard information relating to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites.

Waste Disposal Regulations

The disposal of contaminated soil is regulated by the RWQCB and is regulated based on the concentrations of the chemical constituents that are present. Soils having concentrations of contaminants higher than certain acceptable levels must be handled and disposed as hazardous waste when excavated. The California Code of Regulations, Title 22, Section 66261.20-24 contains technical descriptions of characteristics that would cause a soil to be classified as a hazardous waste.

City of San Pablo Ordinances

The following is a summary of relevant City of San Pablo ordinances related to hazardous materials as found in Title 8 (Health & Safety), Chapter 8.24, Flammable Liquids.

8.24.030 - Location of structures with regard to sources which would cause ignition of places of human occupancy. No rack, platform or other structure which is used in cleaning tanks or containers of flammable liquids, fumes or vapors shall be located less than seventy-five feet from any source which could cause ignition of any place of human occupancy.

8.24.040 - Parking of trucks and trailers with regard to sources which would cause ignition of places of human occupancy. No mobile tank truck or trailer shall be parked less than seventy-five feet from any source which could cause ignition of place of human occupancy.

8.24.050 - Dispelling hazardous gases prohibited. Toxic vapors, fumes, or other contaminants shall not be dispelled so as to cause a hazard in residential areas.

8.24.060 - Fire extinguishers on premises required. There shall be present on the premises and maintained in working condition such suitable fire equipment, including extinguishers required for flammable liquid fires, as required by the fire chief for the San Pablo fire protection district.

8.28.020 - Abatement—Notification. Whenever the public works department of the city finds and determines that any tree or shrub or other vegetation is dead and constitutes a fire hazard or other hazard by reason of possible breaking or falling, then the owner shall be notified by posting a notice on said property for a period of thirty days to abate and remove said dead trees or shrubbery or other similar growth from his property within thirty days.

Wildfire Regulations

California Wildland Hazard/Building Code

On September 20, 2005, the California Building Standards Commission approved the Office of the State Fire Marshal's emergency regulations amending the California Code of Regulations (CCR), Title 24, Part 2, known as the 2007 California Building Code (CBC).

New buildings located in any Fire Hazard Severity Zone shall comply with one of the following:

1. State Responsibility Areas. New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter.

2. Local Agency Very-High Fire Hazard Severity Zone. New buildings located in any Local Agency Very High Fire Hazard Severity Zone for which an application for a building permit is submitted on or after July 1, 2008, shall comply with all sections of this chapter.

3. Wildland-Urban Interface Fire Area designated by the enforcing agency. New buildings located in any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter.

The City of San Pablo is not designated as a fire hazard severity zone or a wildland-urban interface fire area.[7]

Contra Costa County Fire Protection District

The County Fire Department is responsible for conducting inspection for code compliance and fire-safe practices, permitting of certain hazardous materials, and for investigation of fire and hazardous materials incidents.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed Project would have a potentially significant adverse impact if it would:

[7] California Department of Forestry and Fire Protection, 2010.

Criterion 1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Criterion 2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions resulting in the release of hazardous materials into the environment.

Criterion 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Criterion 4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Criterion 5: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Criterion 6: Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

IMPACT SUMMARY

Safety and Hazardous Materials Impacts and Mitigation Summary

Proposed Project Impact	*Mitigation Measure*	*Significance after Mitigation*
Implementation of the proposed San Pablo General Plan could result in exposure to residents or workers of hazardous materials or wastes from areas where releases of hazardous materials such as from underground fuel storage tanks have occurred.	None required	Less than significant
Implementation of the proposed San Pablo General Plan could result in the disturbance of structures containing hazardous building materials, such as lead-based paint, asbestos, and PCBs which could expose and adversely affect workers, the public, or the environment if not handled appropriately.	None required	Less than significant
Implementation of the proposed San Pablo General Plan could result in new commercial and light industrial uses that would involve the transportation, use, and storage of hazardous chemicals, which could present public health and/or safety risks to facility workers, patients and visitors, and the surrounding area.	None required	Less than significant

Safety and Hazardous Materials Impacts and Mitigation Summary

Proposed Project Impact	*Mitigation Measure*	*Significance after Mitigation*
Implementation of the proposed San Pablo General Plan could result in new development that would result in a cumulatively considerable contribution to hazardous materials in the planning area.	None required	Less than significant

Since less than one percent of the Planning Area has a high or very high threat of wildfire according to wildfire hazard data provided by the Department of Forestry and Fire Protection, and since most land use changes in the proposed General Plan are in existing urban infill sites, implementation of the proposed General Plan is not expected to increase the threat of wildfire hazards. This impact is evaluated no further in this EIR.

IMPACTS AND MITIGATION MEASURES

Impact

3.10-1 Implementation of the proposed San Pablo General Plan could result in exposure to residents or workers of hazardous materials or wastes from areas where releases of hazardous materials such as from underground fuel storage tanks have occurred. (*Less than Significant*)

Development of vacant or previously developed lots which have been impacted by petroleum hydrocarbons from leaking underground storage tanks or other chemical constituents could expose individuals to hazardous conditions resulting from ongoing or historical activities at the site or on neighboring properties that involve the use of hazardous materials or hazardous wastes. Exposure of residents to underground hazardous wastes is considered a potentially significant impact.

As described in the Environmental Setting section, there are a number of known sites within the Planning Area where releases of hazardous materials have occurred. Some of these sites are still open and undergoing further investigation of the vertical and horizontal extent of contamination. Other areas where either light industrial or commercial uses have entailed hazardous materials in the past might be the source of undocumented releases that could be exposed during earthwork activities associated with future development. Areas impacted by former releases could expose construction workers or future residents to hazardous materials or hazardous wastes.

However, the policies below would reduce the potential impact from historical releases of hazardous materials by requiring an evaluation for potential risks and remediation, if necessary, prior to reuse of contaminated sites. Investigations and remediation efforts are generally required by overseeing agencies such as the Regional Water Quality Control Board and the Department of Toxic Substances Control which establish cleanup levels according to either existing or proposed uses. Therefore this would result in a less than significant impact.

Proposed General Plan Policies that Reduce the Impact

PSCU-G-8 Enhance waste reduction and recycling in San Pablo.

PSCU-I-39 Require recycling collection services in all residential and non-residential buildings.

PSCU-I-40 Promote the importance of waste reduction and recycling, as well as the safe disposal of hazardous materials, to San Pablo residents and businesses owners.

Avenues of communication of waste reduction and conservation messages may include articles in local newsletters, advertisements in local newspapers, and the City website.

SN-G-4 Reduce the risk to the health of San Pablo residents from exposure to hazardous materials.

SN-G-5 Promote the reduction, recycling, and safe disposal of household and business hazardous wastes through public education and awareness.

SN-I-20 Require applicants for development in a potentially contaminated location to perform inspection and cleanup if the site is found to be contaminated with hazardous substances.

The City will require the project applicant to have the site inspected by a registered Environmental Assessor. Reports detailing the results must be submitted for City review. The level of remediation and cleanup will be in compliance with federal and State standards.

SN-I-21 Continue to support West Contra Costa Integrated Waste Management District's Household Hazardous Waste Drop-off Program, and encourage citizens and crime watch organizations to report unlawful dumping of hazardous materials.

SN-I-22 Ensure that the production, use, storage, disposal, and transport of hazardous materials conform to standards specified in the County Hazardous Waste Management Plan.

SN-I-23 Coordinate with Contra Costa County Health Services, the Contra Costa County Fire District, and other appropriate regulatory agencies in hazardous material emergency response and the review of all proposals that uses hazardous materials, or those properties that may have toxic contamination, such as petroleum hydrocarbons, CAM 17, metals, asbestos, and lead.

Mitigation Measures

None required.

Impact

3.10-2 Implementation of the proposed San Pablo General Plan could result in the disturbance of structures containing hazardous building materials, such as lead-based paint, asbestos, and PCBs which could expose and adversely affect workers, the public, or the environment if not handled appropriately. (*Less than Significant*)

Demolition of any existing structures, especially older structures where these hazardous building materials were commonly used in construction, could expose construction workers, the public, or the environment to these materials. The level of potential impact is dependent upon the age,

construction, and building materials in each building and the protocols employed for demolition. However, there are established measures that certified contractors commonly use to contain, store, and dispose of these hazardous materials in a manner which limits exposure. The first step towards appropriate handling and demolition is conducting thorough surveys to identify the presence of these materials. ACMs are regulated both as a hazardous air pollutant under the Clean Air Act and as a potential worker safety hazard under the authority of Cal-OSHA. Cal-OSHA also regulates worker exposure to lead-based paint. Potential exposure to these hazardous building materials can be reduced through appropriate use of personal protective equipment, isolation and containment of work areas, and placement of waste in approved transport containers.

Both the federal OSHA and Cal-OSHA regulate worker exposure during construction activities that disturb lead-based paint. The Interim Final Rule found in 29 CFR 1926.62 covers construction work in which employees may be exposed to lead during such activities as demolition, removal, surface preparation for repainting, renovation, cleanup, and routine maintenance. The OSHA-specified compliance includes respiratory protection, protective clothing, housekeeping, special high-efficiency filtered vacuums, hygiene facilities, medical surveillance, and training. No minimum level of lead is specified to activate the provisions of this regulation.

Adherence to existing regulations is also contained in policy SN-I-4 of the proposed General Plan which would help reduce the potential for hazardous building materials to impact the environment or the public. The policy requires that any disturbances to buildings with hazardous building materials to adhere to all applicable regulations. Therefore, proposed redevelopment of older existing facilities would be required to adhere to appropriate identification and abatement procedures by certified contractors who employ practices that limit the exposure of hazardous building materials, where present. Therefore, the regulations mentioned above and the following General Plan policies render this a less than significant impact.

Proposed General Plan Policies that Reduce the Impact

Policies mentioned under Impact 3.10-1 would also help reduce this impact to a level that is less than significant. No additional mitigation is needed.

Mitigation Measures

None required.

Impact

3.10-3 Implementation of the proposed San Pablo General Plan could result in new commercial and light industrial uses that would involve the transportation, use, and storage of hazardous chemicals, which could present public health and/or safety risks to facility workers, patients and visitors, and the surrounding area. (*Less than Significant*)

Proposed development included in the General Plan is expected to include commercial, light industrial and general industrial uses which could involve a range of chemical products that are

considered hazardous. Exposure to hazardous chemicals through improper handling or through accidental upset conditions could cause acute or chronic health effects to the public and environment.

Handling and use of these hazardous materials and the disposal of the resulting hazardous wastes would be required to follow the applicable laws and regulations, as described in Regulatory Setting above. Compliance would reduce risks and hazards to workers, the public, and the environment to levels that are considered acceptable, for all hazardous materials proposed for use in the Planning Area.

Hazardous materials would typically be stored in their original containers prior to use. As required, the hazardous materials would be stored in each building, in locations according to compatibility and in storage enclosures (i.e., flammable material storage cabinets and biological safety cabinets) or in areas or rooms specially designed, protected, and contained for such storage, in accordance with applicable regulations. Hazardous materials would be handled and used in accordance with applicable regulations by personnel that have been trained in the handling and use of the material and that have received proper hazard-communication training. Hazardous materials reporting (i.e., California Hazardous Materials Business Planning, California Proposition 65 notification, and Emergency Planning and Community-Right-to-Know Act reporting) would be completed as required.

The General Plan contains policies that would require that hazardous materials are stored, handled, and disposed of according to the Hazardous Materials and Waste Management Plan of Contra Costa County. Restrictions would also apply to facilities handling large quantities of hazardous materials. Transportation routes for hazardous materials would be identified and regulated by Contra Costa County and the County Fire Protection District. Public awareness programs, as promoted in City policies, would also provide an increased knowledge base for the control of household hazardous waste products. Therefore this is a less than significant impact.

Proposed General Plan Policies that Reduce the Impact

Policies PSCU-G-8, SN-G-5, SN-I-22 and SN-I-23 listed under Impact 3.10-1 would help reduce this impact to a level that is less than significant.

Mitigation Measures

None required.

Impact

3.10-4 Implementation of the proposed San Pablo General Plan could result in new development that would result in a cumulatively considerable contribution to hazardous materials in the planning area. (*Less than Significant*)

Hazardous material impacts typically occur in a local or site-specific context versus a cumulative context combined with other development projects. It is possible, however, for the combined effects of transporting and disposal of hazardous materials to be affected by cumulative development.

Future development, with implementation of the policies mentioned above, would have a less than significant hazardous materials impact to the public or the environment in and within the vicinity of the Planning Area. Other foreseeable development within the region, although likely to increase the potential to disturb existing contamination and potentially increase the handling of hazardous materials, would be required to comply with the same regulatory framework as the proposed development anticipated under the General Plan. These stringent regulatory requirements include federal and State regulatory requirements for transporting (CalEPA and Caltrans) hazardous materials or cargo (including fuel and other materials used in all motor vehicles) on public roads or disposing of hazardous materials (CalEPA, DTSC). Therefore, the effect of the project on hazardous materials, in combination with other foreseeable projects, would be less than significant. No mitigation is required.

Mitigation Measures

None required.

3.11 Cultural Resources

This chapter analyzes the effect of the proposed San Pablo General Plan on important historic and prehistoric cultural resources in the Planning Area. Cultural resources evaluated include historic resources, contemporary Native American resources, archaeological resources, and paleontological resources.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

This section summarizes both historic and prehistoric resources and identifies the types of geographic areas that may contain cultural resources.

Bay Area Prehistoric Resources

Prehistoric cultural resources are composed of Native American structures or sites of historical or archaeological interest. These may include districts, buildings, objects, landscape elements, sites, or features that reflect human occupations of the region, such as villages and burial grounds.

The moderate climate, combined with the abundant natural resources found throughout the nine-county region, has supported human habitation for several thousand years. The prehistoric occupation of Central California can be interpreted using the Paleo-Archaic-Emergent chronological sequence.[1] The sequence consists of three broad periods: The Paleo-Indian period (10,000 – 6,000 B.C.); the Archaic period consisting of the Lower Archaic (6,000 – 3,000 B.C.), Middle Archaic (3,000 – 1,000 B.C., and Upper Archaic (1,000 B.C. – A.D. 500); and the Emergent period (A.D. 500 – 1800). The entry and spread of people into California dates to the Paleo-Indian period and human occupation in what is now Contra Costa County dates to the Middle Archaic period.[2] The cultural patterns relevant to the project area include the Windmiller Pattern and Berkeley Pattern during the Archaic period and the Augustine Pattern during the Emergent period.

The Windmiller Pattern was characterized by small communities of hunters and gatherers who moved seasonally. Material attributes typical of the Windmiller Pattern include large leaf-shaped and stemmed projectile points, westerly oriented extended burials with grave offerings or burial goods such as red ocher, and a distinctive variety of shell beads and charmstones.[3] Subsistence was based on hunting large animals including deer and elk, along with smaller game animals such as water fowl. Fishing also occurred along with the gathering of nuts and fruits.

The Berkeley Pattern was characterized by larger communities with more permanent settlement patterns. Material attributes typical of the Berkeley Pattern include projectile points with

[1] D.A. Fredrickson, 1974.

[2] M.J. Moratto, 1984.

[3] M. Ember and P.N. Peregrine, 2001.

distinctive diagonal flaking across their faces, flexed position burials with burial ornaments such as shell beads, and an extensive bone tool industry. During this Pattern, a heavy reliance was developed on acorns which were used throughout the year as a staple food.[4] Food was also obtained through a combination of hunting, fishing, and gathering. Tools were more diverse than the Windmiller Pattern, and included specialized fish spears and hunting gear along with bone and ground-stone tools.

The Augustine Pattern was characterized by large sedentary communities. Material attributes typical of the Augustine Pattern include large spear points, often with serrated edges, and small arrow points, bone harpoons, ceramics and coiled basketry, and flexed position burials, and evidence of the practice of cremation.[5] Hunting and gathering was practiced broadly and important technological innovations include the bow and arrow and shaped mortars and pestles. This late prehistoric pattern predated the Miwok who occupied central California at the time of Spanish contact.[6]

According to research, "by about 10,000 years ago, California's Paleo-Coastal peoples were traveling in seaworthy boats, using fishhooks and other fishing tackle, hunting marine mammals and sea birds, weaving cordage and basketry from sea grass, and making shell beads for ornamental use and exchange with interior peoples."[7] Rising sea levels, the formation of the San Francisco Bay, and the resulting filling of inland valleys have covered early sites, which were most likely located along the then existing bay shore and waterways. Existing evidence indicates the presence of many village sites from at least 5,000 B.C. in the region. The arrival of Native Americans into the Bay Area is associated with documented cultural resources from circa 5,500 B.C.[8]

Contra Costa County

By approximately 1,500 B.C., peoples with three different language groups inhabited portions of Contra Costa: the Costanoan (Ohlone), the Bay Miwok, and the Northern Valley Yokuts (considered to be the final Native American group to arrive in the Bay Area). These three cultures all occupied the Bay Area when the Spanish arrived in the 18th century. Evidence of their political, social, spiritual and economic activities is known through both archaeological investigations and ethnographic evidence.

The Costanoan speakers inhabited the western hills, plains, and the Bay shore from the Carquinez Straits south to Salinas. Many of the village sites were associated with a permanent source of fresh water and were frequently located at the mouth of streams along the Bay shore. Numerous villages were also established inland along permanent streams and on terraces at the

---

[4] M. Ember and P.N. Peregrine, 2001.

[5] Ibid.

[6] S.J. Fiedel, 1992.

[7] T. Jones and K. Klar, 2007.

[8] U.S. Dept. of Interior, 1990.

base of hills. Special use and seasonal use sites were established throughout their territories, often in association with rock outcrops or abundant food sources.

San Pablo Archaeological and Native American Resources

San Pablo is located within the historic territory of the Huchuin Indians, speakers of the Costanoan/Ohlone language. The Huchiun band of the Ohlone homeland (the word Huchiun simply means "people") was high in the western hills of West Contra Costa County. Based on an evaluation of the environmental setting and features associated with known sites, Native American cultural resources in this part of the region have been found near sources of water including perennial and intermittent streams and springs, on midslope terraces and elevated knolls above the flood plain, and near ecotones and other productive environments. The Planning Area contains two principal streams, Wildcat and San Pablo creeks, along with several intermittent streams and wetlands, midslope terraces and numerous ecotones. Given the similarity of these environmental factors, coupled with the number of record habitation sites, there is a high likelihood that unrecorded Native American cultural sites exist in the Planning Area.

According to Sonoma State University Northwest Information Center's (NWIC) inventory review, the Planning Area contains seven recorded Native American cultural resources. All of these resources represent habitation sites and three of the seven have recorded burials. Specifically, one Native American archaeological site has an eligibility status code of 2D2, meaning it is a contributor to a district determined eligible for the National Register by consensus. Unlike historic sites, the location of archaeological sites is restricted by the federal Archaeological Resources Protection Act (ARPA) in order to prevent looting, vandalism, and destruction of archaeological resources. As a result, they are not indicated on a map.

Historic Resources

The arrival of the Spanish and the development of the mission system in the latter half of the 18th century permanently disrupted the indigenous societies flourishing in the area. Native American settlements were abandoned and replaced with agricultural land, housing, and military support for the missions. The "Missionization" of the local Indian tribes and the establishment of ranchos and towns drastically altered the indigenous people's traditional lifeways, displaced many tribes, and introduced diseases that greatly reduced their population. After the Mexican revolt against Spain in 1822, California lands came under Mexican rule and large tracts of land, including the former missions, were granted to individual owners. It was during the Mexican era that most of the historic ranch lands and associated living quarters and operational structures originate.

Mexico ceded control of California to the United States at the end of the Mexican-American War (1846-1848), and the discovery of gold in the late 1840s brought thousands of prospectors and settlers into California. This Gold Rush period began to transform the culture, demographics, and landscape to a more "American" California. The Bay Area became the gateway to the gold of the Sierra Nevadas, with rapid growth occurring in several of the region's fledgling cities.

Contra Costa County has a diverse range of historic districts, structures, archaeological sites, and landmarks representing the diverse population that occupied California during the historic period. Numerous buildings in San Pablo survive from the Mexican and American periods and

provide a link to the historic-era development of the city. According to the NWIC records search based on address, there are 58 historic buildings and structures listed by the Office of Historic Preservation's Historic Property Directory (HPD) in San Pablo. Of those 58 listings, 49 are actually in the San Pablo Planning Area. Of those 49, only four (Old Rectory, Rumrill Helms House, Pullman Street Rectory, and Andrata House) are listed in the National Register or appear eligible for future registration. In addition, the Alvarado Adobe is listed as a State Historic Landmark (Number #512). The status of these resources is listed in more detail in **Table 3.11-1** and illustrated in **Figure 3.11-1**.

Table 3.11-1 Buildings with Potential Historic Significance

No.	*Address*	*Year Built*	*Historical Name*	*Code*	*No.*	*Address*	*Year Built*	*Historical Name*	*Code*
1	3200 11th Street	1949	-	6Y	26	2022 Road 20	Unk.	Stanley Alter Home	7R
2	3409 11th Street	1954	-	6Y	27	1401 Dover Avenue	1948	-	6Y
3	1816 14th Street	1924	-	6Y	28	2418 Dover Avenue	1943	-	6Y
4	1614 15th Street	1935	-	6Y	29	1514 Emeric Avenue	1941	-	6Y
5	1875 15th Street	1952	-	6Y	30	1807 Emeric Avenue	1935	-	6Y
6	2759 15th Street	1951	-	6Y	31	2201 Emeric Avenue	1930	-	6Y
7	1740 16th Street	1934	-	6Y	32	1108 John Avenue	1942	-	6Y
8	1881 16th Street	1953	-	6Y	33	1601 Manor Drive	1943	-	6Y
9	1958 16th Street	1946	-	6Y	34	2650 Market Avenue	1906	1906 Earthquake Camp Site	7N
10	2721 18th Street	Unk.	-	6Y	35	1830 Mason Street	1951	-	6Y
11	2972 19th Street	1953	-	6Y	36	5739 McBryde Ave	1911	-	6Y
12	2024 20th Street	1948	-	6Y	37	2634 OHare Avenue	1943	-	6Y
13	2996 20th Street	1954	-	6Y	38	1919 Pine Avenue	1951	-	6Y
14	2331 22nd Street	1929	-	6Y	39	1841 Pullman Street	1875	Pullman Street Rectory	**3S**
15	Alvarado Square	1905	Blume House	7R	40	918 Randy Lane	1900	Andrata House	**3S**
16	Alvarado Square	1890	Texiera Home	7R	41	2009 Road 20	1950	-	6Y
17	2900 Arundel Way	1943	-	6Y	42	2778 Rollingwood Dr	1943	-	6Y
18	2445 Bancroft Lane	1943	-	6Y	43	2797 Rollingwood Dr	1943	-	6Y
19	1300 Brookside	1949	-	6Y	44	2807 Rollingwood	1943	-	6Y

Table 3.11-1 Buildings with Potential Historic Significance

No.	*Address*	*Year Built*	*Historical Name*	*Code*	*No.*	*Address*	*Year Built*	*Historical Name*	*Code*
	Avenue					Dr			
20	1811 Bush Avenue	1940	-	6Y	45	13831 San Pablo Ave	1826	Alvarado Adobe	7N
21	1825 Church Lane	1863	St Paul's Catholic Church & Grvyd	7N	46	14006 San Pablo Ave	1875	Mello Residence	7R
22	1901 Church Lane	1875	Old Rectory	**2S2**	47	1230 Sanford Avenue	1950	-	6Y
23	1501 Colin Street	Unk.	-	6Y	48	1914 Sanford Avenue	1940	-	6Y
24	930 Road 20	1884	Rumrill Helms House	**3S**	49	1748 Sutter Avenue	1944	-	6Y
25	2009 Road 20	1951	-	6Y					

Note: Resource Codes from the Office of Historic Preservation denote the following:

2S2: Individual property determined to be eligible for National Register by consensus through Section 106 process. Listed in the California Register.

3S: Appears eligible for National Register as an individual property through survey evaluation.

6Y: Determined to be ineligible for National Register by consensus through Section 106 process, but not evaluated for California Register or Local Listing.

7N: Needs to be re-evaluated.

7R: Identified in reconnaissance level study. Not evaluated for National Register, California Register, and needs evaluation.

Sources: Office of Historic Preservation, Northwest Information Center, Sonoma State University, 2008.

REGULATORY SETTING

Definitions

Archaeological Resources

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric (before the introduction of writing in a particular area) or historic (after the introduction of writing). The majority of such places in this region are associated with either Native American or Euroamerican occupation of the area. The most frequently encountered prehistoric and early historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and sites of rock art. Historic archaeological sites may include foundations or features such as privies, corrals, and trash dumps.

Historic Resources

Historic resources are standing structures of historic or aesthetic significance. Architectural sites dating from the Spanish Period (1529-1822) through the early years of the Depression (1929-

1930) are generally considered for protection if they are determined to be historically or architecturally significant. These may include missions, historic ranch lands, and structures from the Gold Rush and the region's early industrial era. Post-Depression sites may also be considered for protection if they could gain historic significance in the future. Historic resources are often associated with archaeological deposits of the same age.

Contemporary Native American Resources

Contemporary Native American resources, also called ethnographic resources, can include archaeological resources, rock art, and the prominent topographical areas, features, habitats, plants, animals, and minerals that contemporary Native Americans value and consider essential for the preservation of their traditional values.

Paleontological Resources

Paleontological resources are the mineralized (fossilized) remains of prehistoric plant and animal life exclusive of human remains or artifacts. Fossil remains such as bones, teeth, shells, and leaves are found in geologic deposits (rock formations) where they were originally buried.

Figure 3.11-1

Historical and Cultural Resources

Potential Historic Sites*

Planning Area

City Limits

Major Roads

Minor Roads

Railroads

*See Table 3.11-1

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 3.11-1

Federal Regulations

National Historic Preservation Act

The National Historic Preservation Act (NHPA) is the most prominent federal law dealing with historic preservation. The NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. All projects that are subject to the National Environmental Policy Act (NEPA) are also subject to compliance with Section 106 of the NHPA. Furthermore, all projects that are carried out by Caltrans are also subject to Section 106. At the federal level, the Office of Historic Preservation (OHP) carries out reviews under Section 106 of the NHPA.

The Section 106 review process normally involves a four-step procedure described in detail in the Section 106 Regulations (36 CFR Part 800):

- Identify and evaluate historic properties in consultation with the State Historic Preservation Officer (SHPO) and interested parties;
- Assess the effects of the undertaking on properties that are eligible for inclusion in the NRHP;
- Consult with the SHPO, other agencies, and interested parties to develop an agreement that addresses the treatment of historic properties and notify the Advisory Council on Historic Preservation; and
- Proceed with the project according to the conditions of the agreement.

National Register of Historic Places

Additionally, the NHPA authorizes the Secretary of the Interior to establish a National Register of Historic Places (National Register), an inventory of districts, sites, buildings, structures, and objects significant on a national, State, or local level in American history, architecture, archeology, engineering, and culture. The National Register is maintained by the National Park Service, the Advisory Council on Historic Preservation, State Historic Preservation Office, and grants-in-aid programs.

National Environmental Policy Act (NEPA)

Specific projects that are subject to NEPA must also comply with NEPA requirements for the consideration of cultural resources. Compliance with NEPA requirements concerning cultural resources may be addressed through compliance with Section 106 of the NHPA. Reports, agreements, and correspondence documenting compliance with Section 106 of the NHPA are provided to the lead NEPA agency for a specific proposed action that is subject to NEPA.

State Regulations

Office of Historic Preservation

The mission of the OHP and the State Historical Resources Commission (SHRC) is to preserve and enhance California's irreplaceable historic heritage as a matter of public interest so that its vital legacy of cultural, educational, recreational, aesthetic, economic, social, and environmental benefits will be maintained and enriched for present and future generations.[9] California Public Resources Code 5024 requires consultation with the State Historic Preservation Officer (SHPO) when a project may impact historical resources located on State-owned land.

California Register of Historic Resources

The SHPO also maintains the California Register of Historic Resources (California Register). Historic properties listed, or formally designated for eligibility to be listed, on the National Register are automatically listed on the California Register (PRC Section 5024.1). State Landmarks and Points of Interest are also automatically listed. The California Register can also include properties designated under local preservation ordinances or identified through local historic resource surveys.

For a historic resource to be eligible for listing on the California Register, it must be significant at the local, state, or national level under one or more of the following four criteria:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to local, California, or national history;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (California Public Resources Code).

California Environmental Quality Act

21083.2: Archaeological Resources

CEQA directs the lead agency on any project undertaken, assisted, or permitted by the State to include in its environmental impact report for the project a determination of the project's effect on unique archeological resources; defines unique archeological resource; enables a lead agency to require an applicant to make reasonable effort to preserve or mitigate impacts to any affected unique archeological resource; sets requirements for the applicant to provide payment to cover costs of mitigation; and restricts excavation as a mitigation measure.

---

[9] Office of Historic Preservation webpage: http://ohp.parks.ca.gov/?page_id=1054

21084.1: Historic Resources

CEQA establishes that adverse effects on an historical resource qualifies as a significant effect on the environment; and defines historical resource.

CEQA Guidelines

Section 15064.5 of CEQA guidelines define three ways that a property can qualify as a significant historical resource for the purposes of CEQA review:

1. If the resource is listed in or determined eligible for listing in the California Register of Historical Resources;

2. If the resource is included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code, or is identified as significant in a historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code unless a preponderance of evidence demonstrates that it is not historically or culturally significant; or

3. If the lead agency determines the resource to be significant as supported by substantial evidence (California Code of Regulations, Title 14, Division 6, Chapter 3, section 15064.5).

In addition to determining the significance and eligibility of any identified historical resource under CEQA and the California Register, historic properties must be evaluated under the criteria for the National Register should federal funding or permitting become involved in any undertaking subject to this document.

CEQA Guidelines on Mitigation of Cultural Resources Impacts

CEQA Guidelines Section 15126.4 states that "public agencies should, whenever feasible, seek to avoid damaging effects on any historical resources of an archeological nature." The Guidelines further state that preservation-in-place is the preferred approach to mitigate impacts on archaeological resources. However, according to Section 15126.4, if data recovery through excavation is "the only feasible mitigation," then a "data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resources, shall be prepared and adopted prior to any excavation being undertaken." Data recovery is not required for a resource of an archaeological nature if "the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource." The section further states that its provisions apply to those archaeological resources that also qualify as historic resources.

Native American Heritage Act

Also relevant to the evaluation and mitigation of impacts to cultural resources is the Native American Heritage Act (NAHA) of 1976 which established the Native American Heritage Commission (NAHC) and protects Native American religious values on state property (see California Public Resources Code 5097.9).

Public Notice to California Native American Indian Tribes

Government Code, Section 65092 includes California Native American tribes that are on the contact list maintained by the Native American Heritage Commission in the definition of "person" to whom notice of public hearings shall be sent by local governments.

Tribal Consultation Guidelines

Passed in 2004, Senate Bill (SB) 18 (Burton, D-San Francisco) now Government Code Section 65351 and 65352 establishes a procedure to help tribes and jurisdictions define tribal cultural resources and sacred areas more clearly and incorporate protection of these places earlier into the General Plan and Specific Plan processes. The SB 18 process mirrors the federal 106 Review process used by archaeologists as part of the environmental review conducted under NEPA (36 CFR Part 800.16) While not a component of CEQA review per se, the Lead agency is required to request consultation with responsible and trustee agencies, such as NAHC and neighboring tribes, during the initial study and EIR process (PRC 21080.3, 21080.4).

Disposition of Human Remains (Health and Safety Code, Section 7050.5)

When an initial study identifies the existence, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native American groups or individuals as identified by the NAHC as provided in Public Resources Code 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials. Furthermore, Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.

Native American Graves Protection and Repatriation Act

California Health and Safety Code Sections 8010-8011 establishes a state repatriation policy intent that is consistent with and facilitates implementation of the federal Native American Graves Protection and Repatriation Act. The Act strives to ensure that all California Indian human remains and cultural items are treated with dignity and respect. It encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. It also states the intent for the state to provide mechanisms for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims and getting responses to those claims.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed Project would have a potentially significant adverse impact if it would:

Criterion 1: Cause a substantial adverse change in the significance of a historic resource, defined as physical demolition, destruction, relocation, or alteration of the

resource or its immediate surroundings such that the significance of the historic resource would be materially impaired. (CEQA Guidelines Section 15064.5)

Criterion 2: Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.5.

Criterion 3: Disturb any human remains, including those interred outside of formal cemeteries.

Criterion 4: Destroy, directly or indirectly, a unique paleontological resource or site or unique geologic feature.

METHODOLOGY AND ASSUMPTIONS

The cultural resources analysis identifies the potential impacts of the proposed General Plan on archaeological, historical, and other cultural resources within the Planning Area. This methodology recognizes that important cultural resources may be encountered during ground-disturbing construction work on future development projects that involve physical construction. Since the extent of ground disturbance associated with future development is unknown at this time, it is not possible to assess specific cultural resource impacts based on the San Pablo General Plan. For the same reasons, the analysis does not distinguish between regulatory conditions for privately- and publicly-owned land. Accordingly, no project-specific reviews or field studies are undertaken for this program EIR.

California Historical Resources Information System

The California Historical Resources Information System (CHRIS) is a statewide system for managing information on the full range of historical resources identified in California. CHRIS is a cooperative partnership between the citizens of California, historic preservation professionals, twelve Information Centers, and various agencies. This system bears the following responsibilities: integrate newly recorded sites and information on known resources into the California Historical Resources Inventory; furnish information on known resources and surveys to governments, institutions, and individuals who have a justifiable need to know; and supply a list of consultants who are qualified to do work within their area.

The initial step in addressing cultural resources involved contacting the appropriate Information Center to conduct a record search. The NWIC was consulted and replied on July 24, 2008 with records search results for the Planning Area. The record search summarized numbers of previously recorded resources and studies within the Planning Area, and these results are described in the environmental setting and **Table 3.11-1**.

Tribal Consultation

In addition to contacting the NWIC, the State Clearinghouse sent the NOP to the Native American Heritage Commission (NAHC) as well as four local Native American tribes, including the Ohlone Indian Tribe, the Indian Canyon Mutsun Band of Costanoan, Amah/Mutsun Tribal Band, and the Lytton Rancheria Band of Pomo Indians.

IMPACT SUMMARY

According to the Northwest Information Center at Sonoma State University, there is a high possibility of encountering archaeological resources in the Planning Area. However, existing national and state laws, as well as policies in the proposed General Plan, reduce these potential impacts on historic and archaeological resources to less than significant levels. No known significant paleontological resources exist in the Planning Area.

IMPACTS AND MITIGATION MEASURES

Impact

3.11-1 Implementation of the proposed General Plan would cause a substantial adverse change in the significance of an archaeological or historic resource, or disturb any human remains, including those interred outside of formal cemeteries. ***(Less than Significant)***

A complete records search revealed that the Planning Area contains seven recorded Native American cultural resources (archaeological sites). Specific geographic information is not provided for archaeological sites, as mentioned earlier, to protect these resources from looting and vandalism. However, given that Native American cultural resources in the region have typically been found near sources of water, and two principal streams as well as intermittent streams and wetlands exist in the Planning Area, there is a high likelihood that further unrecorded Native American cultural sites exist within its boundaries.

A complete records search also shows that the Planning Area contains 49 historic buildings and structures. Only four of these appear eligible for future registration in the National Register (site number 22, 24, 39, 40). There is one historic resource (site number 45, the Alvarado Adobe) that is listed as a State Historic Landmark. Of the 49 historic buildings, only one (site number 37) is situated on an 'opportunity site' — a site where the City expects development to occur within the next 20 years.

While project-specific studies will be necessary to determine the actual potential for significant impacts on archaeological resources resulting from the implementation of the proposed General Plan, some general impacts can be identified based on the probable locations of new development in the Planning Area and known geographic features near which prehistoric resources are most likely to be located. Projects in the vicinity of ridgelines, midslope terraces, alluvial flats, ecotones, and sources of water have the greatest possibility of encountering a prehistoric archaeological resource.

If potentially significant cultural resources are discovered during ground-disturbing activities associated with project preparation, construction, or completion, work shall halt in that area until a qualified archaeologist can assess the significance of the find, and, if necessary, develop appropriate treatment measures in consultation with Contra Costa County and other appropriate agencies and interested parties. For example, a qualified archaeologist shall follow accepted professional standards in recording any find including submittal of the standard Department of Parks and Recreation (DPR) Primary Record forms (Form DPR 523) and location-specific information to the California Historical Resources Information Center office (Northwestern

Information Center). The consulting archaeologist shall also evaluate such resources for significance per California Register of Historical Resources eligibility criteria (Public Resources Code Section 5024.1; Title 14 CCR Section 4852). If the archaeologist determines that the find does not meet the CEQA standards of significance, construction shall proceed. On the other hand, if the archaeologist determines that further information is needed to evaluate significance, the Planning Department staff shall be notified and a data recovery plan shall be prepared.

All future development in the Planning Area will be accordance with state laws pertaining to the discovery of human remains. Accordingly, if human remains of Native American origin are discovered during project construction, the developer and/or the Planning Department would be required to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Pub. Res. Code Sec. 5097). If any human remains are discovered or recognized in any location on a project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

A. The Contra Costa County Coroner/Sheriff has been informed and has determined that no investigation of the cause of death is required; and

B. If the remains are of Native American origin:

    1. The descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; or

    2. The Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.

Proposed General Plan Policies that Reduce the Impact

Overall, current federal and state laws as well as the following policies in the proposed General Plan would reduce these impacts on archaeological resources to less than significant levels.

OSC-I-13 Establish and maintain a register of historic and potentially historic resources in San Pablo.

A historic preservation register is the primary planning tool used to identify, record, and evaluate historic properties within a community, neighborhood, project area, or region. The City may use the list of historical buildings in the General Plan Map Atlas as a starting point to create a register of sites/buildings San Pablo may wish to designate as landmarks and/or important historical resources. The register can form an important component of the local preservation program, and can ultimately contribute to community knowledge of local history.

OSC-I-14 Preserve and build upon the historic and multicultural identity of Alvarado District as a defining element of the city.

OSC-1-15 Help to ensure that new development analyzes and avoids potential impacts to historic, archaeological, and paleontological resources by:

- Requiring a records review for development proposed in areas that are considered archaeologically or paleontologically sensitive;
- Requiring pre-construction surveys and monitoring during any ground disturbance for all development in areas of historic or archaeological sensitivity;
- Implementing appropriate measures as a condition of project approval—measures such as avoidance, preservation in place, excavation, documentation, and/or data recovery—in order to avoid any identified cultural resource impacts.

In the event that historical, archaeological, or paleontological resources are accidentally discovered during construction, grading activity in the immediate area shall cease and materials and their surroundings shall not be altered or collected. A qualified archaeologist or paleontologist must make an immediate evaluation and avoidance measures or appropriate mitigation should be completed, according to CEQA Guidelines. The State Office of Historic Preservation has issued recommendations for the preparation of Archaeological Resource Management Reports that may be used as guidelines.

OCS-1-16 Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, and to educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape.

Native American cultural resources in the Planning Area have been found near sources of water including perennial and intermittent streams and springs, on midslope terraces and elevated knolls above the floodplain, and near ecotones and other productive environments. There is a high likelihood that additional unrecorded Native American cultural sites also exist in the Planning Area.

Mitigation Measures

No additional mitigation measures are required.

Impact

3.11-2 Implementation of the proposed General Plan could destroy, directly or indirectly, a unique paleontological resource or site or unique geologic feature. (*Less than Significant*)

Adverse impacts to paleontological resources could occur when earthwork activities such as mass excavation cut into geological formations where fossils are buried. These impacts are in the form of physical destruction of fossil remains. While no known significant paleontological resources occur within the Planning Area, fossils are considered to be nonrenewable resources and due to the infrequency of fossil preservation, such impacts would be considered significant. Relatively few undeveloped parcels remain in the Planning Area and mass excavation cuts into fossil-bearing bedrock formations are not expected.

Proposed General Plan Policies that Reduce the Impact

Policy OSC-I-15 cited under Impact 3.11-1 makes provisions for the accidental discovery of paleontological resources, and helps reduce this impact to a level that is less than significant.

Mitigation Measure

None required.

This page intentionally left blank

3.12 Visual Resources

This section describes the existing visual resources in San Pablo and the potential impacts that projects contained in the proposed San Pablo General Plan could have on those resources. Visual resources evaluated for impact include scenic hillsides, corridors, and neighborhoods with historic or scenic character that should be preserved.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

San Pablo's visual quality is determined by attributes such as the colors and forms of specific landscape features, and the patterns and views that have resulted from natural and/or cultural processes.

Site Location, Landforms, and Spatial Organization

San Pablo is characterized by two kinds of landscape elements: relatively flat, low-lying bay plain which makes up most of the city, and moderate to steep hillside areas in the eastern and southeastern city limits, on the flank of San Pablo Ridge. The northern city limits where San Pablo meets Richmond is also characterized by hillside neighborhoods. The San Francisco Bay generally forms the western visual edge of the area, and the hillside near Alvarado Park forms the eastern edge. The city itself does not have well-defined visual boundaries.

Regional Scenic Features

In San Pablo proper, there are no regional scenic features. From most low-lying portions of the city, views in general are quite limited. Wildcat Canyon and Sobrante Ridge form a rolling green hillside on the eastern edge of town, but this is visible primarily along east-west trending streets. (see figures on page 3.12-4) The Richmond hills and refinery towers are just visible from the northeastern side of Davis Park, looking southwest across the park. The best views, however, are visible from neighborhoods on the hillsides east of I-80 and in the hilly Bayview neighborhood north of the city. From these neighborhoods, looking south and west, one can see the Marin hills across San Pablo Bay, Mt. Tamalpais as the highest point on the horizon, and looking almost due south down the northernmost section of San Pablo Avenue in the City, the skyscrapers of San Francisco are just visible on a clear day.

Scenic Routes

San Pablo has no formally designated scenic roadways. Most scenic routes depend on natural landscape qualities for their aesthetics. The scenic qualities of roadways may change when the roadways themselves undergo improvements or when land adjacent to the roadways is developed or altered. One such change that is common to many Bay Area roadways, including scenic corridors, is the construction of soundwalls, which have in many locations altered scenic value by obstructing views from roadways. Currently, soundwalls line the western side of I-80 passing through San Pablo and thus block views from the roadway of San Pablo itself, of the Bay, and hills beyond.

Physical Characteristics

San Pablo's physical characteristics are described in detail below, by general area and type of use.

Residential

San Pablo has at least four types of neighborhoods as identified by their physical characteristics and age. These include:

- Older, single-family homes in the Old Town area which is typified by their small lots and squat appearance. The majority of the buildings here were built before 1950;
- Larger, one-story single family homes in the northwestern and central portions of the City. The majority of them were built between 1940 and 1980;
- The largest subdivisions located east of San Pablo Dam Road. These homes have a semi-rural character and command the best views due to their height on the hills; and
- New housing communities along the major roads and transportation corridors. They include multifamily homes as well as single-family subdivisions as well. Most are built after 1990.

Non-residential

Upper San Pablo Avenue

San Pablo Avenue located north of Road 20 and South of Lake Street is characterized by single-story, small business retail. There are several fast food restaurants in this area as well as numerous pay-day lending shops. The San Pablo arch is also located here. Shops located west of San Pablo Avenue have a distinct neighborhood retail character while those east of San Pablo Avenue are generally newer and larger in size. Development in recent years has concentrated on parcels east of San Pablo Avenue while the smaller-scale development on the west side has not seen renewal for some time. As a consequence, many stores are either dilapidated or operating marginally. Many vacant parcels can also be found on the west side of San Pablo Avenue.

Lower San Pablo Avenue

San Pablo Avenue located between 23rd Street and Vale Road is characterized by high density multifamily developments on both sides of the street, interspersed by public land uses such as City Hall and the city's police and fire stations.

San Pablo Avenue located between Vale Road and Gleen Avenue (near the southern city limit) is characterized by low density regional-oriented uses. The area's character is that of a main thoroughfare with large buildings set back on each side of the street. The area's major retail and entertainment attractions include San Pablo Casino, San Pablo Towne Center, and Diaz Plaza. The San Pablo Doctor's Medical Center is located close by.

23rd Street

23rd Street is characterized by a mix of residential and retail uses. Most of the buildings here were built before 1950. Partly due to their age, the problem of blight is more pronounced here than anywhere else in the city. In recent years, the City has made a number of streetscape improvements to the area, such as installing paving for crossings and sidewalks, planting trees, and adding street furniture.

Rumrill Boulevard

Rumrill Boulevard is industrial in character. Developments located on the east side of Rumrill Boulevard include a mix of residential housing, auto service uses, restaurants, and other service and neighborhood commercial uses. Developments on the west side of Rumrill Boulevard include light industry, junkyards, and warehouses.

Overall

San Pablo can be best described as a mature city in need of revitalization. The majority of the city's buildings are old – more than 40 years of age. The city has no "downtown" or city center. In its place are numerous strip mall type developments and two regional retail locations separated by Interstate 80. Additionally, the city has no professional office type developments. The only two locations readily identifiable with San Pablo are Lytton Casino and Doctors Medical Center. However, both are regional-oriented developments that locals seldom visit. Contra Costa College, the other destination synonymous with San Pablo, is partly located within the City of Richmond.

In recent years, the City has undertaken a number of beautification projects resulting in the creation of landscaped medians along upper San Pablo Avenue and new sidewalks along 23rd Street. The City also built a new gateway feature near Road 20 and San Pablo Avenue and is developing a new park (Wanless Park) near San Pablo Avenue and Rivers Street. These projects have helped to improve the city's urbanscape, but more needs to be done to address pressing issues that have had a negative impact on its image, including blight, irregular development/setbacks, and dearth of community serving/gathering places. The proposed General Plan aims to address these issues.

REGULATORY SETTING

Contra Costa County has regulations that attempt to preserve the County's scenic resources. The Contra Costa County General Plan (2005-2020) includes a scenic route plan, which is an update to the 1974 Contra Costa Scenic Routes Element. The plan's main purpose is to enable the County to request that the State designate state routes to the State Scenic Highway Program, while at the same time providing a local scenic route implementation program. The plan also identifies a countywide scenic route system and ensures that new projects approved along scenic routes are reviewed to maintain their scenic potential. While no scenic routes are depicted in San

Pablo, San Pablo Avenue and I-80 through San Pablo are depicted as "connecting routes", suggesting they either connect other scenic areas together or they have "scenic potential".[1]

Figure 3.12-1: San Pablo Visual Resources

From left: Older small lot single-family homes in the Old Town area; newer and larger single family homes in the northwestern portion of the city; and new townhome subdivisions near San Pablo Avenue.

From left: View of upper San Pablo Avenue towards the gateway/arch; view of a retail along upper San Pablo Avenue (note the irregular setbacks and marginal condition of the uses); and view of the better designed retail along 23rd Street.

[1] Contra Costa County General Plan (2005-2020), page 5-24.

From left: Typical view of 23rd Street; Doctors Medical Center- one of the "go to" destinations in San Pablo; and typical view of Rumrill Boulevard's industrial district.

From left: On a clear day, the Marin hills across San Pablo Bay can be seen from the hills in the Bayview neighborhood. This view will not be affected as no land use changes are proposed in hillside areas; access to Wildcat Creek, one of the natural creeks in the Planning Area will be improved upon by the creation of a trail; view of San Pablo from the hills east of San Pablo Dam Road will be predominantly unchanged at the buildout of the General Plan since all existing open areas are preserved.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a potentially significant adverse impact if it would:

Criterion 1: Block panoramic views or views of significant landscape features or landforms (mountains, oceans, rivers, or significant man-made structures) as seen from public viewing areas.

Criterion 2: Substantially damage scenic resources (such as trees, rock outcroppings, and historic buildings) that would alter the appearance of or from state- or county-designated or eligible scenic highways. Such projects would be judged against a higher standard for visual impacts due to this designation.

Criterion 3: Create significant contrasts with the scale, form, line, color and/or overall visual character of the existing landscape in areas with sensitive visual resources or high visual quality.

Criterion 4: Add a visual element of urban character to an existing rural or open space area or add a modern element to a historic area.

Criterion 5: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

METHODOLOGY AND ASSUMPTIONS

This programmatic visual assessment was conducted through multiple windshield surveys of the planning area and photographs taken of views from representative locations throughout the city.

IMPACT SUMMARY

Adoption of the proposed land use designations in the Land Use Element could result in higher density development that partially or fully obstruct views currently available to the public. However, implementation of Plan policies would reduce this to a less than significant level, because new development would comply with design guidelines that are intended to maintain and improve the scenic quality of San Pablo. In addition, the General Plan policies would encourage the preservation of the hillsides, open space, and other natural areas, which are important visual features.

There are no state- or county-designated or eligible scenic highways in San Pablo, therefore development under the proposed General Plan will cause no impact on these kinds of scenic resources. This issue is evaluated no further in this EIR.

The development of vacant and opportunity sites along San Pablo Avenue, 23rd Street and Rumrill Boulevard are the most notable physical change proposed in the Planning Area that will result in a different visual experience when travelling on these corridors. This change is generally positive in nature as implementation of plan policies will help plant more trees, improve streetscape, install connected bikeways and pedestrian walkways, remove blight and reduce vacancy with infill development to improve the city's urban character.

The proposed land use changes in the General Plan will not "add a visual element of urban character to an existing rural or open space area" since San Pablo is an urban city to begin with. All existing open space areas are preserved under the proposed General Plan. Only one historic building is situated on opportunity sites where developments are expected to occur. However, plan policies will ensure historic and cultural resources are protected consistent with State and federal regulations.

Additional development and a projected increase in population will likely create new sources of light or glare, but they will not adversely affect the nighttime views of the area or the night sky since San Pablo has no rural areas where the contrast between light and dark is strongly discernable. As a result, the impact is less than significant.

IMPACTS AND MITIGATION MEASURES

Impact

3.12-1 Implementation of the proposed San Pablo General Plan could adversely affect visual resources in the short-term during period of construction by blocking or disrupting views. *(Less than Significant)*

The construction of new projects in the Planning Area could result in short-term visual impacts including blockage or disruption of views by construction equipment and scaffolding, the removal of landscaping, temporary route changes, temporary signage, exposed excavation, and construction staging areas. However, the visual impact will be short-term and last intermittently during actual phased periods of construction at specific locations within the Planning Area. In the final built condition of the project, extensive landscaping and other design features will be installed, which enhance visual character.

Proposed General Plan Policies that Reduce the Impact

LU-I-7 Require design review of all new construction and visible exterior alterations of large non-residential buildings.

Any new non-residential construction or remodeling of an existing building where exterior work alters more than 50 percent of a visible building façade, including exterior improvements, such as new windows, doors or signage, will be subject to a design review.

LU-I-11 Enhance the City's unique identity and image by adopting a consistent palette of landscaping, street trees, lighting, and signage within the public right-of-way for neighborhood and street improvements.

Large canopy street trees, such as oaks or the London Plane tree, can create a distinct character for San Pablo. They also provide important environmental benefits.

Mitigation Measures

None required.

Impact

3.12-2 Implementation of the proposed San Pablo General Plan could block views of significant landscape features as seen from public areas. (*Less than Significant*)

Development consistent with the proposed Land Use Element has the potential to obstruct views currently available to the public, including views of the hillsides at the eastern and northern edge of the city, and long-range views of the Marin hills to the south and east of the city. These scenic views may be partially blocked if new construction were located near or adjacent from public areas.

However, the impact would be less than significant as the areas designated for substantial land use change under the proposed General Plan are primarily located in low-lying areas with little or

no view of scenic resources. Although new land use proposed along San Pablo Avenue and 23rd Street may create minor obstructions of some views, these views are minor components of the experience of traveling along San Pablo Avenue. The allowed densities, or FARs, for proposed land use designations indicate that most new development would not be taller than three or four stories in height. Height limits for proposed land uses would be addressed in an amendment to the San Pablo Zoning Ordinance.

Proposed General Plan land uses continue to preserve hillside land within San Pablo for open space, and in doing so preserve the potential for views of those hillside open spaces.

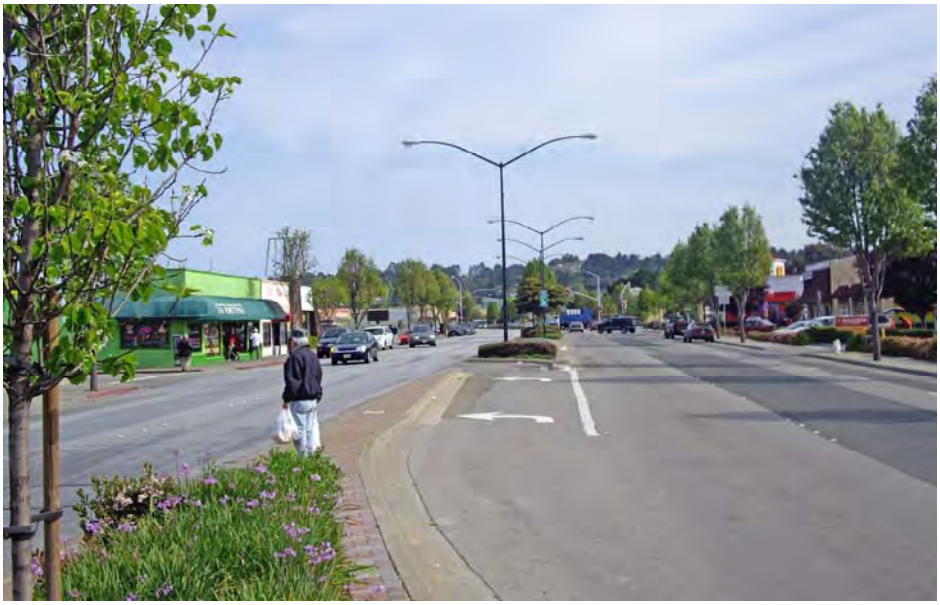


Figure 3.12-2: View of San Pablo Avenue looking North:
While increased density on both sides of the avenue will block some views in the background, they are minor and the general outcome will be positive as the aesthetic quality of the city will be improved by design guidelines and infill development.

Proposed General Plan Policies that Reduce the Impact

LU-I-45 Protect the semi-rural character of the hillside area through the integration and balance of usable open space areas and residential uses.

OSC-I-2 Continue to identify, preserve, and enhance scenic vistas to and from hillside areas and other visual resources.

New development should be designed to minimize obstructions of scenic vistas and preserve or enhance important attributes of view corridors.

OSC-I-7 Preserve and protect undeveloped hillside areas for their potential habitat value and as a visual and open space resource.

Mitigation Measures

None required.

Impact

3.12-3 Implementation of the proposed San Pablo General Plan could create significant contrasts with the scale, form, line, color and/or overall visual character of the existing landscape in areas with sensitive visual resources or high visual quality, or add a modern element to a historic area. (*Less than Significant*)

For most neighborhoods in San Pablo, the proposed General Plan calls for no substantive changes to land use or building design, and thus will create no contrasts with the scale, form, line, color, or overall visual character of these existing neighborhoods or landscape areas. Notably, the stretch of 23rd street with characteristic southwest style commercial frontages will be preserved and Plan policies ensure that infill development within that area maintains consistency with that character.

In those areas where the proposed General Plan calls for major changes in land use and physical design, notably the San Pablo Avenue Corridor, two arguments suggest this impact is less than significant: 1) the corridor itself contains no sensitive visual resources or high visual quality, and 2) the proposed changes in land use and physical design are intended to increase the visual quality of corridor, create a more unified visual experience, and fill in vacant and undesirable visual areas with attractive and economically vibrant new development.

Proposed General Plan Policies that Reduce the Impact

LU-I-4 Ensure appropriate transitions between single-family neighborhoods and higher intensity uses.

LU-I-5 Promote the phasing out of old uses in areas designated for new land use in an orderly fashion, consistent with adopted general plan designations. Promote the continuing viability of old uses during the transition period.

LU-I-9 Encourage new residential, commercial and related forms of development in a manner which fosters both day and appropriate night time activity; visual presence on the street level; appropriate lighting; and minimally obstructed view areas.

LU-I-12 Enhance and celebrate key entrances to the City with signs, landscaping, street trees, lighting, banners, gateway and/or entry features.

LU-I-13 Ensure that new development in or adjacent to established neighborhoods is compatible in scale and character with the surrounding area by:

- Promoting a transition in scale and architecture character between new buildings and established neighborhoods; and
- Requiring pedestrian circulation and vehicular routes to be well integrated.

LU-I-21 Ensure that noise, traffic, and other potential conflicts that may arise in a mix of commercial and residential uses are mitigated through good site planning, building design, and/or appropriate operational measures.

LU-I-27 Establish design guidelines to assure high quality design and site planning for large commercial and industrial developments. The guidelines should address:

- Architectural finishes, coordinated color palette, massing, and hierarchy in scale;
- Pedestrian-scaled amenities, signage, and lighting;
- Site improvements, including parking lot landscaping, perimeter landscaping, foundation landscaping, walkways, and passageways;
- Ground floor transparency requirements along shopping streets and limitations on blank walls in these areas;
- Anti-theft glass on windows, instead of bars or roll-down metal screens, that are architecturally compatible with building design;
- Screening of truck loading, parking, mechanical equipment, transformers, ventilation systems, storage containers, and refuse collection areas from the street;
- Building entries; and
- Design standards for perimeter walls and fencing.

Where a building exceeds a certain height, the City will evaluate shading created and its relationship and effects on surrounding buildings.

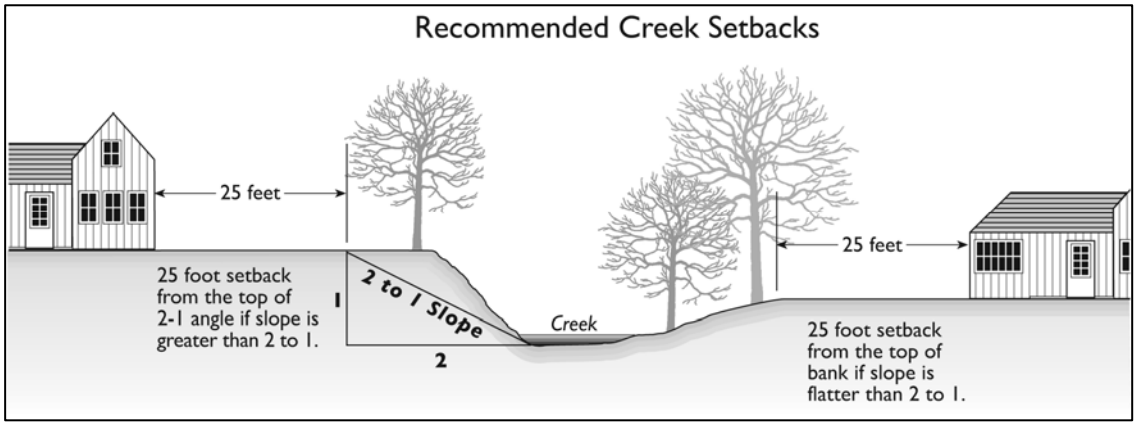
LU-I-38 Develop a distinct design theme with defined design standards and guidelines for each of the special planning areas to foster an identifiable image for each area.

OSC-I-3 Recognize the importance of Alvarado Park as a gateway to Wildcat Canyon Regional Park and an important recreational and open space resource. Facilitate access to this open space network.

OSC-I-10 Maintain, protect, and enhance San Pablo's creeks, including Rheem, San Pablo, and Wildcat creeks, as local environmental and aesthetic resources, with approaches including, but not limited to:

- Establishing a Creek Improvement Program to widen, day-light, and improve San Pablo and Wildcat creeks for the enjoyment of residents;
- Strengthening stormwater management requirements for properties adjacent to the creek areas by applying techniques that maintain or restore nature character;
- Identifying and working with property owners to take advantage of unique opportunities where human active use (e.g. through trail development) would enhance creek appreciation without disrupting ecological function;
- Working with developers to "daylight" portions of creeks that have historically been channelized underground under existing paved areas (e.g. parking lots); and

- Requiring minimum setbacks from the top of the creek bank for development proposed adjacent to creeks, in keeping with City regulations and Best Management Practices.



OSC-I-13 Establish and maintain a register of historic and potentially historic resources in San Pablo.

OSC-I-14 Preserve and build upon the historic and multicultural identity of Alvarado District as a defining element of the city.

SN-I-6 Require erosion prevention of hillside areas by re-vegetation or other acceptable methods.

The policies LU-I-7 and LU-I-11cited under Impact 3.12-1 as well as policies LU-I-45, OSC-I-2 and OSC-I-7 cited under Impact 3.12-2 would help to reduce this impact and are incorporated by reference.

Mitigation Measures

None required.

Impact

3.12-4 Implementation of the proposed San Pablo General Plan could create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. (*Less than Significant*)

The construction of new buildings in the Planning Area may result in nighttime light pollution or daytime glare. However, their impacts are likely to be insignificant. There are a number of circumstances that mitigate the potential for new or significant sources of light pollution in San Pablo. To the extent that new development will occur under the General Plan, it will almost exclusively occur as redevelopment of existing built sites or infill development of unused parcels between existing built sites. When facilities such as parking lots are replaced with buildings, this may reduce nighttime sources of light in as much as a new building will not require high voltage

lamps to illuminate large swaths of pavement. Similarly, infill development of underutilized or vacant parcels would result in new light sources that are congruous with nearby light sources (e.g., lighting from shop windows, or upper story residential windows). Furthermore, proposed General Plan policies help to ensure that lighting for new development is held to high design standards for light pollution reduction.

Proposed General Plan Policies that Reduce the Impact

Compliance with the following proposed General Plan policies would reduce potentially significant long-term light and glare impacts to less than significant levels:

PSCU-I-7 Provide security lighting to illuminate communal areas and pathways in all parks to ensure safety, and where feasible, select lighting fixtures that will not produce glare or illuminate the night sky.

Whenever possible, the City will select lighting fixtures that are shielded, are solar–powered, and/or can turn on automatically in low light conditions.

Mitigation Measure

None required.

4. Analysis of Alternatives

This chapter documents the alternatives development and screening process and analyzes several alternatives identified during preparation of the proposed San Pablo General Plan. Key features of each alternative are presented, and potential impacts are discussed and compared to the impacts of the proposed Project.

The CEQA Guidelines require EIRs to describe a reasonable range of potentially feasible alternatives to a proposed project or program. That is, the EIR needs to analyze only those alternatives that will help decision-makers make reasoned choices. The range of alternatives shall include those that "would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project" (CEQA Guidelines, Section 15126.6(a)). "Feasible" means that the alternatives "are capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors" (CEQA Guidelines, Section 15364). In addition, the EIR must evaluate the No Project alternative, which allows decision makers to compare the impacts of approving the project with the impacts of not approving the project.

If the alternatives themselves would have significant environmental impacts, the EIR must identify them. The alternatives may result in new impacts that do not result from the proposed Project. The EIR need not analyze these alternatives at the same level of detail that it analyzes the project itself. The CEQA Guidelines require only that the EIR provide enough information to allow meaningful evaluation, analysis, and comparison. Quantified information on the alternatives is presented where available; however, in some cases only partial quantification can be provided because of data or analytical limitations.

Finally, the CEQA Guidelines require each EIR to identify the environmentally superior alternative among the alternatives analyzed. If the No Project alternative is the environmentally superior alternative, the EIR must select another alternative from among the alternatives analyzed.

4.1 ALTERNATIVES SCREENING

Community input lies at the heart of the General Plan Update process. Prior to and during the development of alternative plans, community members and stakeholders were invited to provide ideas through a number of ways, including public workshops, interviews with stakeholders, meetings with the General Plan Advisory Committee (GPAC), emails to City staff and community input on the General Plan 2030 blog, as well as a newsletter mail-in survey. Feedback obtained during these outreach efforts helped City staff conceptualize and prioritize land uses in the alternative plans, and bracket the range of choices that have the broadest support from the community. Using that information, the alternatives were developed with the following criteria:

- The alternatives must be conceptually different and provide options to the community;
- They must be realistic and provide sufficient land to accommodate population and job growth projected by Association of Bay Area Governments (ABAG) as well as satisfy Regional Housing Needs Allocation (RHNA) requirements for the Housing Element;
- They must promote mixed use land uses and transit-oriented development;
- They must help preserve open space and resources; and
- They must satisfy key community goals, including but not limited to: Improve walkability, create more park spaces, more jobs, and promote economic development.

In June 2009, two alternative plans were prepared and distributed to members of the GPAC and then discussed at a public workshop. The alternative plans illustrate two visions of the City in 2030 and present alternative approaches to sustainable development in San Pablo. The concept plans were further refined during the public review process and form the basis of what would become, the Preferred Plan Concept and now the proposed General Plan.

The two alternatives considered in this analysis originate from the two concept plans considered during that time. They are described in greater detail below.

ALTERNATIVES INITIALLY CONSIDERED

The alternative plans were created to illustrate ideas for the city's future in the form of two schematic land use diagrams:

- ***Alternative Plan A: Centers and Nodes; and***
- ***Alternative Plan B: Urban Boulevard***

The names of the two plans reflect their structural differences. Plan A, Centers and Nodes, establishes two major mixed-use centers, and a series of commercial nodes throughout the city; while Plan B, Urban Boulevard, creates an intense mixed-use corridor along the length of San Pablo Avenue.

In terms of land use, the two plans show a different balance between residential uses, non-residential uses, and mixed uses. Plan B provides for a higher percentage of mixed-use areas, while Plan A focuses on residential-only areas and commercial-only areas, outside of the two high-intensity mixed use centers. Another notable difference is that Plan B is the only plan with the Regional Commercial land use category. Both plans, however, establish important new mixed-use categories that respond to two key community goals (increase jobs and reduce reliance on the automobile). Other common characteristics include:

- Both plans call for an entertainment district, designated by the new Entertainment District land use, along both sides of San Pablo Avenue near the intersection with San Pablo Dam Road. Anchored by the San Pablo Lytton Casino, this new district establishes a regional destination for entertainment uses such as movie theatres, performing arts facilities, restaurants, nightclubs and bars. The size and extent of the Entertainment District varies between the two plans.

- An employment district, designated by the Light Industrial land use, is established in both plans at the area west of Rumrill Boulevard and south of Market Avenue. Intended uses include technology, research and development, wholesaling and light industrial uses.
- Both plans establish a community garden on a two-acre City-owned parcel on the north side of San Pablo Dam Road and across from Princeton Plaza.
- The College Center Shops commercial development and the Abella Paseo multifamily residential development at San Pablo Avenue and Road 20 are integral parts of both concept plans. These projects will intensify activity along San Pablo Avenue and will help establish a retail center for the college community.
- Both plans propose that the city's creeks, and trails alongside them, be restored to their natural state to preserve them as a natural resource. Both plans also call for increased park and open space to meet the recreation needs of current and future residents.
- Major Public/Institutional uses such as Contra Costa College, neighborhood schools, the police and fire stations, the new community center next to Helms Middle School, and Doctors Medical Center remain important nodes in both plans.
- Finally, the two plans share similar opportunity sites, which are sites identified by City staff and consultants as suitable for development. These sites include vacant sites as well as underutilized sites, totaling 143 acres.

Various variations on densities, land use designations, and mix of use (for mix use categories) were considered before those in the alternative plans were finally selected. It is important to note that even if the same land use appears on both plans, the buildout density may be different in each case due to different design intentions and project objectives.

ALTERNATIVES NOT CARRIED FORWARD FOR ANALYSIS

The alternatives described in this EIR include the two substantial proposals (Alternative Plan A, Centers and Nodes; and Alternative Plan B, Urban Boulevard) considered by the City of San Pablo during the sketch design stage of the planning process. Although several other initial alternatives for the built city were identified during sketch design, they were eliminated from full analysis because they would not satisfy enough of the City's goals and would not reduce impacts of the proposed General Plan.

4.2 ALTERNATIVES ANALYZED IN THIS EIR

This EIR evaluates the No Project alternative as required by CEQA, as well as two other alternatives developed through the screening process. The descriptions of the alternatives are provided below, followed by an analysis that compares the environmental impacts of each alternative to the proposed Project.

ALTERNATIVE A

As its name implies, the main thrust of Alternative A: Centers and Nodes, is to concentrate future development around several nodes while limiting development to the rest of the city. These centers are selected based on several factors, such as the availability of vacant sites, access to

transit and services, distance from hazards, and feedback from community and stakeholders. The centers are located across San Pablo and are expected to be developed at a higher density than development proposed elsewhere. Alternative A is depicted in **Figure 4.2-1.**

The focus of the plan is a new land use designation called Mixed Use Center. Areas with this designation are intended as major community activity centers as well as regional destinations. The designation requires a vertical mix of land uses, and allows high-density development in terms of both residential dwelling units per acre and FAR of commercial areas. Most critically, active uses are required on the ground floor in order to establish vibrant and walkable centers. High-density residential uses are planned nearby, in order to support and enhance the pedestrian nature of these centers. **Figure 4.2-1** shows the two areas with this designation: the triangle area at the intersection of Rumrill Boulevard, Broadway Avenue, and San Pablo Avenue; and the city-owned land on the south side of San Pablo Avenue near Church Lane.

The Mixed Use Center in the north part of the City is intended to complement existing development along San Pablo Avenue (College Center Shops) and create an extended mixed-use student-oriented district. The Mixed Use Center in the south part of the City is intended to cater to a broad variety of uses, including retail, residential, office, public uses, as well as a parking garage. Additionally, a community square or garden is planned next to Wildcat Creek at this location. This Mixed Use Center concept is similarly proposed in the proposed General Plan.

The other four Commercial Mixed Use nodes in Alternative A are intended primarily to serve surrounding neighborhoods. This land use designation allows for up to four stories of commercial development, and does not permit residential uses. These nodes are proposed primarily at major intersections, in an effort to distribute smaller-scale commercial destinations throughout the city.

One component unique to Alternative A is its lack of a Regional Commercial designation. Areas that are designated regional commercial in the proposed General Plan and Alternative B are designated as Neighborhood Commercial in this plan. Another component that is different from the proposed General Plan is the presence of two categories of Commercial Mixed Use land use with different density and mix-of-use assumptions for sites along San Pablo Avenue and 23rd Street, respectively. An additional difference is the number of sites dedicated to pure residential land use. Alternative A would accommodate a greater number of households because it designates more sites to residential development. A case in point is the group of sites located at the southwest corner of the Planning Area along Rumrill Boulevard. Under Alternative A, the location is dedicated for Medium Density Residential. Under the proposed General Plan, the same location is planned for Industrial Mixed Use.

New park locations in Alternative A are generally similar to those in the proposed General Plan. The former would expand parkland by about 20.3 acres while the latter would expand it by about 20.8 acres. Both also propose similar trails along creeks and share the same Planning Area boundary. The buildout projections under Alternative A are shown in **Table 4.2-1**.

ALTERNATIVE B

Alternative B: Urban Boulevards, aims to make San Pablo Avenue a major "green" boulevard, with development of relatively uniform intensity from Mission Plaza all the way to the Entertainment District around the Casino. Alternative B is depicted in **Figure 4.2-2.**

The goal of this plan is to create a concentrated and diverse base of new employment opportunities and a variety of housing options on the corridor. This is carried out through the creative juxtaposition of different new mixed uses in conjunction with streetscape improvements. For example, the Residential Mixed Use designation established in Alternative B, allows residential uses in addition to retail, office, institutional, and hotel. The land use is similar to that in Alternative A, but higher in intensity (up to four stories are permitted) to promote greater activity along the corridor. Another mixed use land use, the Mixed Use Center category centered on the former Circle S and Alvarado Mobile Home site, extends along San Pablo Avenue near the junction with Vale Road in the south all the way to Van Ness Street in the north. The land use coverage under this designation is greater than that in the Alternative A and proposed General Plan. The goal is to connect activities along San Pablo Avenue through retail street frontage and streetscape improvements south of Vale Road to new developments on San Pablo Avenue north of Road 20.

The San Pablo Avenue boulevard will be supported by development along the 23rd Street corridor. New commercial, office, and residential mix use is planned along the length of 23rd Street under a new Commercial Mixed Use land use category. While less intense than development established along San Pablo Avenue, this use is expected to support the employment and service needs of nearby neighborhoods.

Like the proposed General Plan, Alternative B designates the current San Pablo Towne Center and Big Lots sites as Regional Commercial. Unlike the proposed General Plan, Alternative B designates Entertainment District as a stand-alone land use designation rather than an overlay. This is to foster recreation and entertainment activities along the corridor and provide an alternative traffic modeling scenario to the proposed General Plan.

New park locations in Alternative B are generally similar to those in the proposed General Plan. The former would expand parkland by 19.6 acres while the latter would expand it by about 20.8 acres. Both also propose similar trails along creeks and share the same Planning Area boundary. The buildout projections under Alternative B are shown in **Table 4.2-1**.

NO PROJECT ALTERNATIVE

The purpose of evaluating the No Project Alternative is to allow decision makers to compare the potential impacts of approving the project with the potential impacts of not approving the project. The No Project analysis discusses both the existing conditions at the time the NOP is published as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved. The No Project alternative is depicted in **Figure 4.2-3.**

The No Project scenario represents the continuation of the current City of San Pablo 1996 General Plan land use designations. It assumes that the existing General Plan and Zoning Ordinance would continue to guide development in the Planning Area until buildout in 2030.

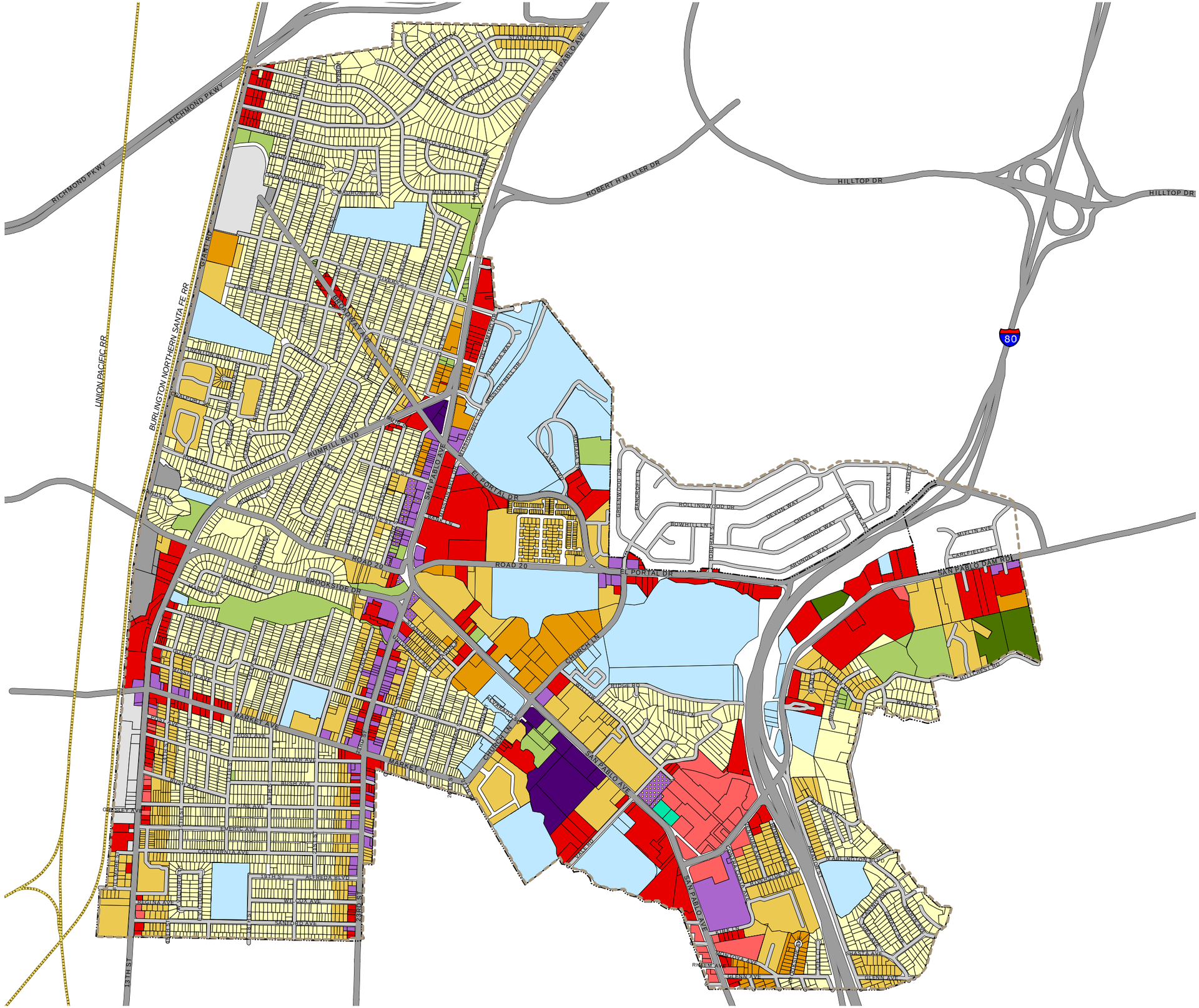
There are many differences between the proposed General Plan and the No Project Alternatives. As compared to the proposed General Plan, the No Project Alternative:

- Uses a different Planning Area;
- Has different land uses;
- Buildout assumes full development of all vacant sites only (the proposed General Plan opportunity sites include vacant and underutilized sites);
- Plans for fewer park and open space areas; and
- Indicates low residential development on Site A (see map) when conditions dictate that no development may occur due to a ground movement hazard.

The buildout projections under the No Project Alternative are shown in **Table 4.2-1**.

Figure 4.2-1

Alternative A Land Use



- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Neighborhood Commercial
- Residential Mixed Use
- Commercial Mixed Use
- Commercial Mixed Use - 23rd St
- Mixed Use Center North
- Mixed Use Center South
- Entertainment District
- Industrial
- Light Industrial
- Public/Semi Public, Institutional
- Parks
- Open Space

- Planning Area
- City Limits
- Major Roads
- Minor Roads
- Railroads

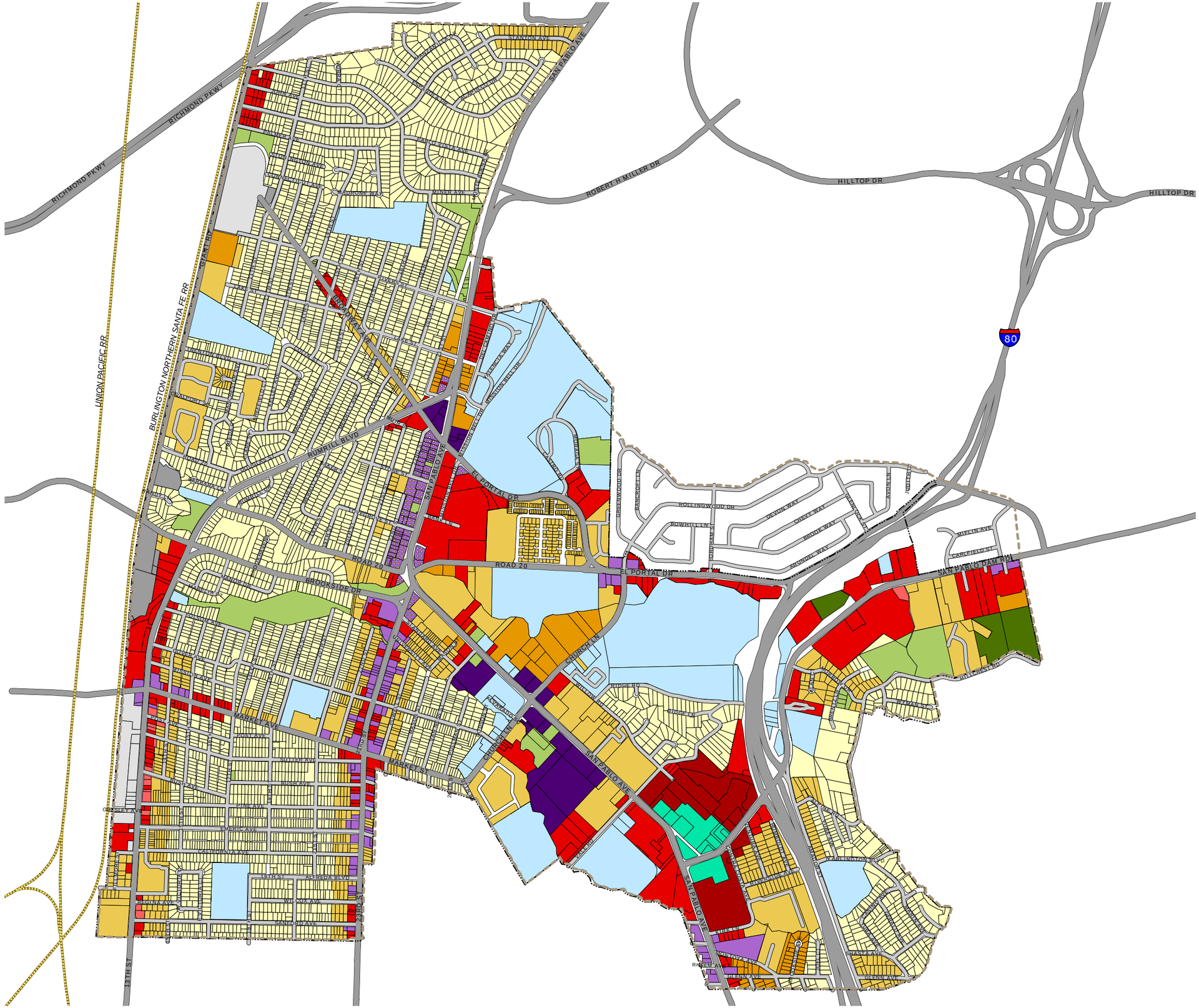
0 0.25 0.5
Miles

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 4.2-1

Figure 4.2-2

Alternative B Land Use



- Low Density Residential
- Medium Density Residential
- High Density Residential
- Regional Commercial
- Commercial
- Neighborhood Commercial
- Residential Mixed Use
- Commercial Mixed Use
- Commercial Mixed Use - 23rd St
- Mixed Use Center North
- Mixed Use Center South
- Entertainment District
- Industrial
- Light Industrial
- Public/Semi Public, Institutional
- Parks
- Open Space

- Planning Area
- City Limits
- Major Roads
- Minor Roads
- Railroads

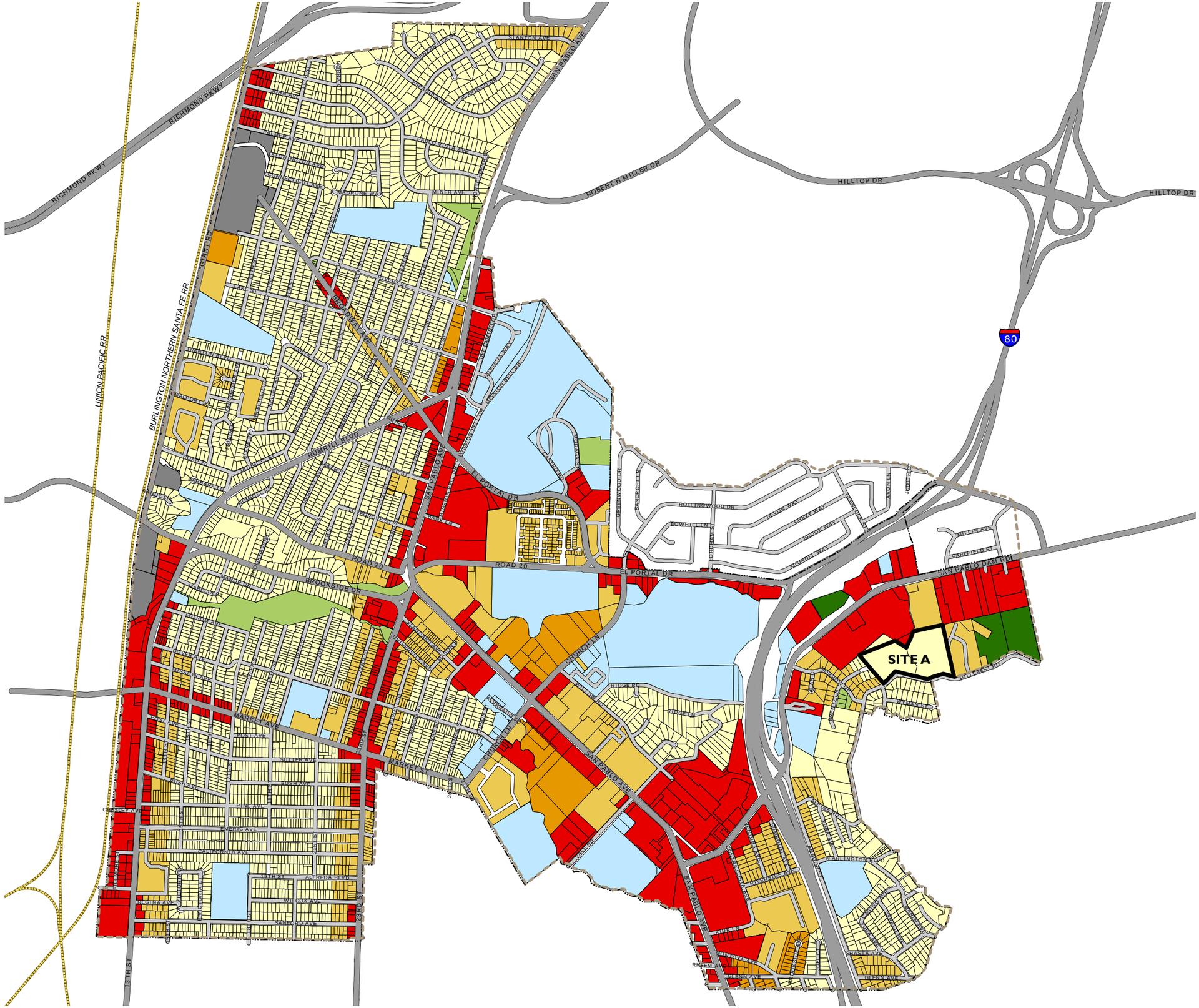
0 0.25 0.5
Miles

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 4.2-2

Figure 4.2-3

No Project Land Use



Low Density Residential
Medium Density Residential
High Density Residential
Commercial
Industrial
Public/Semi Public, Institutional
Open Space
Parks

Planning Area
City Limits
Major Roads
Minor Roads
Railroads

0 0.25 0.5
Miles

SOURCE: Contra Costa County, 2010; City of San Pablo, 2010; Dyett & Bhatia, 2010.

Back of Figure 4.2-3

Table 4.2-1 Buildout Compared to Existing (2010) Conditions

	Households			*Jobs*			*Housing*			*Population*		
	Existing	*Buildout*	*Additional*	*Existing*	*Buildout*	*Additional*	*Existing*	*Buildout*	*Additional*	*Existing*	*Buildout*	*Additional*
Proposed General Plan	9,680	10,620	940	5,900	8,520	2,620	10,520	11,510	990	32,200	34,950	2,750
Alternative A	9,680	10,780	1,100	5,900	8,900	3,000	10,520	11,680	1,160	32,200	35,460	3,260
Alternative B	9,680	10,450	770	5,900	9,050	3,150	10,520	11,330	810	32,200	34,430	2,230
No Project	9,680	10,350	670	5,900	6,520	620	10,520	11,230	710	32,200	34,160	1,960

Note: Numbers rounded to nearest tenth and are only approximate projections. For projected buildouts, households equal 95% of the total housing units (assumes a 5% vacancy rate).

Source: Dyett & Bhatia, 2010.

This page intentionally left blank.

4.3 COMPARATIVE IMPACT ANALYSIS OF ALTERNATIVES

This section compares the environmental impacts of each alternative to the proposed General Plan, by resource issue area. Alternatives are compared subject to the same significance criteria. It is assumed that Alternatives A and B would generally include the same policies as those defined for the proposed General Plan, excluding site specific policies that would not apply because of differences in planned land use.

LAND USE

Table 4.3-1 shows land use by acreage at full buildout of each alternative. The alternatives differ in land use types, the amount of land dedicated to residential and non-residential uses, as well as in the density and intensity of development. The alternatives, with the exception of the proposed General Plan, share the same planning area boundaries. The proposed General Plan Planning Area additionally includes the Rollingwoods neighborhood area. All alternatives share the same Sphere of Influence and Urban Limit Line.

Alternative A devotes more land to Medium Density Residential but less land to High Density Residential than the proposed General Plan. It includes the Commercial land use category but does not include the Regional Commercial category. In terms of mixed use land, this alternative proposes less than half the amount of mixed use land proposed under the proposed General Plan. Additionally, the types of mixed use land proposed are also different. Unlike the proposed General Plan, it includes a Commercial Mixed Use 23rd Street category but does not include the Industrial Mixed Use category. The amount of land devoted to public, institutional, parks and open space is generally similar to the proposed General Plan.

Alternative B devotes more land to Medium Density Residential but less land to High Density Residential than the proposed General Plan. It includes a Commercial land use category which is not found in the proposed General Plan, and only half the amount of Regional Commercial land. Compared to the proposed General Plan, the amount of Neighborhood Commercial land is minimal. In terms of mixed use land, this alternative proposes about half the amount found in the proposed General Plan. The industrial land found in Alternative B does not allow a mix of uses, unlike those in the proposed General Plan. The overall amount of land devoted to public, institutional, parks and open space is generally similar to the proposed General Plan.

The No Project Alternative devotes more land to residential uses than the proposed General Plan, but significantly less of that is allocated to High Density Residential. It does not have any type of mixed use, and all non-residential land are either devoted to commercial or industrial use. Additionally, this alternative would also produce the least amount of parks, recreational, and open space compared to the other alternatives.

Table 4.3-1 Comparison of Land Use Buildout by Alternative

Land Use[1]	*Proposed GP*	*Alternative A*	*Alternative B*	*No Project*
Low Density Residential	526.5[2]	522.9	522.9	535.4
Medium Density Residential	170.5	204.7	204.7	200.3
High Density Residential	66.4	38.5	32.4	40.1
Residential Land Subtotal	*763.4*	*766.1*	*760.0*	*775.8*
Commercial	-	127.7	127.7	229.2
Neighborhood Commercial	41.1	32.1	2.5	-
Regional Commercial	58.3	-	26.3	-
Commercial Land Subtotal	*99.4*	*159.7*	*156.5*	*229.2*
Mixed Use Center North	2.7	1.6	2.7	-
Mixed Use Center South	16.1	15.6	21.3	-
Commercial Mixed Use	57.3	21.0	11.3	-
Commercial Mixed Use - 23rd St	-	9.5	9.5	-
Residential Mixed Use	13.9	5.5	9.3	-
Entertainment District[3]	22.1	1.2	10.1	-
Mixed Use Land Subtotal	*112.1*	*54.3*	*64.3*	-
Industrial	-	9.1	9.1	22.2
Light Industrial	-	20.3	20.3	-
Industrial Mixed Use	26.4	-	-	-
Industrial Land Subtotal	*26.4*	*29.4*	*29.4*	*22.2*
Public/Institutional	231.6	227.4	227.4	229.8
Parks, Recreation and Open Space	57.3	53.2	52.5	33.3
Others Subtotal	*288.9*	*280.6*	*279.9*	*263.1*
Total[4]	**1,290.2**	**1,290.2**	**1,290.2**	**1,290.2**

[1] Some land uses exist in certain alternatives only.

[2] Does not include 85 acres of Low Density Residential land in the Rollingwoods neighborhood. Although the neighborhood is within the proposed General Plan Planning Area, it has not been annexed into San Pablo and hence it is not included in the calculations.

[3] The Entertainment District land use exists as an overlay in the proposed General Plan, but as a stand alone land use in Alternative A and Alternative B.

[4] Total does not include roads and other right-of-ways.

Source: City of San Pablo, 2010; Dyett & Bhatia, 2010.

TRANSPORTATION

Trip Generation Comparison

Of the three alternatives, Alternative B is projected to generate the highest number of daily vehicle trips upon implementation of the proposed General Plan. The daily trips would increase by almost 34,800 over existing conditions as compared to 23,900 under the No Project Alternative and 33,900 trips under Alternative A. Propelled by its higher total employment projections, Alternative B is also the only alternative that generates more (about 500) daily trips than the proposed Plan despite lower total number of households. With fewer households and fewer total employments, the No Project Alternative would generate over 10,300 fewer trips than the proposed Plan. Alternative A would generate slightly fewer daily trips than the proposed Plan even though this alternative has more projected households and higher projected total employment. The primarily reason for this slight variation is the higher retail employment projections in the proposed General Plan. Retail land use generates more trips per employment unit than other types of non-residential land use.

In terms of both total vehicle-miles-traveled (VMT), all the alternatives would generate higher total VMT than existing conditions. Implementation of the No Project Alternative would increase the VMT by 200,000 vehicle-miles; while Alternative A and Alternative B would increase the VMT by 280,000 vehicle-miles and 290,000 vehicle-miles, respectively. The number of VMT generated by the proposed Plan is projected to be similar to Alternative A, which is higher than the No Project Alternative and lower than Alternative B. While there is more differentiation between the No Project Alternative with the other alternatives and the proposed Plan, this difference disappears when vehicle-miles travelled on freeway are removed from the measure. All three alternatives and the proposed Plan are within 10,000 non-freeway vehicle-miles of each other with the No Project Alternative having the same non-freeway VMT as the proposed Plan; while the non-freeway VMT of Alternative A and Alternative B are slightly higher. All the future scenarios would generate higher non-freeway VMT than existing conditions.

The total number of daily vehicle trips and total VMT are directly reflected in the average trip length calculations of the scenarios. The average trip length indicates how far, on average, vehicles have to travel to fulfill their needs, e.g. to go to school, work, shopping, or dining. The average trip lengths for all scenarios, including existing conditions, are quite similar. With an average trip length of 7.22 miles, trips generated under existing conditions are slightly shorter than all future conditions measured. The average trip length of the proposed Plan is 7.49 miles, which is slightly longer than the 7.44 miles of the No Project Alternative but slight shorter than Alternative A and Alternative B, which are both at 7.50 miles.

LOS Comparison

Table 3.2-10 in Chapter 3 presents the comparison of the intersection level of service for existing conditions, the proposed Plan, and the No Project Alternative. Implementation of the No Project Alternative would result in significant LOS impacts at two intersections based on CCTA MTSO standards: I-80 Westbound off-ramp/El Portal Drive during both peak hours and I-80 Eastbound ramp/El Portal Drive during the PM peak hour. Both of these locations would also experience substandard level of service with the implementation of the proposed Plan during the same peak periods. However, the No Project Alternative would not cause substandard service at the San

Pablo Dam Road intersections of San Pablo Avenue and Amador Street/I-80 Eastbound ramps as projected under the proposed Plan scenario. As discussed, the planned San Pablo Dam Road Interchange Improvement project would modify the El Portal Drive interchange of Interstate 80 by relocating the westbound on-ramp to the north to form a tight diamond interchange and providing additional turn and through lanes on both El Portal Drive and eastbound off-ramp. It is projected that the impacts of the No Project Alternative would be fully mitigated upon implementation of the Interchange Improvement project.

Based on trip generation data for all alternatives, and the fact that alternatives A and B share the same policy foundation as the proposed Plan, it is projected that impacts under Alternative A would be similar to those of the proposed Plan. Implementation of Alternative A would likely result in significant impacts at the same four intersections as the proposed Plan. While the number of total daily trips is slightly lower than the proposed Plan under Alternative A, the higher number of households and total employment may generate commute trips in particular, which tend to concentrate during peak periods. In particular, commute trips usually travel longer distances with higher demand on the freeway. The higher peak hour demand would not likely cause additional significant impacts at the study locations with the exception of the intersection of El Portal Drive and San Pablo Dam Road. While El Portal Drive/San Pablo Dam Road intersection would operate at LOS D under both proposed Plan and No Project Alternative scenarios during the AM peak hour, the volume-to-capacity ratios are very close to exceeding the significance threshold. Additional peak hour trips which might occur under Alternative A may potentially cause the intersection to degrade to LOS E, which would be a significant impact at this intersection.

Alternative B entails higher total employment than the proposed Plan. More instrumentally, it also projects a higher number of retail jobs than the proposed Plan. It is projected that the number of daily trips generated by Alternative B would be higher by about 500 trips. Consequently, the impact of this alternative on the transportation network is likely to be greater than the proposed Plan and the number of impacted intersections resulting from Alternative B may extend beyond the four identified for the proposed Plan.

Of all alternatives, the No Project Alternative is least likely to cause significant traffic LOS impacts in the future, primarily as a result of the lower numbers of households and jobs projected for the Planning Area. However, also missing from the No Project Alternative are the complete streets policies and pedestrian and bicycle improvements programmed in the proposed General Plan, whose benefits are difficult to quantitatively compare. All things considered, the proposed General Plan and Alternative A are almost identical in potential transportation impacts, and perform better than Alternative B.

Table 4.3-2 Trips Summary by Alternative

Year	Total Household (in units)	Total Employment	Employment by Sector				Total Daily Vehicle Trips	VMT Generated ('000,000)	VMT on Streets (excluding freeways) ('000,000)	Average Trip Length (miles)
			Retail	Service	Manufact.	Other				
Existing Conditions	9,795	8,830	2,168	4,565	256	1,649	92,723	0.67	0.17	7.23
Proposed Plan	12,557	12,832	3,887	5,916	443	2,325	126,983	0.95	0.28	7.49
Alternative A	12,703	13,174	3,778	5,775	371	2,991	126,636	0.95	0.29	7.50
Alternative B	12,371	13,316	4,079	5,859	371	2,757	127,484	0.96	0.29	7.50
No Project	12,288	10,791	2,757	5,397	367	2,095	116,646	0.87	0.28	7.44

Source: Dowling Associates, Inc., June 2010.

This page intentionally left blank.

AIR QUALITY

Two of three criteria used in evaluating impacts to air quality are related to goals, policies, and objectives that aim to minimize impacts to air quality, including policies that reflect the Bay Area 2010 Clean Air Plan control measures and policies that minimize impacts of toxic air contaminants on sensitive receptors. Because policies for Alternatives A and B would be the same as policies in the proposed General Plan, impacts are expected to be similar, and less than significant in terms of policy related impacts. However, the No Project Alternative would not include these goals, policies, and objectives, resulting in a potentially significant impact related to achieving regional air quality goals and protecting public health.

The final criterion used in evaluating impacts to air quality is in the comparison of the rate of increase in VMT to the rate of increase in population. As noted in Impact 3.3-1, the proposed General Plan would result in a significant and unavoidable impact due to the VMT growth exceeding population growth for 2030. As shown in **Table 4.3-3**, both Alternatives A and B, as well as the No Project, all result in a significant impact by this standard. The No Project Alternative results in the smallest difference between the rate of population and VMT growth, Alternative A is slightly better than the proposed General Plan, and Alternative B results in the greatest difference in population and VMT growth. While this comparison is useful in evaluating alternatives, all future scenarios result in a faster rate of increase for VMT when compared to population, indicating a significant impact for this criterion in all scenarios.

Table 4.3-3 Comparison of Change in VMT and Population Under the Alternatives

Year	*Population*	*Population % Change from Baseline*	*VMT*	*VMT % Change from Baseline*	*Difference in Rate of Growth (Population – VMT)*
2000 Baseline[1]	30,215	n/a	670,000	n/a	n/a
Proposed Plan	34,950	15.7%	950,000	41.8%	-26.1%
Alternative A	35,460	17.4%	950,000	41.8%	-24.4%
Alternative B	34,430	14.0%	960,000	43.3%	-29.3%
No Project	34,160	13.1%	870,000	29.9%	-16.8%

[1] Baseline VMT data is based on data from the year 2000, therefore for this analysis also considers population growth from 2000 (ABAG projections 2009), rather than from 2010.

Source: Dyett & Bhatia, 2010, Environmental Science Associates, 2010.

ENERGY AND GREENHOUSE GASES

Energy

The following three tables summarize the comparison of energy use across alternatives. The findings suggest that all alternatives, like the proposed Project, have lower overall per service population energy use than existing conditions (69.4 MMbtu per service population). This is largely because of the anticipated improvements in fuel efficiency assumed under Pavley rules/new federal CAFE standards.

Overall, the No Project Alternative is the environmentally superior alternative in terms of energy use because it has the lowest population and jobs. The differences between alternatives are marginally in favor of Alternative A in second place as the environmentally superior alternative in this issue area, after the No Project Alternative.

Table 4.3-4 Comparison of Total Energy Use by Alternative

	MMbtu	*Per Service Population*
Proposed Plan	2,648,686	60.9
Alternative A	2,678,932	60.4
Alternative B	2,688,083	61.8
No Project	2,385,208	58.6

Source: Dyett & Bhatia, 2010.

Greenhouse Gases

A comparison of the GHG emissions across alternatives shows that the No Project Alternative has the lowest per service population emissions rate, with the proposed Project the second lowest. However, all alternatives offer a rate that meets the standard set by the BAAQMD.

Table 4.3-5 Comparison of Greenhouse Gas Emissions Projections by Alternative

	Proposed Plan	*Alternative A*	*Alternative B*	*No Project*
Future Population	34,950	35,460	34,430	34,160
Future Jobs	8,520	8,900	9,050	6,520
Residential Emissions	39,815	40,396	39,223	38,915
Non-Residential Emissions	108,800	113,652	115,568	83,260
Transportation Emissions	111,900	111,900	113,078	102,477
Total	260,515	265,948	267,868	224,652
Per Service Population	5.99	6.00	6.16	5.52

Source: Dyett & Bhatia, 2010.

HYDROLOGY AND FLOODING

Urban development can bring about an increase in impervious surfaces that could lead to increased run-off rates and flooding in downstream areas. The proposed General Plan and alternatives focus new development in currently built-up areas to limit impacts to hydrology and flooding. Additionally, they include policies that would minimize surface water run-off and reduce flooding hazards, such as requiring new development within a floodplain to submit studies and comply with the City's Floodplain Management and Flood Damage Prevention Ordinance. Consequently, impacts to hydrological resources and flooding are expected to be minimal.

Alternative A will result in a higher level of development than the proposed General Plan—resulting in greater construction activities. Construction activities may cause temporary impacts to the region's hydrology due to earth movement. Nevertheless, the overall impact is not significant, as the majority of new developments are planned at infill sites along the main transportation corridors outside flood prone areas. No natural areas in San Pablo will be converted to urban use.

Alternative B will result in a similar level of development to the proposed General Plan—resulting in a similar level of construction activity. Construction activities may cause temporary impacts to the region's hydrology due to earth movement. Nevertheless, the overall impact is not significant, as the majority of new developments are planned outside flood prone areas. Like the proposed General Plan, no natural areas will be converted to urban use.

The No Project Alternative will result in the least amount of development—resulting in the least amount of impervious surfaces and lowest level of construction activity associated with development. However, flood prevention policies and mitigation measures in the proposed General Plan will not apply under this alternative. Consequently, the overall impact to hydrology and flooding will not be significantly less than any of the other alternatives.

BIOLOGICAL RESOURCES

The proposed General Plan and all alternatives would generate minimal impacts to biological resources in San Pablo since none of them would covert existing open space or natural areas into built land. In fact, they protect San Pablo's habitat by focusing development in currently built up areas and including policies that would help protect the city's vegetated upland, natural creeks, riparian corridors, and wetland.

Alternative A, like the proposed General Plan, limits urban development to infill sites along the main transportation corridors and busy intersections. No vegetated and natural areas will be converted into urban use. While there may be temporary impacts to biological resources when the City carry out one of the General Plan policies to 'daylight' San Pablo's creeks, the impacts as a result of construction work are temporary and will be ultimately beneficial. Overall, this alternative would have minimal impacts to biological resources.

Alternative B proposes development at locations similar to those under the proposed General Plan—infill sites along the main transportation corridors and intersections. Like the proposed General Plan, no vegetated and natural areas will be converted to urban use. Overall, implementation of Alternative B would have minimal impacts on biological resources.

Like the proposed General Plan, no development in the No Project Alternative would cause the loss of wildlife and plant habitats. As such, the impacts to biological resources are similarly minimal.

GEOLOGY, SOILS, AND SEISMICITY

San Pablo is located in one of the most seismically active regions in the United States. Consequently, when a large earthquake occurs close by, it is likely to affect everyone in the Planning Area, particularly those working or living in older housing.

Current State and federal regulations require specific engineering and design criteria to minimize impacts related to seismic and geologic hazards. These regulations include building limits on parcels located next to the Alquist-Priolo Earthquake Fault Zone and applies equally to development under the proposed General Plan and each of the alternatives.

As previously noted, Alternative A proposes development that is more intensive in terms of households and jobs and allows greater height limits along San Pablo Avenue than the proposed General Plan; consequently, it places a larger number of people and structures exposed to geologic and seismic hazards than the proposed General Plan.

Alternative B calls for development of an even height along San Pablo Avenue and proposes less housing units but more jobs than the proposed General Plan. For this reason, its exposure to potential geologic, soils, and seismic hazards is expected to be similar to the proposed General Plan.

The No Project Alternative proposes development that is smaller in scope to those anticipated under the proposed General Plan. Therefore, compared to the proposed General Plan, this alternative would result in the least potential exposure to geologic and seismic hazards.

PUBLIC SERVICES, FACILITIES, AND UTILITIES

The comparison of impacts on public services, facilities, and utilities is based on the degree of increased demand on public school, water supply, wastewater treatment, solid waste, and public safety and emergency services. The proposed General Plan, the two "build" alternatives, as well as the No Project Alternative are evaluated based on their relative impact on these areas. With the least new population added and the least new demand for public services and utilities generated, the No Project Alternative is the environmentally superior alternative. However, policies in the proposed General Plan and both Alternative A and B would ensure that new development contributes its fair share towards public service improvements needed to accommodate increased demand. Therefore, the differences among alternatives would not be substantive with respect to their impacts on public services, facilities, and utilities.

Public Safety and Emergency Services

Full buildout of either the proposed General Plan or one of the alternatives will cause an increase in the manpower, equipment, and facility needs of the San Pablo Police Department in tandem with population increase. **Table 4.3-6** shows the anticipated demand for police officers and facilities at buildout for each alternative. The need for new officers would be based upon maintaining the current ratio of 1.6 officers per 1,000 residents, while the need for new space is based upon the assumption that 200 square feet is required for each

additional police officer. In the case of fire protection service, since no alternative would build outside of San Pablo's city limits, their land use differences have little to no effect on CCCFPD's response times. Consequently, no new fire stations are needed.

Table 4.3-6 Demand for Police Facilities at Buildout by Alternative

Alternative	*New Residents*	*Additional Police Needed*	*Additional Square Footage Projected for Police Facilities (square feet)*
Proposed Plan	2,750	3	600
Alternative A	3,260	5	1,000
Alternative B	2,230	4	800
No Project	1,960	3	600

Source: Dyett & Bhatia, 2010.

Alternative A, with more housing units and residents than the proposed General Plan, will place a greater demand on police services. A total of 5 additional officers and 1,000 square feet of space will be required. All new growth in this alternative would be within the 1.5 mile response radii of an existing fire station. Growth management policies under the proposed General Plan would ensure that growth demands would remain less than significant.

Alternative B will require in less population growth than the proposed General Plan. This alternative would require an additional 4 new police officers and 800 square feet of space to maintain the City's current ratio of 1.6 police officers per 1,000 residents. All new growth in this alternative would be within the 1.5 mile response radii of an existing fire station. Growth management policies under the proposed General Plan would ensure that growth demands would remain less than significant.

The No Project Alternative has a smaller population compared with the proposed General Plan. Therefore, the demand on public safety resources is less compared to the proposed General Plan. Similar to the other alternatives, all new growth would be within the 1.5 mile response radii of an existing fire station.

Schools

All of the alternatives, including the No Project Alternatives, will increase the student population in 2030. However, none of them will require the development of new schools. The West Contra Costa Unified School District would continue to operate their schools below capacity, as shown in **Table 4.3-7**.

The number of new students is projected based on 'student generation factors' by residential type provided by the school district. All existing schools with attendance areas in the city are included in the analysis. Current enrollment and capacity is based upon the 2008-2009 enrollment figures.

Alternative A will result in a projected new enrollment of approximately 403 new students, or about 59 more students than the proposed General Plan. Under this alternative, all elementary, middle and high schools will continue to operate below capacity. No new schools are needed.

Alternative B generates less new households than the proposed General Plan, resulting in less new students and demand on existing school facilities. This alternative would add approximately 282 new students, or about 62 fewer students than the proposed General Plan. All elementary, middle and high schools will continue to operate below capacity. No new schools are needed.

The No Project Alternative will generate the least number of new students among the alternatives. This alternative would add 250 new students and would have the least potential impact on existing school facilities. No new schools are needed.

Table 4.3-7 Demand for Public Schools at Buildout by Alternative

Alternative	*New Students*[1]	*Total Students at Buildout*	*Percent Increase*	*Students Below Existing Capacity*
Proposed Plan	344	6,724	5.4%	836
Alternative A	403	6,783	6.3%	777
Alternative B	282	6,662	4.4%	898
No Project	250	6,630	3.9%	930

[1]Assumes 0.21 elementary school, 0.06 middle school, and 0.15 high school students per single-family household, and 0.18 elementary school, 0.08 middle school, and 0.09 high school students per multifamily household.

Source: Dyett & Bhatia, 2010.

Water Supply

Water usage would increase under the proposed General Plan and all the alternatives in direct proportion to population growth. **Table 4.3-8** compares the average daily demand and percentage increase from existing water demand for each case. According to EBMUD's 2005 Urban Water Management Plan, EBMUD would be able to meet the needs of its service area under normal non-drought conditions. However, because its water supply is dependent upon seasonal rainfall and collected snowpack in the Sierra Nevada watershed, EBMUD may have to implement water use reductions during droughts. Since San Pablo's population is only 2.3 percent of EBMUD's entire service area population, the differences in water demand in San Pablo due to the alternatives is inconsequential when compared to fluctuations in supply due to climate conditions. Nevertheless, the proposed General Plan includes a series of water conservation policies aimed at reducing water use in San Pablo.

Alternative A, with a higher population projected at buildout compared to the proposed General Plan, would result in an estimated water demand of 5.1 mgd or represent a 7.6 percent increase in water usage from existing conditions.

Alternative B would result in a demand of 5.0 mgd or represent a 4.5 percent increase in water usage from existing conditions.

The No Project Alternative would result in a significantly smaller population at buildout compared to the proposed General Plan. However, unlike the proposed General Plan and Alternatives A and B, the No Project Alternative will not have the benefit of new policies promoting water conservation. Therefore, the overall result may be a mix. While this alternative will reduce water demand by virtue of it having a lower population, it may not conserve as much water compared to the other alternatives.

Table 4.3-8 Water Demand at Buildout by Alternative

Alternative	*Buildout Population*	*Average Day Demand (mgd)*	*Percent Increase from Existing Demand*
Proposed Plan	34,950	5.1	6.1%
Alternative A	35,460	5.1	7.6%
Alternative B	34,430	5.0	4.5%
No Project	34,160	5.0	3.7%

Source: Dyett & Bhatia, 2010.

Solid Waste

All of the alternatives, including the No Project Alternative, will generate solid waste in San Pablo. Assuming the annual per capita disposal rates in West Contra Costa Integrated Waste Management Authority for residential and employment remains the same in 2030 as they were in 2008, the additional solid waste generated under each alternative can be calculated. **Table 4.3-9** compares the additional pounds of solid waste generated per day.

Alternative A will result in more housing and more jobs than the proposed General Plan. Accordingly, this alternative places more demand on solid waste services than the proposed General Plan. The overall amount of additional solid waste generated per day is 65,040 pounds, or about 16 percent more than the proposed General Plan.

Alternative B will result in slightly less housing and slightly more jobs than the proposed General Plan, thus placing less demand on facilities from residential development but more from non-residential development. The overall amount of additional solid waste generated per day is 63,050 pounds, or about 12 percent more than the proposed General Plan.

The No Project Alternative will result in the least amount of population and jobs among all alternatives, therefore, it would produce the least amount of additional solid waste. The overall amount of additional solid waste generated per day is 19,100 pounds, or about 66 less than the proposed General Plan.

Table 4.3-9 Solid Waste Generation at Buildout by Alternative

Alternative	New Residents	Additional Waste from Residential Development (pounds per day)	New Jobs	Additional Waste from Job Development (pounds per day)	Total Waste (pounds per day)
Proposed Plan	2,750	12,100	2,620	44,280	56,380
Alternative A	3,260	14,340	3,000	50,700	65,040
Alternative B	2,230	9,810	3,150	53,240	63,050
No Project	1,960	8,620	620	10,480	19,100

Source: Dyett & Bhatia, 2010.

Parks

There are currently approximately 22.0 acres of parkland in San Pablo. With a population of 32,200 in 2010, the city has a park ratio of 0.7 acres per thousand residents. This is lower than the city's goal providing 3.0 acres per thousand residents.

Table 4.3-10 Total Parkland at Buildout by Alternative

Alternative	New Residents	New Parkland (acres)	Park Ratio (acres per thousand residents)	Population at Buildout	Total Parkland (acres)	Overall Park Ratio (acres per thousand residents)
Proposed Plan	2,750	24.4	8.9	34,950	46.4	1.3
Alternative A	3,260	20.3	6.2	35,460	42.4	1.2
Alternative B	2,230	19.6	8.8	34,430	41.7	1.2
No Project	1,960	-	-	34,160	22.0	0.6

Source; Dyett & Bhatia, 2010.

Alternative A would result in the largest population among all four options (**Table 4.3-10**). Compared to the proposed General Plan, there are fewer proposed neighborhood parks. At buildout, this alternative would produce a total of 42.4 acres of parkland or a park ratio of 1.2 acres per thousand residents. This ratio is slightly lower than that obtained under the proposed General Plan.

Alternative B would result in a lower population than the proposed General Plan. It would also create less parks than the proposed General Plan. At buildout, this alternative would produce a total of 41.7 acres of parkland or a park ratio of 1.2 acres per thousand residents. This ratio is similar to that obtained under the proposed General Plan.

The No Project Alternative would result in the lowest population of all. At the same time, it will not create any new parks. At buildout, this alternative would produce a total of 22.0 acres of parkland or a park ratio of 0.6 acres per thousand residents. This ratio is the lowest among all four alternatives.

Open Space

All four alternatives would retain existing land designated as open space totaling 10.8 acres in the 1996 General Plan. Since there are no differences across the alternatives and all open space are preserved, this impact is not evaluated any further.

Wastewater Treatment

West County Wastewater District (WWCD) has indicated that development envisioned by the proposed General Plan will not cause any capacity issues at the treatment plant. However, future development will require new infrastructure in the form of larger pipes to replace the existing clay pipes, which are on average, 40 to 60 years old. Pipe replacements and upgrades are part of the District's Capital Improvement Plan, and the pipes are scheduled to be replaced in phases, regardless of which alternative is implemented by the City. The comparison of impacts by alternatives is shown in **Table 4.3-11**.

Alternative A would generate more households and jobs than anticipated under the proposed General Plan. It would have an estimated wastewater flow of 2.6 mgd, representing an 11.8 percent increase over existing levels.

Alternative B would generate less households but more jobs than anticipated under the proposed General Plan. The net effect of that is an estimated wastewater flow of 2.5 mgd, slightly less than the proposed General Plan.

The No Project Alternative would generate an estimated wastewater flow of 2.5 mgd and place the smallest demand on wastewater treatment facilities.

Table 4.3-11 Wastewater Treatment at Buildout by Alternative

Alternative	*Buildout Population*	*Estimated Wastewater Demand (mgd)*	*Percent Increase from Existing Demand*
Proposed Plan	34,950	2.5	10.2%
Alternative A	35,460	2.6	11.8%
Alternative B	34,430	2.5	8.5%
No Project	34,160	2.5	7.7%

1 mgd = million gallons per day

Source: Dyett & Bhatia, 2010.

NOISE

The comparison of noise impacts under the alternatives is based on traffic modeling projections since streets and highways are the primary generators of noise in San Pablo. Railway noise on tracks west of San Pablo's Planning Area and emergency helicopter usage by Doctors Medical Center would not differ among the alternatives. Noise levels will be highest at intersections with high traffic volumes, and alternatives with lower levels of development or development located further from noise corridors would provide the least exposure to high

noise levels. **Table 4.3-2** compares the population and vehicle trips for the proposed General Plan and alternatives.

Under Alternative A, the projected number of trips and vehicle miles travelled is 950,000, which is the same as those generated by the proposed General Plan. Citywide noise levels associated with this alternative are likely to be same. Furthermore, because this alternative proposes mixed use developments along major travel corridors with residential living areas above ground level like those in the proposed General Plan, the noise exposure to residents would not be noticeably different from the proposed General Plan.

Under Alternative B, the projected number of trips and vehicle miles travelled is 960,000, which is about 1 percent higher than those generated by the proposed General Plan. As in Alternative A's case, the differences are statistically insignificant and probably would not be discernable to the naked ear.

The No Project Alternative would not have as much development as the other alternatives, and the projected vehicle miles travelled would decrease by 13 percent compared to the proposed General Plan. This would mean the least exposure to excessive noise levels of all the alternatives. However, since the No Project Alternative does not benefit from the enhanced proposed General Plan policies concerning noise mitigation, the relative impact of noise generated at buildout may be similar to the other alternatives.

HAZARDOUS MATERIALS

Generally, impacts associated with hazardous materials are determined by the amount and type of job growth. For example, factory-related jobs are more likely to create hazardous materials than office or retail jobs, which in turn create more hazardous materials than residential homes. Additionally, the demolition of older buildings for redevelopment can expose people and the environment to hazardous materials, such as asbestos and lead-based paint in old buildings. Due to these reasons, the No Project Alternative is the environmentally superior alternative in terms of impacts associated with hazardous materials, since it would create the least amount of jobs and involves no redevelopment of existing sites.

Alternative A would introduce more jobs and more households than the proposed General Plan. As such, it is expected to create more impacts associated with hazardous materials than the proposed General Plan.

Alternative B would introduce more jobs but less households than the proposed General Plan. Most of the additional jobs consist of 'mixed-use' type jobs which are office, retail, or service in nature. As such, it is expected to create more impacts associated with hazardous materials than the proposed General Plan, but less than Alternative A.

The No Project Alternative would have fewer households and jobs than the proposed General Plan. The smaller population and job increase would result in less construction and hazardous material use. The No Project Alternative is the environmentally superior alternative in this category.

CULTURAL RESOURCES

The comparison of impacts to cultural resources by alternatives is based on the degree and location of new development proposed within each alternative. Cultural resources include buildings of historical importance, registered historic sites and archaeological resources. In San Pablo, no historic resources or buildings are recorded on the National Register of Historic Places or the State register. However, there are 49 historic buildings listed in the Historic Property Directory by the Office of historic Preservation at Sonoma State University as bearing local historic importance.

As in the case of the proposed General Plan, most development in Alternative A would occur on vacant and underutilized sites along San Pablo Avenue and 23rd Street. Any site bearing a historic resource will be protected from development by proposed General Plan policies. Although the sites will be protected from development, views to and from sites located along San Pablo Avenue and 23rd Street may be blocked by new development. The impact is expected to be similar in degree to that under the proposed General Plan.

Alternative B would develop the same sites as those in Alternative A. No development could occur on any of the 49 sites with a historic building as they are protected by proposed General Plan policies. Like Alternative A, views to and from some of those sites located along San Pablo Avenue and 23rd Street may be blocked as a result of higher density development along those two corridors. As a result, the impact is expected to be similar to that of Alternative A and the proposed General Plan.

The No Project Alternative proposes development that is smaller in intensity than any of the prior alternatives and is expected to cause the least impact to cultural resources.

VISUAL QUALITY

Differences in visual impacts between the proposed General Plan and Alternatives A and B are minor and relate primarily to the intensity of development along San Pablo Avenue. Differences between the proposed General Plan and the No Project Alternative are substantial as the streetscape character will be different in each case.

Alternative A focuses on nodal-type developments at important infill sites along San Pablo Avenue and 23rd Street. Consequently, buildings at key locations will be taller, while those between them will be lower compared to those in the proposed General Plan. This also means that less of the background views to the horizon will be blocked along San Pablo Avenue and 23rd Street. In terms of streetscape, Alternative A will be visually similar to the proposed General Plan since the major uses proposed along the main transportation corridors are similar.

Alternative B promotes development of uniform density along San Pablo Avenue and 23rd Street. This means most buildings along those two transportation corridors will have a similar height of about two stories. Accordingly, the impact in terms of obstructing views towards the

horizon will be much greater than Alternative A and greater than the proposed General Plan. However, a major initiative of this alternative is to create a "green boulevard" along San Pablo Avenue. Streetscape improvements would help to ameliorate the loss of views to a level that is less than significant.

The No Project Alternative would result in less development overall than either the proposed General Plan or Alternatives A and B. It follows that this alternative will produce fewer view obstructions, fewer sources of light and glare, and less construction activity. However, without the benefit of new and updated policies in the proposed General Plan, the No Project Alternative will not have streetscape improvements or long-term protections for visual resources.

4.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines require the identification of an environmentally superior alternative among the alternatives analyzed in an EIR. The Guidelines also require that if the No Project Alternative is identified as the environmentally superior alternative, then another environmentally superior alternative must be identified.

Based on a comparison of the alternatives' overall environmental impacts and their compatibility with General Plan goals and objectives, Alternative B appears to be the environmentally superior alternative for this EIR. Although the No Project Alternative would create lower numbers of housing and jobs and consequently would result in fewer vehicles and place a lower demand on utility services, it would not enjoy the benefits of proposed General Plan environmental protection policies. More importantly, the No Project Alternative does not meet any of the proposed General Plan goals such as developing San Pablo's economy, creating a pedestrian and bicycle-friendly community, improving access to community facilities, and providing residents with more parks and open space.

Alternative B would result in lower population and more jobs than the proposed General Plan. Its impacts are expected to be similar to those in the proposed General Plan for most of the environmental impact categories analyzed in this EIR— land use, hydrology and flooding, biology, geology and seismicity, cultural resources, air quality, and visual resources. However, the lesser population produced by Alternative B means it would produce lower impacts in relation to population-related externalities such as police and fire services, schools, and demand for water supply and wastewater services. Because it has more jobs than the proposed General Plan, it would have higher job-related impacts such as generating more solid waste, transportation (miles travelled), higher energy needs, green house gases emissions, noise, and hazardous materials.

However, there are tradeoffs associated with Alternative B. Its development would not meet the city's long term objectives in relation to the mix of land uses. The proposed General Plan has double the acreage of mixed-use developments which can create a livelier city that allows residents and visitors to easily traverse between residential, commercial, and office uses. The urban form created under the proposed General Plan is also potentially more pleasing, with higher density developments at important junctions and lower density developments

elsewhere. These are the reasons why Alternative B was not selected for the project even though it is environmentally superior to the proposed General Plan.

This page intentionally left blank

5. CEQA Required Conclusions

This section presents a summary of the impacts of the proposed San Pablo General Plan in several subject areas specifically required by CEQA, including significant irreversible environmental changes, significant unavoidable impacts, growth-inducing impacts, cumulative impacts, and impacts found not to be significant. These findings are based on the analysis provided in Chapter 3: Settings, Impacts, and Mitigation Measures.

5.1 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines require the EIR to consider whether "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" (CEQA Guidelines Section 15126.2(c)). "Nonrenewable resource" refers to the physical features of the natural environment, such as land, waterways, etc. Irretrievable commitments of non-renewable resources associated with the proposed San Pablo General Plan include:

WATER CONSUMPTION

New development under the proposed General Plan will increase the demand for public water. It would place a greater demand on East Bay Municipal Utilities District (EBMUD), which derives its water source from seasonal rainfall and collected snowpack in the Sierra Nevada watershed, to increase its water capacity. This increased demand for public water represents an irreversible environmental change.

ENERGY SOURCES

New development under the proposed General Plan would result in increased energy use, in the form of new buildings and transportation. Both residential and nonresidential development use electricity, natural gas, and petroleum products for power, lighting, heating, and other indoor and outdoor services, while cars use both oil and gas. Use of these types of energy for new development would result in the overall increased use of nonrenewable energy resources. This represents an irreversible environmental change.

CONSTRUCTION-RELATED IMPACTS

Irreversible environmental changes could also occur during the course of constructing development projects made possible by the proposed General Plan. New construction would result in the consumption of building materials, such as lumber, sand and gravel for construction. Some of these resources are already being depleted worldwide.

5.2 SIGNIFICANT UNAVOIDABLE IMPACTS

Significant unavoidable impacts are those that cannot be mitigated to a level that is less than significant. According to CEQA Guidelines 15126(b), an EIR must discuss any significant

environmental impacts that cannot be avoided under full implementation of the proposed program. Chapter 3 identified the following significant unavoidable impacts when comparing the proposed Plan to existing conditions:

TRANSPORTATION

Implementation of the proposed San Pablo General Plan, in conjunction with anticipated regional growth and development, could cause conflicts with existing MTSOs for Routes of Regional Significance presented in the West County Action Plan. In particular, intersections on Routes of Regional Significance may operate below the acceptable MTSO standard during one or both peak hours. According to the I-80/San Pablo Dam Road Interchange Project IS/EA, the San Pablo Avenue/San Pablo Dam Road intersection would operate at LOS F in the future with no project, as well as with Caltrans' proposed reconfiguration of the interchanges. This means that while the Caltrans interchange reconfigurations may improve traffic flow overall, those improvements do not substantively change performance of this intersection under future local and regional growth conditions. The cumulative impact at this intersection of regional growth, Caltrans efforts, and the proposed General Plan is therefore considered potentially significant.

The proposed Plan offers a policy to convert the southbound through lane on San Pablo Avenue to a left-or-through lane to provide a total of one left-turn-only lane, one left-or-through lane and one through-or-right lane; and modifying the traffic signal timing to allow "split phases" for the northbound and southbound movements. The current modeling suggests that implementation of this policy would allow the intersection to operate at LOS B with a v/c of 0.68 in the AM peak hour and LOS E with a v/c of 0.95 in the PM peak hour.

Despite the potential benefits of the lane designations and signal timing improvements, there is still too much uncertainty around the impacts of the Caltrans ramps improvements on traffic flow into this intersection. Without more data on changes in actual traffic flow between I-80 and the intersection of San Pablo Avenue and San Pablo Dam Road, the signal timing and/or lane designation changes necessary to improve future performance, and their effectiveness, remain uncertain. Therefore, even with implementation of this proposed policy, this analysis still finds a significant and unavoidable cumulative impact on traffic LOS at this intersection. However, the project's contribution to this significant cumulative effect is found to be less than considerable with the proposed mitigation reducing CCTA-based modeled LOS within an acceptable range for the during of the planning period (to 2030).

AIR QUALITY

Implementation of the proposed San Pablo General Plan could result in an increase in VMT at a rate that would exceed the rate of population increase within the City. The proposed General Plan includes many of the measures identified by the BAAQMD as applicable to reduce air quality impacts of general plans. Unfortunately, transportation modeling is still unable to account for the positive influence of these policy and land use design choices. Based strictly on the transportation modeling conducted for the proposed Project in accordance with BAAQMD CEQA Guidelines, vehicle travel is forecast to increase at a faster rate than population, and therefore this impact would be considered significant and unavoidable.

The proposed General Plan is being offered despite these significant impacts because the City is in need of an updated land use plan that can thoughtfully and creatively accommodate projected population growth, as well as provide for jobs and economic development over the next 20 years. The current General Plan is no longer practical for San Pablo because stronger growth management is necessary and the current Plan neither provides for a balance of jobs and housing nor offers adequate, concrete policies to promote walkability, bikability, and minimize the impacts of growth. The proposed General Plan is consistent with MTC's and ABAG's transit oriented development goals in which urban development is directed toward existing urban infill sites near transit corridors in order to avoid the loss of open space. The proposed General Plan overall seeks to achieve this goal through growth management tools and policies that give high priority to density, connectivity, jobs-housing balance, and preserving open space and ecological areas. The significant impacts related to the proposed General Plan would not be considerably different under any other likely growth scenario for San Pablo that accommodates planned approved residential and non-residential development proposed for the city. Moreover, as noted in Chapter 3.3, emissions of several criteria pollutants are expected to decrease by 2030 even with population growth and increased VMT because of fuel efficiency standards. This suggests that the plan will actually create only a minimal contribution to the overall regional cumulative impacts of criteria air pollutant emissions.

5.3 GROWTH-INDUCING IMPACTS

The EIR must examine the potential growth-inducing impacts of the proposed General Plan. More specifically, CEQA Guidelines require that the EIR "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly" (CEQA Guidelines Section15126.2(d)). This analysis must also consider the removal of obstacles to population growth, such as improvements in the regional transportation system.

PROJECTED GROWTH

The Planning Area will accommodate a population of approximately 34,950 people at buildout, an increase of about 8.5 percent over the 2010 estimated population of 32,200.[1] This represents an average annual growth rate of just 0.4 percent, which is lower than the rate of 1.2 percent experienced in the city over the last 20 years.

The Planning Area is located in an area that is fully urban and is served by existing roadways, utility infrastructure, and service systems. The East Bay Municipal Utility District and West County Wastewater District provide water service and sanitary sewer service to the city, respectively. The amount of water consumed and wastewater generated by the additional population is minimal and would not require or result in the construction of new treatment facilities or the expansion of existing facilities. Solid waste generated by the future residents is disposed of through the West Contra Costa County Integrated Waste Management Authority at the Keller Canyon Landfill and the Potrero Hills Landfill. Both landfills have sufficient permitted

[1] ABAG Estimates and Projections, 2009.

capacity and development under the proposed General Plan would not require expansion of these landfills. Public services (i.e., police, fire protection, schools, and parks and recreation) to the Planning Area are currently provided by the City of San Pablo Police Department, the Contra Costa County Fire Protection District, the West Contra Costa County Unified School District, and the City of San Pablo Parks and Recreation Division, respectively. Development under the proposed General Plan would be in compliance with all applicable codes for fire safety and emergency access. Additional school age children by the way of new households in the proposed General Plan would not exceed existing school capacity and require the construction of new schools. Increased demand for public services and facilities, such as police, transportation improvements or park facilities, will be financed by developer contributions in proportion to the demand generated by project occupants and users. Therefore, the proposed project would not tax the existing community services facilities, create an unfair burden on existing users, or require the construction of new public facilities that would cause significant environmental effects.

In Contra Costa County, all cities are participating in CCTA's growth management program are required to adopt growth management elements in their General Plans. These growth management elements must include goals and policies for managing growth and requirements for achieving these goals in order to be approved by CCTA. This countywide planning and regulatory framework overrides any growth-inducing effect that may be attributable to San Pablo's General Plan. As a consequence, the physical growth inducing effects of the proposed General Plan on other jurisdictions are likely to be minimal.

Indirect growth-inducing impacts such as those associated with job increases that might affect housing and retail demand in other jurisdictions over an extended time period are difficult to assess with precision, since future economic trends may be influenced by unforeseeable events, such as natural disasters and business and development cycles. Moreover, long-term changes in economic and population growth are often regional in scope; they are not influenced solely by changes or policies in San Pablo.

INCREASE IN REGIONAL HOUSING DEMAND

As the employment base in the San Francisco Bay Area continues to increase, more people may be drawn to live in the City of San Pablo even though they may work in other cities. As a result, housing demand may increase in San Pablo and other adjacent areas. The City's Housing Element includes programs to address regional housing needs in the near term, and subsequent revisions will extend, modify, or add to these programs as needed to continue to respond to the City's "fair share" of regional housing needs, as required by law.

JOBS/EMPLOYMENT BALANCE

A city's jobs/employment ratio (jobs to employed residents) would be 1:1 if the number of jobs in the city equaled the number of employed residents. In theory, such a balance would eliminate the need for commuting. More realistically, a balance means that in-commuting and out-commuting are matched, leading to efficient use of the transportation system, particularly during peak hours. The current jobs/employment ratio in San Pablo is 0.46, which means most working adults travel out of the city to work. The proposed General Plan will add more jobs than population. By 2030,

the jobs/employment ratio should improve to 0.51, with the potential for reducing commuting for work and ameliorating peak hour traffic congestion.

5.4 CUMULATIVE IMPACTS

CEQA requires that the EIR examine cumulative impacts. As discussed in CEQA Guidelines Section 15130(a)(1), a cumulative impact "consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." Furthermore, the analysis of cumulative impacts need not provide the level of detail required of the analysis of impacts from the project itself, but shall "reflect the severity of the impacts and their likelihood of occurrence" (CEQA Guidelines Section15130(b)). In order to assess cumulative impacts, the EIR must analyze either a list of past, present, and probable future projects or a summary of projections contained in an adopted general plan or related planning document. In conducting the analysis for this EIR, ABAG population and employment projections for the City of San Pablo and the adjacent unincorporated areas were reviewed.

CUMULATIVE ANALYSIS PROVIDED IN CHAPTER 3

It is important to note that several analyses presented in Chapter 3 represent cumulative analyses of issues over the General Plan time horizon to 2030 because they combine the anticipated effects of the proposed General Plan with anticipated effects of regional growth and development. Issue areas for which Chapter 3 analyses are specifically cumulative include transportation, air quality, energy and greenhouse gases, and noise, because the project-specific effects cannot reasonably be differentiated from the broader effects of regional growth and development. The cumulative conclusions are summarized there, and where applicable, significant unavoidable impacts listed in Section 5.2.

OTHER CUMULATIVE IMPACTS

For some issue areas evaluated as direct impacts in Chapter 3, concurrent implementation of the proposed General Plan, along with regional growth and development, may result in cumulative impacts such as:

- ***Cumulative Changes to Land Use Character.*** Land use changes that would alter the scale, density, and character of urban areas and neighborhoods could change the visual character of many areas in the region, especially where development would occur on visually prominent hillsides or in existing rural or open space lands. However, due to the built-out nature of San Pablo, the lack of undeveloped hillsides in the Planning Area, and the attention to preserving existing residential neighborhoods through policies and land use design, the proposed General Plan's contribution to this potentially significant cumulative impact is not cumulatively considerable.

- ***Cumulative Effects on Water Quality.*** The proposed Project, in combination with regional growth and development, could increase impervious surfaces resulting in a greater chance of flood and potential impacts to water quality. However, due to the built-out nature of the Planning Area, and the extensive Plan policies designed to improve stormwater management

and reduce stormwater pollution, the proposed Project's contribution to this potentially significant cumulative impact is not cumulatively considerable.

- ***Cumulative Effects on Birds and Animals.*** Increased noise, light, and habitat disturbance resulting from urban development both within the Planning Area as well as in adjacent communities could adversely affect biological resources such as migratory birds and other wildlife species. However, with applicable policies in place as described in the direct impact analysis in Chapter 3, the project's contribution to this potentially significant cumulative impact is not cumulatively considerable.

- ***Cumulative Increases in Hazardous Materials.*** The increase in local population and employment could result in the increased use of hazardous household, commercial, and industrial materials, as well as a cumulative increase in exposure to risk associated with accidental release of hazardous materials into the environment. However, City, State, and federal regulations, such as those that control the production, use, and transportation of hazardous materials would apply to development countywide; therefore, the project's contribution to this potential cumulative impact is not cumulatively considerable.

- ***Cumulative Effects on Historical Resources.*** Because the accommodation of future growth also constitutes a likelihood that future development will encounter challenges associated with known and unknown historic resources, there is the possibility of cumulative impacts to historical resources in the future in the context of regional growth and development. The City of San Pablo cannot be sure that all cumulative impacts on such historical resources can be mitigated to less than significant levels. Consequently, the proposed General Plan has the potential to contribute to cumulative impacts to these historic resources. However, with implementation of proposed General Plan policies and state and federal law, the proposed Project's contribution to this significant cumulative impact is not cumulatively considerable.

These types of impacts are not limited to the planning area but are characteristic of any area that is experiencing population and employment growth.

5.5 IMPACTS FOUND NOT TO BE SIGNIFICANT

CEQA requires that an EIR provide a brief statement indicating why various possible significant impacts were determined to be not significant. Chapter 3 of this EIR discusses all potential impacts, regardless of their magnitude. A similar level of analysis is provided for impacts found to be less than significant as impacts found to be significant. Significance of an impact is assessed in relation to the significance criteria provided in each section in Chapter 3. A summary of all impacts is provided in the Executive Summary of this EIR.

6. Bibliography

LAND USE

Association of Bay Area Governments (ABAG), *Projections 2009*, CA 2010.

City of Richmond, *Richmond General Plan –Goals, Policies, Guidelines, Standards, and Implementing Programs*, Adopted 1992.

City of Richmond, *Richmond General Plan Revised Draft,* December 2009.

City of San Pablo, *23rd Street Specific Plan*, 2007.

City of San Pablo, *Growth Management Elemen*t, 1992.

City of San Pablo, *San Pablo General Plan*, 1996.

City of San Pablo Municipal Code, Zoning Ordinance. Available online at: <http://library.municode.com/index.aspx?clientId=16609&stateId=5&stateName=California/> Accessed on September 2, 2010.

Contra Costa County, *Contra Costa County General Plan 2005-2020*, Adopted January 18, 2005.

TRANSPORTATION

Caltrans, "Traffic Operations Program: 2008 AADT counts for I-80 between El Portal and San Pablo Dam Road". Available online at <http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2008all/r071-80i.htm>.

Contra Costa Transportation Authority and West Contra Costa Transportation Advisory Committee, *2009 West County Action Plan Update*, July 31, 2009.

Transportation Research Board, *Highway Capacity Manual* 2000.

AC Transit, *Designing with Transit – Making Transit Integral to East Bay Communities*, 2004.

AIR QUALITY

Bay Area Air Quality Management District (BAAQMD), *Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations*, September 2006.

BAAQMD, "Air Quality in the Bay Area" website, 2009 <http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-

Bay-Area/Bay-Area-Climatology/Subregions/Northern-Alameda--Western-Contra-Costa-Counties-Region.aspx> and <http://hank.baaqmd.gov/dst/papers/bay_area_climate.pdf>

BAAQMD, "Air Quality Standards and Attainment Status," 2010a. Available on the internet at: <http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm.> Accessed on August 25, 2010.

BAAQMD, *Draft Bay Area 2010 Clean Air Plan*, March 2010. Available on the internet at: <http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx.> Accessed on August 29, 2010.

BAAQMD, *CEQA Air Quality Guidelines*, June 2010. Available on the internet at: <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx.> Accessed on August 29, 2010.

BAAQMD, *Stationary Source Risk and Hazard Analysis Tool for Contra Costa Permitted Sources*. KML file, 2010d. Available on the internet at: <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>

BAAQMD, undated. "Particulate Matter" webpage, at <http://www.baaqmd.gov/Divisions/Planning-and-Research/Particulate-Matter.aspx> Accessed on August 29, 2010.

California Air Resources Board (CARB), *Air Quality and Land Use Handbook: A Community Health Perspective*, April, 2005. Available at: <http://arb.ca.gov/ch/landuse.htm.> Accessed on August 29, 2010

CARB, *The California Almanac of Emissions and Air Quality*, Appendix A County Level Air Emissions and Air Quality by Air Basin, March 27, 2009 Available on the internet: <http://www.arb.ca.gov/aqd/almanac/almanac09/pdf/appa09.pdf.> Accessed on August 27, 2010.

ENERGY & GREENHOUSE GASES

Bay Area Air Quality Management District, *Source Inventory of Bay Area Greenhouse Gas Emissions*, February 2010.

California Air Pollution Control Officers Association, "CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act", January 2008.

California Air Resources Board (CARB), "Technical Support Document for Staff Proposal Regarding Reduction of Greenhouse Gas Emissions from Motor Vehicles", July 2004.

CARB, "Comparison of Greenhouse Gas Reductions for the United States and Canada Under ARB GHG Regulations and Proposed Federal 2011-2015 Model Year Fuel Economy Standards", Addendum to February 25 Technical Assessment, 2008.

CARB, "Draft Regional Greenhouse Gas Emission Reduction Targets For Automobiles and Light Trucks Pursuant to Senate Bill 375", June 30, 2010.

California Building Standards Commission, *Draft 2010 California Green Building Standards Code*, http://www.bsc.ca.gov/CALGreen/default.htm

California Climate Action Registry, *General Reporting Protocol Version 3.1*, January 2009.

California Climate Action Team, "Report to Governor Schwarzenegger and the California Legislature", April 2006.

California Energy Commission (CEC) and CARB, "Reducing California's Petroleum Dependence, final adopted Joint Agency AB 2076 Report", publication # 600-03-006F, August 2003.

CEC website, U.S. Gasoline Per Capita Use by State. <http://www.energy.ca.gov/gasoline/statistics/gasoline_per_capita.html> Accessed on March 2008.

CEC, "Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004", Staff Final Report, December 2006.

CEC, *Energy Action Plan: 2008 Update*. California Public Utilities Commission, 2008. Available online at: <http://www.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF> Accessed on October 2008.

CEC, 2009. Integrated Energy Policy Report, Final Commission Report, December 2009, CEC 100 2009 003 CMF.

CEC, 2010. California Energy Almanac, available at http://www.energyalmanac.ca.gov/overview/energy_sources.html, and http://energyalmanac.ca.gov/naturalgas/index.html, and other sub-links, accessed February 2010.

California Natural Resources Agency, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, December 2009; http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

Caltrans, *Estimates of Highway Gasoline Use by County*, Office of Transportation Economics, Division of Transportation Planning, 2005.

Caltrans, *California Motor Vehicle Stock, Travel and Fuel Forecast*, 2006

Columbia Law School Center for Climate Change Law, Climate Regulations Tracking Service website, <http://www.law.columbia.edu/centers/climatechange/resources/epa> Accessed on April 2010.

Contra Costa County Greenhouse Gas Emissions Inventory Report, June 2008.

Energy Information Administration (EIA), State Energy Data Systems website, Table S3. Energy Consumption Estimates by Source, and Table S7. Transportation Sector Energy Consumption Estimates. Available online at <http://www.eia.doe.gov/emeu/states/hf.jsp?incfile=sep_sum/plain_html/sum_btu_tot.html> Accessed on May 2010.

EIA, *Annual Energy Review, 2008*. U.S. Department of Energy, June 2009.

EIA, State Energy Profiles, available online at <http://tonto.eia.doe.gov/state/index.cfm> Accessed on May 2010.

Joint Policy Committee, "Bay Area Regional Agency Climate Protection Program: Consolidated Policy Recommendations", 2007.

Intergovernmental Panel on Climate Change (IPCC). "Summary for Policymakers". In: *Climate Change 2007: Synthesis Report. Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, November 2007(a).

IPCC, *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change* [Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.)]. Cambridge University Press, Cambridge, United Kingdom, 2007(b).

Mirant, Pittsburg Generating Plant website, <http://www.mirant.com/ourbusiness/wherewework/California/Pages/Pittsburg.aspx.> Accessed on April 2010.

Metropolitan Transportation Commission, Transportation 2035 Environmental Impact Report, Certified April 2009.

San Francisco Bay Conservation and Development Commission (BCDC), "Staff Report on the Commission's Climate Change Planning Project", 2006. Available online at: <http://www.bcdc.ca.gov/index.php?title=summary_report_to_commission&more=1&c=1&tb=1&pb=1> Accessed on June 5, 2008a.

BCDC, Climate Change Planning website, <http://www.bcdc.ca.gov/index.php?cat=56> Accessed on June 5, 2008b.

BCDC, *Living with a Rising Bay: Climate Change Impacts on San Francisco Bay and Adaptation Strategies*. Draft. Fall 2008c.

Schremp, G., A. Bahreinian, and M. Weng-Gutierrez, "Transportation Energy Forecasts and Analyses for the 2009 Integrated Energy Policy Report", California Energy Commission, 2010.

Schwarzenegger, Arnold, "Letter from the Governor to the Legislature, attachment: Review of Major Integrated Energy Policy Report Recommendations", August 2005.

U.S. Department of Energy, *Transportation Energy Data Book*, Edition 27, Table 2.12. Oak Ridge National Laboratory, 2008. Available online at: <http://cta.ornl.gov/data/download27.shtml>.

U.S. EPA, "Final Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards: Regulatory Impact Analysis", EPA-420-R-10-009, April 2010.

HYDROLOGY & FLOODING

ABAG, *Dam Inundation Areas*, 2009. Available online at: <http://gis.abag.ca.gov/Website/Floodplain/viewer.htm> Accessed on August 2010.

California Stormwater Quality Association, *California Stormwater Best Management Practice Handbook*, 2007.

Contra Costa Clean Water Program (CCCWP), *Contra Costa Creeks Inventory and Watershed Characterization Report*, March 31, 2004.

Department of Water Resources, C*alifornia's Groundwater, Bulletin 118, East Bay Plain Subbasin Groundwater Basin*, last updated February 27, 2004.

Federal Emergency Management Agency (FEMA), FEMA Map Service, Accessed on July 30, 2010.

IPCC, *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change* [Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.)]. Cambridge University Press, Cambridge, United Kingdom, 2007.

San Francisco Bay Conservation and Development Commission (BCDC), "Staff Report on the Commission's Climate Change Planning Project", 2006. Available online at: <http://www.bcdc.ca.gov/index.php?title=summary_report_to_commission&more=1&c=1&tb=1&pb=1> Accessed on June 5, 2008.

San Francisco Bay Regional Water Quality Control Board (RWQCB), *Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan),* 2007. Available online at: <http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml#2004basinplan>

State Water Resources Control Board (SWRCB), *Final 2006 CWA Section 303(d) List of Water Quality Limited Segments*, USEPA Approved 2007.

SWRCB, and California Coastal Commission (CCC), *California Management Measures For Polluted Runoff*, January 2000.

Western Regional Climate Center (WRCC), Richmond, California Climate Summary website, <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7414>. Accessed on December 4, 2009.

BIOLOGICAL RESOURCES

Beir, P., *Effects of Artificial Night Lighting on Terrestrial Mammals*, In: Rich, C. and Longcore, T., Ecological Consequences of Night Lighting, Island Press, Covelo, CA, 2006.

Brown, H., Caputo, S., McAdams, E.J., Fowle, M., Phillips, G., Dewitt, C., Gelb, Y., *Bird-safe Building Guidelines*, New York, 2007. Available online at: <http://nycaudubon.org> Accessed on April 8, 2010.

California Department of Fish and Game (CDFG), California Natural Diversity Database (CNDDB), data request for U.S. Geological Survey 7.5-minute topographic quadrangles: Richmond, Mare Island, San Quentin, Briones Valley, and Oakland West, <http://www.dfg.ca.gov/biogeodata/cnddb/>. Accessed on June 28, 2010.

California Natural Resources Agency, Environmental Resources Evaluation System, <http://ceres.ca.gov/>. Accessed on June, 2008.

California Native Plant Society (CNPS), CNPS Electronic Inventory data request for U.S. Geological Survey 7.5-minute topographic quadrangles: Richmond, Mare Island, San Quentin, Briones Valley, Benicia, and Oakland West, < http://www.cnps.org/> Accessed on June 25, 2010.

City of San Pablo, *City of San Pablo Municipal Code*, Adopted 1980 and updated November 16, 2009.

Contra Costa County, *Contra Costa County General Plan 2005 - 2020*, Conservation Element, Adopted January 18, 2005.

Contra Costa County, *Contra Costa County Municipal Code*, Adopted December 26, 1972, and updated May 18, 2010.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, *Classification of Wetlands and Deepwater Habitats of the United States*, US Fish and Wildlife Service, Office of Biological Services, Washington, D.C. Publ. No. FWS/OBS-79/31, 1979.

Gauthreaux, S.A., Belser, C.G., "Effects of Artificial Night Lighting on Migrating Birds" in: Rich, C. and Longcore, T., *Ecological Consequences of Night Lighting*, Island Press, Covelo, CA, 2006.

Hickman (editor), *The Jepson Manual of Higher Plants of California*, University of California Press, Berkeley, 1993.

Holland, V.L., California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Force.. <http://www.dfg.ca.gov/biogeodata/cwhr/pdfs/cow.pdf> Accessed on November 24, 2009.

Jameson, E.W. and J.H. Peeters, Mammals of California, Rev. ed., University of California Press, Berkeley, CA, 2004, [California Natural History Guides: 66].

Jameson, E.W. and Peeters, H.J., California Mammals, University of California Press, Berkeley, CA, 1988.

Leidy, R.A., "Ecology, Assemblage Structure, Distribution, and Status of Fishes in Streams Tributary to the San Francisco Estuary", San Francisco Estuary Institute, California, 2007.

Lochhead, C., Bird Species Plummet as Habitat Dwindles, [newspaper article], San Francisco Chronicle, Friday July 11, 2008.

Mayer, K.E. and W.F. Laudenslayer, Jr., *A Guide to Wildlife Habitats in California*. State of California, Resource Agency, Department of Fish and Game, Sacramento, 1988.

National Marine Fisheries Service (NMFS), *Designated Critical Habitat; Sacramento Winter-run Chinook Salmon*; Final Rule, Federal Register, Vol. 58, No. 114, June 16, 1993.

New York City Audubon Society, *Bird Safe Building Guidelines*, 2007.

NMFS, *Endangered and Threatened Species: Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California*; Final Rule, Federal Register, Vol. 70, No. 170, September 2, 2005.

Ogden, L.E., *Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds*, September 1996.

Pearson, Daniel C., *California Wildlife Habitat Relationships System*, California Department of Fish and Game, California Interagency Wildlife Task Force. Available online at: <http://www.dfg.ca.gov/biogeodata/cwhr/pdfs/EUC.pdf>. Accessed on November 24, 2009.

Peeters, H. and J. Peeters, *Raptors of California*, University of California Press, Berkeley, CA, 2005, [California Natural History Guides: 82].

Robbins, C.S., B. Bruun, and H.S. Zim, *Birds of North America: A Guide to Field Identification*, Golden Press, New York, 1966.

Sawyer, J.O. and T. Keeler-Wolf, *A Manual of California Vegetation*, California Native Plant Society, Sacramento, CA, 1995.

Sibley, D.A., *The Sibley Guide to Bird Life and Behavior*, Alfred A. Knopf, Inc., New York, 2001.

Sibley, D.A., *The Sibley Guide to Birds*, Alfred A. Knopf, Inc., New York, 2000.

Zeiner, D.C., W.F. Laudenslayer, K.E. Mayer, and M. White, *California's Wildlife*, Vols. I, II and III, California Statewide Wildlife Habitat Relationships System (Version 7.0), California Department of Fish and Game, Sacramento, CA, 1990. Available online at: <http://www.dfg.ca.gov/whdab/htm>.

GEOLOGY & SEISMICITY

ABAG. Earthquake Program Liquefaction Susceptibility Map, June 2009. Based on work by William Lettis & Associates, Inc., and USGS.

ABAG. Earthquake Shaking Hazards Map, 2003.

ABAG. *Taming Natural Disasters: The Multijurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area*, Update of 2005 Plan, Draft October 2009.

ABAG. *The San Francisco Bay Area — On Shaky Ground*, Supplement Report (Excerpts), 1998.

Bates, R.L. and Jackson, J.A., *Glossary of Geology*, 1977.

California Department of Conservation, Geological Survey (CGS) (formerly Division of Mines and Geology), *Guidelines for Evaluating and Mitigating Seismic Hazards*, CDMG Special Publication 117, 1997.

CGS, *Background Information on the ShakeMaps*, 2003. Available on the internet at: <http://quake.usgs.gov/research/strongmotion/effects/shake/about.html>.

CGS. *Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards.* 1997.

CGS. *Special Publication 118, Recommended Criteria for Delineating Seismic Hazard Zones in California*. 2004.

City of San Pablo, *San Pablo General Plan EIR*, 1996.

Graymer, R.W. Jones, D.L., and Brabb, E.E., *Preliminary geologic map emphasizing bedrock formations in Contra Costa County, California: A digital database*. U.S. Geological Survey Open-File Report 94-622, 1994.

Hart, E. W., *Fault-Rupture Hazard Zones in California: Alquist-Priolo Special Studies Zones Act of 1972 with Index to Special Studies Zones Maps*, CGS, Special Publication 42, 1990, revised 1997.

Helley, E.J. and Graymer, R.W., *Quaternary Geology of Contra Costa County, and surrounding parts of Alameda, Marin, Sonoma, Solano, Sacramento, and San Joaquin counties, California: A digital database*, 1997.

Jennings, Charles W., *Fault Activity Map of California and Adjacent Areas, with Locations and Ages of Recent Volcanic Eruptions*. CGS, Geological Data Map No. 6, 1994.

Petersen, M.D., W.A. Bryant, C.H. Cramer, "Probabilistic Seismic Hazard Assessment for the State of California", CGS Open-File Report issued jointly with U.S. Geological Survey, CDMG 96-08 and USGS 96-706, 1996. Available on the internet at: <http://www.consrv.ca.gov/cgs/rghm/psha/ofr9608/>.

Radbruch, Dorothy H., *Approximate Location of Fault Traces and Historic Surface Ruptures Within the Hayward Fault Zone Between San Pablo and Warm Springs*, California. U.S. Geological Survey, Miscellaneous Geologic Investigations Map I-522, 1967.

San Francisco Business Times, articles in April 2008 and January 2010.

Seed, R.B. et al. Preliminary report on the principle geotechnical aspects of the October 17, 1989 Loma Prieta earthquake, Report No. UCB/EERC-90/05, Earthquake Engineering Research Center, University of California, Berkeley, 1990.

U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, *Soil Survey of Contra Costa County*, 1977.

U.S. Geological Survey (USGS), Working Group on California Earthquake Probabilities (WG02), "Earthquake Probabilities in the San Francisco Bay Region: 2003-2032 – A Summary of Findings", Open-File Report 03-214, 2003.

USGS website,< http://www.usgs.gov.> Accessed on August 2010.

USGS and University of California Berkeley, Northern California Earthquake Data Center, <http://quake.geo.berkeley.edu/>.

USGS, "Principles for Prudent Land Use". Professional Paper 946, 1983.

University of California, Division of Agricultural Science, *Generalized Soil Map of California*, 1951.

PUBLIC SERVICES, FACILITIES, & UTILITIES

ABAG, *Local Hazards Mitigation Plan 2005*, 2005.

Bureau of Justice Statistics, Law Enforcement and Management Administrative Statistics Survey <http://bjs.ojp.usdoj.gov/> Accessed on August 3, 2010.

California Department of Education, Dataquest, <http://data1.cde.ca.gov/dataquest/> Accessed on January 12, 2009.

CalRecycle, Keller Canyon Landfill profile, <http://www.calrecycle.ca.gov/profiles/Facility/Landfill/LFContacts.asp?COID=7&FACID=07-AA-0032> Accessed on April 21, 2010.

CalRecycle, Potrero Hills Landfill profile, <http://www.calrecycle.ca.gov/Profiles/Facility/Landfill/LFProfile1.asp?COID=7&FACID=48-AA-0075> Accessed on April 21, 2010.

CalRecycle, West Contra Costa Integrated Waste Management Authority Diversion Rates, <http://www.calrecycle.ca.gov/LGCentral/Tools/MARS/JurDrDtl.asp?Flag=1&Yr=2007&Ju=568> Accessed on April 23, 2010.

Contra Costa County Fire Protection District, <http://www.cccfpd.org/> Accessed on August 3, 2010.

Contra Costa College, Office of Research and Planning, <http://www.contracosta.edu/websites/research/Shared%20Documents/default.aspx> Accessed on August, 2008.

City of San Pablo Recreation website, http://www.ci.san-pablo.ca.us/main/recreation.htm, Date accessed August 16, 2010.

City of San Pablo, *Emergency Operations Manual 1999,* 2000.

East Bay Municipal Utility District (EBMUD), *Urban Water Management Plan 2005*, CA, 2005.

EBMUD, *All About EBMUD,* 2007.

EBMUD, *Annual Report,* 2006.

EBMUD, *Annual Report*, 2007.

EBMUD, *Annual Report*, 2008.

Rodriguez, Matt., *City of San Pablo Annual Budget 2010-2011*, San Pablo, 2010.

West County Wastewater District (WCWD), *Collection System Model Update*, 2007.

WCWD, *West County Wastewater District Capacity Analysis*, 2001.

WCWD, *Demand Management Advisory Committee—Report to Directors,* 2002.

NOISE

Beranek, Leo L. *Noise and Vibration Control*, Institute of Noise Control Engineering, June 1998.

California Department of Transportation, "Technical Noise Supplement: A Technical Supplement to the Traffic and Noise Analusis Protocol," October 1998.

Contra Costa County, *Contra Costa County General Plan 2005-2020*, Adopted January 18, 2005.

Federal Railroad Administration, Federal Register, December 18, 2003.

Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (aka the EPA "Levels Document"), Report No. 550/9-74-004, 1974.

State of California General Plan Guidelines, Governors Office of Planning and Research, 2003.

U.S. Department of Transportation, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

HAZARDOUS MATERIALS

ABAG, Wildfire Hazard Maps, http://www.abag.ca.gov/bayarea/eqmaps/wildfire/. Accessed August 3, 2010.

California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, "Contra Costa County Very High Fire Hazard Severity Zones (AB 337)," 2005. <http://frap.cdf.ca.gov/webdata/maps/contra_costa/ab337_map.7.pdf> Accessed on August 12, 2010.

California Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California-Areas More Likely to Contain Naturally Occurring Asbestos*, August 2000.

Department of Toxic Substances Control, EnviroStor Database for San Pablo California, <http://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&city=San%20Pablo&zip=&county=&federal_superfund=True&state_response=True&voluntary_cleanup=True&school_cleanup=True&permitted=True&pc_permitted=True&hist_nonoperating=True&corrective_action=True&display_results=Report&pub=True> Accessed on August 3, 2010.

EPA, *Polycyclic Organic Matter (POM)*. http://www.epa.gov/ttnatw01/hlthef/polycycl.html, accessed on September 27, 2010.

State Water Resources Control Board, Geotracker Database for San Pablo California, <http://www.geotracker.swrcb.ca.gov/map/?CMD=runreport&myaddress=San+Pablo%2C+CA> Accessed on August 3, 2010.

CULTURAL RESOURCES

ABAG, Status and Trends Report on Land Use and Population - The Geomorphology, Climate, Land Use and Population Patterns in the San Francisco Bay, Delta and Central Valley Drainage Basins, February 1991.

Jones, T. & Klar K., *California Prehistory: Colonization, Culture, and Complexity*. Lanham: AltaMira Press, 2007.

U.S. Department of Interior, MMS - Pacific OCS Region. *California, Oregon, and Washington Archaeological Resource Study*, November 1990.

Ember, M. & Peregrine, P. N., *Encyclopedia of Prehistory*. New York: Kluwer Academic/Plenum, 2001.

Fiedel, S. J., *Prehistory of the Americas*. New York: Cambridge University Press, 1992.

Fredrickson, D. A., Cultural Diversity in Early Central California: A View from the North Coast Ranges. *Journal of California Anthropology*: Vol. 1: No. 1, Article 1 , 1974.

Moratto, M. J., California Archaeology. Florida: Academic Press, 1984.

7. Persons and Organizations Consulted

BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD)

- Michael, Sigalle. Senior Environmental Planner, response received September 29, 2010.

CITY OF SAN PABLO PUBLIC WORKS DEPARTMENT

- Samkian, Karineh., response received December 30, 2009.
- Nonato, Ronalyn., response received December 30, 2009.

CITY OF SAN PABLO PARKS AND RECREATION DEPARTMENT

- Heller, Mike., Recreation Division Manager, response received August 4, 2008.

CITY OF SAN PABLO POLICE DEPARTMENT

- Krastof, David., SPPD Police Sergeant, response received via the City of San Pablo Planning Division, September 2008.
- Schuld, Walter., SPPD Police Chief, response received via the City of San Pablo Planning Division, September 2008.

CONTRA COSTA COLLEGE

- Clow, Tim., Dean of Research, Planning, and Student Outcomes, response received November 25, 2008 and April 1, 2009.

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT (CCCFPD)

- Bart, Andre., Disaster Preparedness Coordinator, response received January 5, 2010.
- Cormier, Keith., CCCFPD Battalion Chief, response received June 8, 2010.
- Goetsch, Lon., CCCFPD Battalion Chief, response received July 9, 2010.
- Guelden, Ron., CCCFPB Facilities Manager, response received August 21, 2008.

CONTRA COSTA WASTEWATER DISTRICT

- Winnicki, Paul., District Manager, response received July 14, 2008.
- Cook, Ken., Associate Engineer, response received December 2, 2008.

WEST CONTRA COSTA UNIFIED SCHOOL DISTRICT

- Bell, Andre., contacted February 5, 2010. No response received.
- Howard, Connie., St Paul's School, response received July 8, 2008.
- Danielson, Sara., Highland Elementary School, response received July 25, 2008.

- King, Cheryl., Jack Schreder & Associates (consultant for WCCUSD), response received July 10, 2008.
- Smith, Hattie, Middle College, response received May 28, 2009.

WEST CONTRA COSTA INTEGRATED WASTE MANAGEMENT AUTHORITY

- Lehon, Chris., Executive Director, response received April 21, 2010.

8. Report Authors

This Draft EIR has been prepared by:

DYETT & BHATIA, URBAN AND REGIONAL PLANNERS

755 Sansome Street, Suite 400

San Francisco, CA 94111

Michael Dyett, FAICP, Principal-in-Charge

Vivian Khan, Associate Principal

Melissa McMahon, Associate

Stan Lai, Associate

Laura Machala, Associate

Hannah Lindelof, Associate

Rose Abbors, GIS Specialist

Mark Chambers, Graphics Manager

Diana Nankin, Graphic Designer

Marshall Morales, Project Associate

DOWLING ASSOCIATES, INC.

180 Grand Avenue, Suite 250

Oakland, California 94612

Alice Chen, Principal

Debbie Yueh, Senior Transportation Planner

ENVIRONMENTAL SCIENCE ASSOCIATES

225 Bush Street, Suite 1700

San Francisco, CA 94104-4207

Karl Heisler, Community Development Group Manager

Chris Sanchez, Senior Technical Air Quality Associate

Jyothi Iyer, Senior Associate

Thomas A. Roberts, Senior Technical Director, Biology

Lara Thoreson, Associate Biologist

Eric Schniewind, Associate Geologist

CHARLES SALTER ASSOCIATES

130 Sutter Street

San Francisco, CA 94104

Randy Waldeck, Senior Consultant

9. Glossary

100-Year Flood. The magnitude of a flood expected to occur on the average every 100 years, based on historical data. The 100-year flood has a 1/100, or 1 percent, chance of occurring in any given year.

500-Year Flood. The magnitude of a flood expected to occur on the average every 500 years, based on historical data. The 500-year flood has a 1/500, or 0.2 percent, chance of occurring in any given year**.**

Acres, Gross. A measure of total land area of any lot including streets, parks and other land dedications.

Acres, Net. The gross area of a site excluding all public and private streets; streets which provide primary and direct access to a public street; land which has been determined to be hazardous or unbuildable; land within any existing or planned drainage easement; and land required to be dedicated for school and park or other facility dedicated for public use.

Affordable Housing. Housing capable of being purchased or rented by a household with very low, low, or moderate income, based on a household's ability to make monthly payments necessary to obtain housing. Housing is considered affordable when a household pays less than 30% of its gross monthly income (GMI) for housing, including utilities.

Agency. The governmental entity, department, office, or administrative unit responsible for carrying out regulations.

Agricultural Preserve. Land designated for agriculture or conservation. (See "Williamson Act.")

Agriculture. Use of land for the production of food and fiber, including the growing of crops and/or the grazing of animals on natural prime or improved pasture land.

Air Pollution. Concentrations of substances found in the atmosphere that exceed naturally occurring quantities and are undesirable or harmful in some way.

Ambient. Surrounding on all sides; used to describe measurements of existing conditions with respect to traffic, noise, air and other environments.

Anaerobic. An organism or tissue) living in the absence of air or free oxygen; or pertaining to or caused by the absence of oxygen.

Aquifer. An underground, water-bearing layer of earth, porous rock, sand, or gravel, through which water can seep or be held in natural storage. Aquifers generally hold sufficient water to be used as a water supply.

Archaeological. Relating to the material remains of past human life, culture, or activities.

Army Corps of Engineers. A federal agency responsible for the design and implementation of publicly supported engineering projects. Any construction activity that involves filling a watercourse, pond, lake (natural or man-made), or wetlands (including seasonal wetlands and vernal pools), may require an ACOE permit.

Arterial. A major street carrying volumes of relatively high speed traffic from local and collector streets to and from freeways and other major streets. These streets have controlled intersections and generally provide limited direct access to abutting properties.

Attainment Area. An area considered to have air quality as good as or better than federal or State air quality standards as defined in the federal Clean Air Act or the California Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others.

Base Flood. A 100-year flood event; having a 1 percent likelihood of occurring in any given year.

Best Available Control Technology (BACT). The most stringent emission limit or control technique that has been achieved in practice that is applicable to a particular emission source.

Best Management Practices (BMP). The combination of conservation measures, structure, or management practices that reduces or avoids adverse impacts of development on adjoining site's land, water, or waterways, and waterbodies.

Bicycle Class I Facility (Bicycle Path). A paved route not on a street or roadway and expressly reserved for bicycles traversing an otherwise unpaved area. Bicycle paths may parallel roads but typically are separated from them by landscaping.

Bicycle Class II Facility (Bicycle Lane). A corridor expressly reserved for bicycles, existing on a street or roadway in addition to any lanes for use by motorized vehicles.

Bicycle Class III Facility (Bicycle Route). A facility shared with motorists and identified only by signs, a bicycle route has no pavement markings or lane stripes.

Bikeways. A term that encompasses bicycle lanes, bicycle paths and bicycle routes.

Buffer Zone. An area of land separating two distinct land uses which acts to soften or mitigate the effects of one land use on the other.

Building. Any structure having a roof supported by columns or walls for the housing or enclosure of persons, animals, or property of any kind.

Buildout. That level of urban development characterized by full occupancy of all developable sites in accordance with the General Plan; the maximum probable level of development envisioned by the General Plan under specified assumptions about densities and intensities. Buildout does not assume that each parcel is developed to include all floor area or housing units possible under zoning regulations.

Business Services. A subcategory of commercial land use which permits establishments primarily engaged in rendering services to other business establishments on a fee or contract basis, such as advertising and mailing; building maintenance; personnel and employment services; management and consulting services; protective services; equipment rental and leasing; photo finishing; copying and printing; travel; office supply; and similar services.

Capital Improvement Program (CIP). A program, administered by the City which schedules permanent improvements, usually for a minimum of five years into the future, to fit the projected fiscal capability of the City. The program generally is reviewed annually, for conformance to and consistency with the General Plan.

Carbon Dioxide (CO2). A colorless, odorless, non-poison gas that is a normal part of the atmosphere.

Carbon Monoxide (CO). A colorless, odorless, highly poisonous gas produced by automobiles and other machines with internal combustion engines that imperfectly burn fossil fuels such as oil and gas.

Circulation Element. One of seven State-mandated elements of a local general plan, it contains adopted goals, policies, and implementation programs for the planning and management of existing and proposed thoroughfares and transportation routes correlated with the Land Use Element of the General Plan.

City. In this document, City with a capital "C" refers to the City of San Pablo; when used with a lower case "c" it refers to the geographic area of the city, not the governmental organization.

Clustered Development. Development in which a number of dwelling units are placed in closer proximity than typically permitted, or are attached, with the purpose of minimizing grading and retaining open space areas.

Cogeneration. Cogeneration (also combined heat and power, CHP) is the use of a heat engine or a power station to simultaneously generate both electricity and useful heat. It is one of the most common forms of energy recycling.

Collector Street. A street serving traffic movements between arterial and local streets, generally providing direct access to abutting properties.

Commercial. A land use classification which permits facilities for the buying and selling of commodities and services.

Community Noise Equivalent Level (CNEL). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7 p.m. to 10 p.m. and after addition of 10 decibels to sound levels in the night from 10 p.m. to 7 a.m.

Community Park. A park or facility developed primarily to meet the requirements of a large portion of the City.

Compatible. Capable of existing together without conflict or ill effects.

Conservation. The management of natural resources to prevent waste, destruction or neglect.

Consistent. Free from variation or contradiction. Programs in the General Plan are to be consistent, not contradictory or preferential. State law requires consistency between a General Plan and implementation measures such as the Zoning Ordinance.

Contra Costa Transportation Authority (CCTA). A public agency formed by Contra Costa voters in 1988 to manage the county's transportation sales tax program and to do countywide transportation planning.

Cul-de-sac. A short street or alley with only a single means of ingress and egress at one end and with a large turnaround at its other end.

Cultural Facilities. Premises operated to accommodate cultural pursuits such as visual or performing arts, lectures, or exhibitions.

Cumulative Impact. As used in CEQA, the total impact resulting from the accumulated impacts of individual projects or programs over time.

Curb Cut. The opening along the curb line at which point vehicles or other wheeled forms of transportation may enter or leave the roadway. Curb cuts are essential at street corners for wheelchair users.

dBA. The “A-weighted” scale for measuring sound in decibels; weights or reduces the effects of low and high frequencies in order to stimulate human hearing. Every increase of 10 dBA doubles the perceived loudness though the noise is actually ten times more intense.

Decibel (dB). A unit of measurement used to express the relative intensity of sound as heard by the human ear describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

Day-Night Average Sound Level (Ldn). The A-weighted average sound level in decibels during a 24-hour period with a 10 dB weighing applied to nighttime sound levels (10 p.m. to 7 a.m.). This exposure method is similar to the CNEL, but deletes the evening time period (7 p.m. to 10 p.m.) as a separate factor.

Dedication. The commitment by an owner or developer of private land for public use, and the acceptance of land for such use by the governmental agency having jurisdiction over the public function for which it will be used. Dedications for roads, parks, school sites, or other public uses often are required by the city as conditions of approval on a development.

Dedication, In lieu of. Cash payments which may be required of an owner or developer as a substitute for a dedication of land, usually calculated in dollars per lot, and referred to as in lieu fees or in lieu contributions.

Density. The number of residential dwelling units per acre of land.

Density Bonus. The allocation of development rights that allow a parcel to accommodate additional square footage or additional residential units beyond the maximum for which the parcel is zoned, usually in exchange for the provision or preservation of an amenity at the same site or at another location. Under California State Law, residential projects of three or more units that provide affordable housing may be entitled to a 35 percent increase of the underlying zone district.

Design Review. The comprehensive evaluation of a development and its impact on neighboring properties and the community as a whole, from the standpoint of site and landscape design, architecture, materials, colors, lighting, and signs, in accordance with a set of adopted criteria and standards.

Detention Basin/Pond. Facilities classified according to the broad function they serve, such as storage, diversion or detention. Detention facilities are constructed to retard flood runoff and minimize the effect of floods.

Developer. An individual who, or business which, prepares raw land for the construction of buildings or builds or causes to be built physical building space for use primarily by others, and in which the preparation of the land or the creation of the building space is in itself a business and is not incidental to another business or activity.

Development. The physical extension and/or construction of urban land uses. Development activities include but are not limited to. subdivision of land; construction or alteration of structures, roads, utilities, and other facilities; installation of septic systems; grading; deposit of refuse, debris, or fill materials; and clearing of natural vegetation cover (with the exception of agricultural activities). Routine repair and maintenance activities are not considered as "development."

Development Fee. See "Impact Fee."

Development Rights. The right to develop land by a landowner who maintains fee-simple ownership over the land or by a party other than the owner who has obtained the rights to develop. Such rights usually are expressed in terms of density allowed under existing zoning. For example, one development right may equal one unit of housing or may equal a specific number of square feet of gross floor area in one or more specified zone districts.

De-watering. The removal of water from a solid material; removal of water from soil or from a body of water (by natural or mechanical means).

Downwind. In the direction in which the wind is blowing.

Dwelling Unit. One or more rooms with a single kitchen, designed for occupancy by one family for living and sleeping purposes.

Easement. A right given by the owner of land to another party for specific limited use of that land. An easement may be acquired by a government through dedication when the purchase of an entire interest in the property may be too expensive or unnecessary. Easements are usually needed for utilities or shared parking.

Easement, Scenic. A tool that allows a public agency to use land for scenic enhancement, such as roadside landscaping or vista preservation.

Emission Standard. The maximum amount of pollutant legally permitted to be discharged from a single source, either mobile or stationary.

Endangered Species. A species of animal or plant whose prospects for survival and reproduction are in immediate jeopardy from one or more causes.

Environment. The physical conditions in an area, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance, which will be affected by a proposed project. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions.

Environmental Impact Report (EIR). A document used to evaluate the potential environmental impacts of a project, evaluate reasonable alternatives to the project, and identify mitigation measures necessary to minimize the impacts. The California Environmental Quality Act (CEQA) requires that the agency with primary responsibility over the approval of a project (the lead agency) evaluate the project's potential impacts in an Environmental Impact Report (EIR).

Equivalent Noise Level (Leq). Also known as the energy equivalent level, defined as the average sound level on the basis of sound energy (or sound pressure squared). The Leq is a "dosage" type measure and is the basis for the descriptions used in current standards, such as the 24-hour CNEL used by the State of California. It is a single-number representation of the fluctuating sound level in decibels over a specified period of time.

Erosion. The process by which material is removed from the earth's surface (including weathering, dissolution, abrasion, and transportation), most commonly by wind or water.

Exaction. A contribution or payment required as an authorized precondition for receiving a development permit; usually refers to mandatory dedication (or fee in lieu of dedication) requirements found in many subdivision regulations.

Expansive Soils. Soils which swell when they absorb water and shrink as they dry.

Fault. A fracture in the earth's crust forming a boundary between rock masses that have shifted. An "active" fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A "potentially active" fault is one that shows evidence of surface displacement during Quaternary time (the last 2 million years).

Federal Candidate Species, Category 1 (Candidate 1). Species for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened.

Federal Candidate Species, Category 2 (Candidate 2). Species for which existing information indicates that these species may warrant listing, but for which substantial biological information to support a proposed rule is lacking.

Federal Emergency Management Agency (FEMA). A federal agency that provides disaster relief when cities, counties, or the State cannot respond.

Federal Flood Insurance. Affordable flood insurance offered by the federal government to property owners whose communities participate in the National Flood Insurance Program.

Finding(s). The result(s) of an investigation and the basis upon which decisions are made. Findings are used by government agencies and bodies to justify action taken by the entity.

Fire-resistant. Able to withstand specified temperatures for a certain period of time, such as a one-hour fire wall; not fireproof.

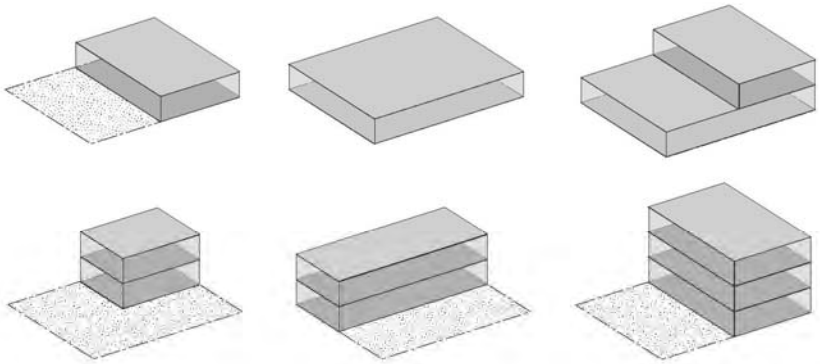
Flood Insurance Rate Map (FIRM). For each community, the official map on which the Federal Insurance Administration has delineated areas of special flood hazard and the premium risk zones applicable to that community.

Flood Plain. The relatively level land area on either side of the banks of a stream regularly subject to flooding. That part of the flood plain subject to a one percent chance of flooding in any given year, is designated as an area of special flood hazard by the Federal Insurance Administration.

Flood Zone. The relatively level land area on either side of the banks of a stream that is subject to flooding under a 100-year or a 500-year flood.

Floor Area, Gross. The total horizontal area in square feet of all floors within the exterior walls of a building, but not including the area of unroofed inner courts or shaft enclosures.

Floor Area Ratio (FAR). The net floor area of a building or buildings on a lot divided by the lot area or site area. Examples showing the concept of FAR:



Flora and Fauna. Flora and fauna refer to plant and wildlife, respectively. The indigenous plant and wildlife of a geographical region is often referred to as that region's flora and fauna.

Geologic Review. The analysis of geologic hazards, including all potential seismic hazards, surface ruptures, liquefaction, landsliding, mudsliding, and the potential for erosion and sedimentation.

Geological. Pertaining to rock or solid matter.

Grasslands. Land reserved for pasturing or mowing, in which grasses are the predominant vegetation.

Graywater. Graywater is defined as the wastewater produced from baths and showers, clothes washers, and lavatories. Graywater may be recycled for irrigation, cooling, or other secondary uses after minimal treatment.

Green Building. A Green Building generally refer to one that is environmentally friendly in terms of energy consumption, or the waste they produce during its entire life-cycle. A Green Building will have little or no significant impact on the environment. Green buildings are scored by rating systems, such as the Leadership in Energy and Environmental Design (LEED) rating system developed by the U.S. Green Building Council, Green Globes from GBI and other locally developed rating systems. They also must conform to California Green Building Standards.

Greenhouse gases. Greenhouse gases are gases in the atmosphere that absorb and emit radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. Carbon dioxide, methane, and ozone are examples of greenhouse gasses.

Groundwater. Water under the earth's surface, often confined to aquifers capable of supplying wells and springs.

Groundwater Recharge. The natural process of infiltration and percolation of rainwater from land areas or streams through permeable soils into water-holding rocks which provide underground storage ("aquifers").

Growth Management Program. The use of planning policies, zoning, subdivision regulations and other local government controls to influence the pattern of growth and development to meet projected needs. A growth management program is a required component of the General Plan following the adoption of Measure J by Contra Costa County voters in 2004.

Guidelines. General statements of policy direction for which specific details may be later established.

Habitat. The physical location or type of environment in which an organism or biological population lives or occurs.

Handicapped. A person determined to have a mobility impairment or mental disorder expected to be of long or indefinite duration. Many such impairments or disorders are of such a nature that a person's ability to live independently can be improved by appropriate housing conditions.

Hazardous Material. Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. The term includes, but is not limited to, hazardous substances and hazardous wastes.

Hazardous Waste. Waste which requires special handling to avoid illness or injury to persons or damage to property. Includes, but is not limited to, inorganic mineral acids of sulfur, fluorine, chlorine, nitrogen, chromium, phosphorous, selenium and arsenic and their common salts; lead, nickel, and mercury and their inorganic salts or metallo-organic derivatives; coal, tar acids such as phenol and cresols and their salts; and all radioactive materials.

Historic Resource. A historic building or site that is noteworthy for its significance in local, state, national, its architecture or design, or its works of art, memorabilia, or artifacts.

Impact. The effect of any man-made actions or indirect repercussions of man-made actions on existing physical, social, or economic conditions.

Impact Fee. A fee, also called a development fee, levied on the developer of a project by a city, county, or other public agency as compensation for otherwise-unmitigated impacts the project will produce. California Government Code § 54990 specifies that development fees shall not exceed the estimated reasonable cost of providing the service for which the fee is charged. To lawfully impose a development fee, the public agency must verify its method of calculation and document proper restrictions on use of the fund.

Impervious Surface. Surface through which water cannot penetrate, such as roof, road, sidewalk, and paved parking lot. The amount of impervious surface increases with development and establishes the need for drainage facilities to carry the increased runoff.

Implementation. Actions, procedures, programs, or techniques that carry out policies.

Improvement. The addition of one or more structures or utilities on a vacant parcel of land.

Industrial. The manufacture, production, and processing of consumer goods. Industrial is often divided into "heavy industrial" uses, such as construction yards, quarrying, and factories; and "light industrial" uses, such as research and development and less intensive warehousing and manufacturing.

Infill Development. Development of vacant land (usually individual lots or left-over properties) within areas which are already largely developed.

Infiltration. The introduction of underground water, such as groundwater, into wastewater collection systems. Infiltration results in increased wastewater flow levels.

Intersection Capacity. The maximum number of vehicles that has a reasonable expectation of passing through an intersection in one direction during a given time period under prevailing roadway and traffic conditions.

Infrastructure. Public services and facilities, such as sewage-disposal systems, water-supply systems, other utility systems, and roads.

Jobs-Housing Balance. Total jobs divided by total housing units. A more appropriate measure is the jobs/employed resident ratio, which divides the number of jobs in an area by the number of employed residents (i.e. people who live in the area, but may work anywhere). A ratio of 1.0 typically indicates a balance. A ratio greater than 1.0 indicates a net in-commute; less than 1.0 indicates a net out-commute.

Landmark. A building, site, object, structure, or significant tree, having historical, architectural, social, or cultural significance and marked for preservation by the local, State, or federal government; A visually prominent or outstanding structure or natural feature that functions as a point of orientation or identification.

Landscaping. Planting, including trees, shrubs, and ground covers, suitably designed, selected, installed, and maintained permanently to enhance a site or roadway.

Landslide. A general term for a falling mass of soil or rocks.

Land Use. The occupation or utilization of land or water area for any human activity or any purpose defined in the General Plan.

Ldn. Day-Night Average Sound Level. The A-weighted average sound level for a given area (measured in decibels) during a 24-hour period with a 10 dB weighing applied to night-time sound levels. The Ldn is approximately numerically equal to the CNEL for most environmental settings.

Lease. A contractual agreement by which an owner of real property (the lessor) gives the right of possession to another (a lessee) for a specified period of time (term) and for a specified consideration (rent).

LEED. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings.

Leq. The energy equivalent level, defined as the average sound level on the basis of sound energy (or sound pressure squared). The Leq is a "dosage" type measure and is the basis for the descriptions used in current standards, such as the 24-hour CNEL used by the State of California. It is a single-number representation of the fluctuating sound level in decibels over a specified period of time.

Level of Service (LOS). A qualitative measure describing operational conditions within a traffic stream, as perceived by motorists. The conditions are generally described in terms of factors such

as speed, delay, freedom to maneuver, comfort, convenience, and safety. Six levels of service are defined with letter designations from A to F, with A representing the optimal condition and F representing the worst.

Liquefaction. A sudden large decrease in the shearing resistance of a cohesion less soil, caused by a collapse of the structure by shock or strain, and associated with a sudden but temporary increase of the pore fluid pressure.

Local Street. A street which primarily serves as access to abutting properties characterized by traffic with low speeds, low volumes and relatively short trip lengths.

Low Impact Development. An innovative stormwater management approach with a basic principle that is modeled after nature: manage rainfall at the source using uniformly distributed decentralized micro-scale controls. The goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source.

Maximum Contaminant Level. Are standards that are set by the Environmental Protection Agency for drinking water quality in Title 40 of the Code of Federal Regulations. The limit is usually expressed as a concentration in milligrams or micrograms per liter of water.

Median Strip. The dividing area, either paved or landscaped, between opposing lanes of traffic on a roadway.

Mitigation. A specific action taken to reduce environmental impacts. Mitigation measures are required as a component of an environmental impact report (EIR) if significant measures are identified.

Mitigation Measures. Action taken to avoid, minimize, or eliminate environmental impacts. Mitigation includes. avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance during the life of the action; and compensating for the impact by repairing or providing substitute resources or environments.

Mobile Sources. A source of air pollution that is related to transportation vehicles, such as automobiles or buses.

National Ambient Air Quality Standards. The prescribed level of pollutants in the outside air that cannot be exceeded legally during a specified time in a specified geographical area.

National Flood Insurance Program. A federal program which authorizes the sale of federally subsidized flood insurance in communities where such flood insurance is not available privately.

National Historic Preservation Act. A 1966 federal law that established a National Register of Historic Places and the Advisory Council on Historic Preservation, and which authorized grants-in-aid for preserving historic properties.

National Register of Historic Places. The official list of sites, districts, buildings, structures, and objects significant in the nation's history or whose artistic or architectural value is unique, established by the National Historic Preservation Act.

Neighborhood Park. A park or playground developed primarily to serve the recreation needs of a small portion of the City. The park improvements are usually oriented toward the recreation needs of children.

Nitrogen Dioxide (NO_2). A reddish brown gas that is a byproduct of the combustion process and is a key to the ozone production process.

Nitrogen Oxide(s). Chemical compounds containing nitrogen and oxygen; reacts with volatile organic compounds, in the presence of heat and sunlight to form ozone. It is also a major precursor to acid rain.

Noise. Any sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. Noise is simply "unwanted sound."

Noise Attenuation. Reduction of the level of a noise source using a substance, material, or surface.

Noise Contour. Lines drawn about a noise source indicating equal levels of noise exposure. CNEL and L_{dn} are the metrics utilized herein to describe annoyance due to noise and to establish land use planning criteria for noise.

Non-attainment. The condition of not achieving a desired or required level of performance. This term is frequently used in reference to air quality.

Non-point Source. A pollutant source introduced from dispersed points and lacking a single, identifiable origin. Examples include automobile emissions or urban run-off.

Open Space. Any parcel or area of land or water which is essentially unimproved and devoted to an open space use for the purposes of (1) the preservation of natural resources, (2) the managed production of resources, (3) outdoor recreation, or (4) public health and safety.

Overlay. A land use designation on the Land Use Map, or a zoning designation on a zoning map, which modifies the basic underlying designation in some specific manner.

Ozone. A tri-atomic form of oxygen (O_3) created naturally in the upper atmosphere by a photochemical reaction with solar ultraviolet radiation. In the lower atmosphere, ozone is a recognized air pollutant that is not emitted directly into the environment, but is formed by complex chemical reactions between oxides of nitrogen and reactive organic compounds in the presence of sunlight, and becomes a major agent in the formation of smog.

PM_{10}, $PM_{2.5}$The current standard for measuring the amount of solid or liquid matter suspended in the atmosphere ("particulate matter including dust"). Refers to the amount of particulate matter under 10 micrometers and 2.5 micrometers in diameter, respectively. Particulate matters can penetrate to the deeper portions of the lung, affecting sensitive population groups such as children and people with respiratory diseases

Paratransit. Refers to transportation services which operate vehicles, such as buses, jitneys, taxis, and vans, for senior citizens and/or mobility-impaired persons.

Parks. Open space lands whose primary purpose is recreation. (See "Community Park" and "Neighborhood Park.")

Peak Hour/Peak Period. For any given roadway, a daily period during which traffic volume is highest, usually occurring in the morning and evening commute periods. Where "F" Levels of Service are encountered, the "peak hour" may stretch into a "peak period" of several hours duration.

Performance Standards. Zoning regulations that permit uses based on a particular set of standards of operation rather than on particular type of use. Performance standards provide specific criteria limiting noise, air pollution, emissions, odors, vibration, dust, dirt, heat, fire hazards, wastes, traffic impacts, and visual impact of a use.

Planning Area. The land area addressed by the General Plan, including land within and outside of the Urban Limit Line.

Point Source. A source of pollutants which may be traced to a discrete point of emission.

Policy. A specific statement of principle or of guiding or implementing actions which implies clear commitment.

Pollutant. Any introduced gas, liquid, or solid that makes a resource unfit for its normal or usual purpose.

Pollution. The presence of matter or energy whose nature, location, or quantity produces undesired environmental effects.

Preserve. An area in which beneficial uses in their present condition are protected; for example, a nature preserve or an agricultural preserve.

Rare or Endangered Species. A species of animal or plant listed in. Sections 670.2 or 670.5, Title 14, California Administrative Code; or Title 50, Code of Federal Regulations, Section 17.11 or Section 17.2, pursuant to the Federal Endangered Species Act designating species as rare, threatened, or endangered.

Reactive Organic Gases (ROG). Classes of hydrocarbons (olefins, substituted aromatics, and aldehydes) likely to react with ozone and nitrogen dioxide in the atmosphere to form photochemical smog.

Reclamation. The reuse of resources, usually those present in solid wastes or sewage.

Recreation, Active. A type of recreation or activity which requires the use of organized play areas including, but not limited to, softball, baseball, football, and soccer fields, tennis and basketball courts and various forms of children's play equipment.

Recreation, Passive. Type of recreation or activity which does not require the use of organized play areas.

Recycle. The process of extraction and reuse of materials from waste products.

Regional. Pertaining to activities or economies at a scale greater than that of a single jurisdiction, and affecting a broad homogeneous area.

Residential. Land designated in the General Plan and Zoning Ordinance for buildings consisting of dwelling units. May be vacant or unimproved. (See "Dwelling Unit.")

Richter Scale. A measure of the size or energy release of an earthquake at its source. The scale is logarithmic; the wave amplitude of each number on the scale is 10 times greater than that of the previous whole number.

Right-of-way. The strip of land over which certain transportation and public use facilities are built, such as roadways, railroads, and utility lines.

Riparian Lands. Lands which are comprised of the vegetative and wildlife areas adjacent to perennial and intermittent streams. Riparian areas are delineated by the existence of plant species normally found near fresh water.

Riparian Vegetation. Vegetation associated with any water-course which requires or tolerates moisture in excess of that available in adjacent uplands.

Riprap. Also known as rip rap, rubble, shot rock or rock armor — is rock or other material used to armor shorelines, streambeds, bridge abutments, pilings and other shoreline structures against scour, water or ice erosion.

Routes of Regional Significance. Routes of Regional Significance are major roadways that carry a significant amount of through traffic connecting two or more regions of a County. The routes are designated by CCTA based on recommendations from WCCTAC. In San Pablo, the following routes are designated as routes of regional significance: Interstate-80, San Pablo Avenue, 23rd Street, El Portal Drive, and San Pablo Dam Road.

Runoff. That portion of rain or snow which does not percolate into the ground and is discharged into streams instead.

Sedimentation. Process by which material suspended in water is deposited in a body of water.

Seismic. Caused by or subject to earthquakes or earth vibrations.

Sensitive Receptors. Members of the population who are most sensitive to air quality include children, the elderly, the acutely ill, and the chronically ill. The term "sensitive receptors" can also refer to the land use categories where these people live or spend a significant amount of time. Such areas include residences, schools, playgrounds, child-care centers, hospitals, retirement homes, and convalescent homes.

Septic System. A sewage-treatment system that includes a settling tank through which liquid sewage flows and in which solid sewage settles and is decomposed by bacteria in the absence of oxygen. Septic systems are often used for individual-home waste disposal where an urban sewer system is not available.

Settlement. The drop in elevation of a ground surface caused by settling or compacting. Differential settlement is uneven settlement.

Significant Effect. A beneficial or detrimental impact on the environment. May include, but is not limited to, significant changes in an area's air, water, and land resources.

Single-family Dwelling, Attached. A building containing two dwelling units with each unit having its own foundation on grade.

Single-family Dwelling, Detached. A building containing one dwelling unit on one lot.

Site. A parcel of land used or intended for one use or a group of uses and having frontage on a public or an approved private street. A lot.

Slope. Land gradient described as the vertical rise divided by the horizontal run, and expressed in percent.

Soil. The unconsolidated material on the immediate surface of the earth created by natural forces that serves as the natural medium for growing land plants.

Solid Waste. Any unwanted or discarded material that is not a liquid or gas. Includes organic wastes, paper products, metals, glass, plastics, cloth, brick, rock, soil, leather, rubber, yard wastes, and wood.

Specific Plan. A plan that provides detailed design and implementation tools for a specific portion of the area covered by a general plan. A specific plan may include all regulations, conditions, programs, and/or proposed legislation which may be necessary or convenient for the systematic implementation of any general plan element(s).

Sphere of Influence (SOI). The ultimate service area of an incorporated city, as established by Contra Costa County LAFCO.

Storm Runoff. Surplus surface water generated by rainfall that does not seep into the earth but flows overland to flowing or stagnant bodies of water. Also referred to as "urban runoff."

Structure. Anything constructed or erected which requires a location on the ground, including a building or a swimming pool, but not including a fence or a wall used as a fence, if the height does not exceed six feet, or access drives or walks.

Subdivision. The division of a tract of land into defined lots, either improved or unimproved, which can be separately conveyed by sale or lease, and which can be altered or developed. Subdivision includes a condominium project as defined in Section 1350 of the California Civil Code.

Subsidence. The gradual sinking of land as a result of natural or artificial causes. (See "Settlement.")

Sulfur Dioxide (SO_2). A heavy, pungent, colorless air pollutant formed primarily by the combustion of fossil fuels. It is a respiratory irritant, especially for asthmatics and is the major precursor to the formation of acid rain.

Threatened Species. A species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Total Dissolved Solids (TDS) Total dissolved solids comprise inorganic salts and small amounts of organic matter that are dissolved in water. The principal constituents are usually calcium, magnesium, sodium and potassium and the anions carbonate, bicarbonate, chloride, sulphate and, particularly in groundwater, nitrate (from agricultural use).

Toxic Air Contaminant. An air pollutant that may increase a person's risk of developing cancer and/or other serious health effects. Toxic air contaminants include more than 700 chemical compounds that have been determined to have potential adverse health impacts.

Transportation Demand Management (TDM). A strategy for reducing demand on the road system by reducing the number of vehicles using the roadways and/or increasing the number of persons per vehicle. TDM attempts to. (1) reduce the number of persons per vehicle; (2) reduce the number of persons who drive alone on the roadway during the commute period; and (3) increase the use of carpools, vanpools, buses and trains, and walking and biking.

Transit Oriented Development. A development or planning concept typified by the location of residential and commercial districts around a transit station or corridor with high quality service, good walkability, parking management and other design features that facilitate transit use and maximize overall accessibility.

Trip. A one-way journey that proceeds from an origin to a destination via a single mode of transportation; the smallest unit of movement considered in transportation studies. Each trip has one "production end" (origin, often from home, but not always), and one "attraction end" (destination). (See "Traffic Demand Forecasting Model.")

Trip Generation. The dynamics that account for people making trips in automobiles or by means of public transportation. Trip generation is the basis for estimating the level of use of a transportation system and the impact of additional development or transportation facilities on an existing, local transportation system. Trip generations of households are correlated with destinations that attract household members for specific purposes.

Undevelopable. Specific areas where topographic, geologic, and/or sub-surface soil conditions indicate a significant danger to future occupants and a liability to the City, and are thus designated as undevelopable by the City.

Uniform Building Code. A national, standard building code which sets forth minimum standards for construction.

Uniform Housing Code. State housing regulations governing the condition of habitable structures with regard to health and safety standards and which provide for the conservation and rehabilitation of housing in accordance with the Uniform Building Code (UBC).

Urban Heat Island Effect. A phenomenon where a metropolitan or city area is significantly warmer than surrounding rural areas because of its greater mass and surface area which makes it more able to retain heat.

Urban Limit Line (ULL). A planning boundary, defined by voters, beyond which no urban land uses can be designated during the term of the General Plan. The primary purpose of an ULL is to limit the extent of urbanization.

Urban Services. Utilities (such as water, gas, electricity, and sewer) and public services (such as police, fire, schools, parks, and recreation) provided to an urban area.

Use. The purpose for which a lot or structure is or may be leased, occupied, maintained, arranged, designed, intended, constructed, erected, moved, altered, and/or enlarged as per the City's Zoning Ordinance and General Plan land use designation.

Use Permit. The discretionary and conditional review of an activity or function or operation on a site or in a building or facility.

Utility Corridors. Right-of-way or easements for utility lines on either publicly or privately owned property. (See "Right-of-way" or "Easement.")

Vacant. Lands or buildings which are not actively used for any purpose.

Vehicle Miles Traveled (VMT). A measure of both the volume and extent of motor vehicle operation; the total number of vehicle miles traveled within a specified geographical area (whether the entire country or a smaller area) over a given period of time.

View Corridor. The line of sight (identified as to height, width, and distance) of an observer looking toward an object that is significant to the community (e.g., ridgeline, river, historic building, etc.); the route that directs the viewer's attention.

Viewshed. The area within view from a defined observation point.

Volume-to-Capacity Ratio. A measure of the operating capacity of a roadway or intersection, in terms of the number of vehicles that theoretically could pass through when the roadway or intersection is operating at its designed capacity. Abbreviated as $^{v}/_{c}$. At a $^{v}/_{c}$ ratio of 1.0, the roadway or intersection is operating at capacity. If the ratio is less than 1.0, the traffic facility has additional capacity. Although ratios slightly greater than 1.0 are possible, it is more likely that the peak hour will elongate into a "peak period." (See "Peak Hour" and "Level of Service.")

Watercourse. Natural or once natural flowing (perennially or intermittently) water including rivers, streams, and creeks. Includes natural waterways that have been canalized, but does not include manmade channels, ditches, and underground drainage and sewer systems.

Watershed. The total area above a given point on a watercourse that contributes water to its flow; the entire region drained by a waterway or watercourse which drains into a lake, reservoir, bay or ocean.

West Contra Costa County Transportation Advisory Committee. The West Contra Costa County Transportation Advisory Committee (WCCTAC) is one of four sub-regional transportation planning committees that advises the CCTA on Measure J expenditures and transportation concerns specifically related to the cities of San Pablo, Richmond, El Cerrito, Hercules, and Pinole as well as transit agencies serving these cities.

Wetlands. Transitional areas between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water.

Wildlife Corridors. A natural corridor, such as an undeveloped ravine, that is frequently used by wildlife to travel from one area to another.

Williamson Act. Known formally as the California Land Conservation Act of 1965, it was designed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban and suburban development. The program entails a ten-year contract between an owner of land and (usually) a county whereby the land is taxed on the basis of its agricultural use rather than the market value. The land becomes subject to certain enforceable restrictions, and certain conditions need to be met prior to approval of an agreement.

Zone, Traffic. In a traffic model, land areas are divided into zones, with each zone treated as producing and attracting trips. The production of trips by a zone is based on the number of trips to or from work or shopping, or other trips produced per dwelling unit.

Zoning. The division of a city by legislative regulations into areas, or zones, which specify allowable uses for real property and size restrictions for buildings within these areas.

Zoning District. A designated section of the City for which prescribed land use requirements and building and development standards are uniform.

Zoning Ordinance. Chapter 17 of the San Pablo Municipal Code, which is a City ordinance, that divides incorporated city land into districts and establishes regulations governing the use, placement, spacing, and size of buildings, open spaces, and other facilities.

This page intentionally left blank.

10. List of Acronyms

af/y: acre feet/year

AASHTO: American Association of State Highway and Transportation Officials

ABAG: Association of Bay Area Governments

ADT: Average daily traffic

ADWF: Average Dry Weather Flow

AIA: Air Impact Assessment

AIRS: Aerometric Information Retrieval System

ARPA: Archaeological Resources Protection Act

BAAQMD: Bay Area Air Quality Management District

BACT: Best Available Control Technology

BCDC: San Francisco Bay Conservation and Development Commission

BMP: Best Management Practice

CALTrans: California Department of Transportation

CalRecycle: California Department of Resources Recycling and Recovery

CARB: California Air Resources Board

CalEPA: California Environmental Protection Agency

CBC: California Building Code

CCC: Contra Costa College

CC&Rs: Covenants, Conditions, and Restrictions

CCCFPD: Contra Costa County Fire Protection District

CCHS: Contra Costa Health Service

CCTA: Contra Costa Transportation Authority

CCR: California Code of Regulations

CDFFP: California Department of Forestry and Fire Prevention

CDFG: California Department of Fish and Game

CEC: California Energy Commission

CEQA: California Environmental Quality Act

CERCLA: Comprehensive Environmental Responsibility, Compensation, and Liability Act

CESA: California Environmental Species Act

CFCs: Chloroflourocarbons

CFR: Code of Federal Regulations

CGS: California Geologic Survey

CHRIS: California Historical Resources Information System

CIP: Capital Improvement Program

CNDDB: California Natural Diversity Data Base, Department of Fish and Game

CNEL: Community Noise Equivalent Level

CNPS: California Native Plant Society

CO: Carbon Monoxide

CRA: Community Redevelopment Act

CSC: California Species of Special Concern

CWA: Clean Water Act

CWMB: California Waste Management Board

CWMI: Chemical Waste Management Inc

CZMA: Coastal Zone Management Act

dB: Decibel

dBA: Decibel A-Weighted

DEIR: Draft Environmental Impact Report

DHS: California Department of Health Services

DMC: Doctors Medical Center

DNL: Day-Night Average Noise Level

DOF: Department of Finance

DSOD: Division of Safety of Dams

DTSC: Department of Toxic Substances Control, State of California

DU: Dwelling Unit

EIR: Environmental Impact Report

EMF: Electric and Magnetic Field

FAR: Floor Area Ratio

FEIR: Final Environmental Impact Report (CEQA)

FEMA: Federal Emergency Management Act

FESA: Federal Endangered Species Act

FIRM: Flood Insurance Rate Map

FMMP: Farmland Mapping and Monitoring Program

gpd: Gallons per day

gpm: Gallons per minute

GHG: Greenhouse Gasses

GIS: Geographic Information Systems

GMP: Growth Management Program

GPAC: General Plan Advisory Committee

HC: Hydrocarbons

HCM: Highway Capacity Manual

HCP: Habitat Conservation Plan

HHW: Household Hazardous Waste

HHWE: Household Hazardous Waste Element

HMMP: Hazardous Material Management Plan

HSSA: Alfred E Alquist Hospital Facilities Seismic Safety Act

ISO: National Insurance Service Office

ISR: Indirect Source Review (Air Quality)

kV: Kilovolt

kW: Kilowatt

kWh: Kilowatt-hour

LAFCO: Local Agency Formation Commission

Ldn: Day-Night Average Sound Level

LEED: Leadership in Energy and Environmental Design

Leq: Equivalent Noise Level

LID: Low Impact Development

LOS: Level of Service

LUST: Leaking Underground Storage Tanks (Case List)

MACT: Maximum Achievable Control Technology

MBTA: Migratory Bird Treaty Act

MCL: Maximum Contaminant Level

mgd: Million gallons per day

MJ-LHMP: Multi Jurisdictional Local Hazard Mitigation Plan

MOU: Memorandum of Understanding

MRP: Municipal Regional Stormwater Permit

MTSO: Multi-modal Transportation Service Objectives

MWMA: California Medical Waste Management Act

NAAQS: National Ambient Air Quality Standards

NCCP: Natural Communities Conservation Plan

NEPA: National Environmental Policy Act

NFIP: National Flood Insurance Program

NHPA: National Historic Preservation Act

NOP: Notice of Preparation (CEQA)

NO_2: Nitrogen Dioxide

NO_x: Nitrogen Oxides

NPDES: National Pollutant Discharge Elimination System

NPPA: Native Plant Protection Act

NRHP: National Register of Historic Places

NWP: Nationwide Permit

NWIC: Sonoma State University Northwest Information Center

O_3: Ozone

OHP: Office of Historic Preservation

OSHA: Occupational Safety and Health Administration

Pb: Lead

PGA: Peak Ground Acceleration (Earth Movements)

PG&E: Pacific Gas & Electric Company

PM-10: Suspended particulate matter 10 microns or less in diameter

PM-2.5: Suspended particulate matter 2.5 microns or less in diameter

ppb: Parts per billion

ppm: Parts per million (10^6) by volume or weight

PWD: San Pablo Public Works Department

RACM: Reasonably Available Control Measures

RCRA: Federal Resource Conservation and Recovery Act

ROG: Reactive Organic Gases

RTIP: Regional Transportation Improvement Plan

RTPC: Regional Transportation Planning Committee. The RTPC for San Pablo is West Contra Costa Transportation Advisory Committee (WCCTAC)

RWQCB: Regional Water Quality Control Board

SAFETEA: Safe, Accountable, Efficient Transportation Equity Act

SARA: Superfund Amendments and Reauthorization Act

SHPO: State Historic Preservation Officer

SHRC: State Historic Resources Commission

SIP: State Implementation Plan

SLIC: Spills, Leaks, Investigations, and Cleanups

SMARA: California Surface Mining and Reclamation Act

SOI: Sphere of Influence

SOV: Single Occupant Vehicles

SO_2: Sulfur Dioxide

Sq. Ft.: Square Feet

SR: State Route

SRRE: Source Reduction and Recycling Element

SWPPP: Stormwater Pollution Prevention Plan

SWRCB: State Water Resources Control Board

TACs: Toxic Air Contaminants

TAZ: Traffic Analysis Zone

TCE: Trichloroethylene

TDM: Transportation Demand Management

TDR: Transfer of Development Rights

TMDL: Total Maximum Daily Load

UBC: Uniform Building Code

ULL: Urban Limit Line

USDA: United States Department of Agriculture

U.S. EPA: United States Environmental Protection Agency

USFWS: United States Fish and Wildlife Service

USGS: United States Geologic Survey

UST: Underground Storage Tank

V/C: Volume to Capacity Ratio

VMT: Vehicle Miles Traveled

VOC: Volatile Organic Compounds

VPD: Vehicles per day

West County WMA: West Contra Costa Integrated Waste Management Authority, also known as Recyclemore

WCCTAC: West Contra Costa Transportation Advisory Committee

WCCUSD: West Contra Costa Unified School District

WCWD: West County Wastewater District

WWTP: Wastewater Treatment Plant

Appendix A: Notice of Preparation (NOP) and Comment Letters

NOTICE OF PREPARATION (NOP) ENVIRONMENTAL IMPACT REPORT (EIR) CITY OF SAN PABLO GENERAL PLAN UPDATE

FILED
AUG 18 2008
S.L. WEIR, COUNTY CLERK
CONTRA COSTA COUNTY
BY _____ DEPUTY

Date: August 8, 2008

To: Responsible Agencies, and Interested Parties and Organizations

Subject: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the City of San Pablo General Plan Update

Project Title: City of San Pablo General Plan Update

Location: City of San Pablo, California

The City of San Pablo is preparing a General Plan Update, and has determined that an Environmental Impact Report (EIR) will be necessary pursuant to the California Environmental Quality Act (CEQA). The City of San Pablo requests your input on how the General Plan Update may affect the environment. More specifically, input is being solicited regarding the scope and content of environmental analysis that is relevant to your respective agency's statutory/regulatory responsibilities in order to ascertain potential impacts of the proposed project.

Although specific proposals and revisions for the San Pablo General Plan Update have not yet been determined, we are soliciting your comments. This will allow your input to be taken into consideration during formulation of the environmental impacts of the General Plan Update to be addressed in the EIR. A description of the proposed action, location map, and preliminary identification of the potential environmental effects are contained in the attached materials.

If your agency is a responsible agency as defined by Section 15381 of the State CEQA Guidelines, your agency will need to use the environmental documents prepared by the City of San Pablo when considering your permit or other approval for the action.

Due to the time limits mandated by State law, your comments should be submitted by the earliest possible date, but not later than 30 days after your receipt of this notice per CEQA Guidelines Section 15082(b). Please send your written response, with the name of your agency contact person, to: Tina Gallegos, Planner, Planning Division, City of San Pablo, 13831 San Pablo Avenue, Building 3, San Pablo, CA 94806.

A Scoping Meeting will be conducted on Monday, August 28, 2008, 3:00 – 4:00 PM, San Pablo City Hall Council Chambers, 13831 San Pablo Avenue, San Pablo. If you have questions regarding this NOP or the Scoping Meeting, you can call Tina Gallegos at (510) 215-3002.

Tina Gallegos, Associate City Planner
City of San Pablo

8/8/08
Date

NOTICE OF PREPARATION (NOP)
ENVIRONMENTAL IMPACT REPORT (EIR)

CITY OF SAN PABLO GENERAL PLAN UPDATE

PROJECT TITLE

City of San Pablo General Plan Update

LEAD AGENCY NAME AND ADDRESS

Planning Division
City of San Pablo
13831 San Pablo Avenue, Building 3
San Pablo, California 94806

CONTACT PERSON AND PHONE NUMBER

Tina Gallegos, AICP
Associate City Planner
City of San Pablo
(512) 215-3002

PROJECT LOCATION AND BOUNDARIES

Location

The City of San Pablo is situated within the western portion of Contra Costa County, inland from the east side of San Pablo Bay. The City is located off Interstate 80, minutes away from the Bay Area cultural centers of Berkeley, Oakland and San Francisco. The City is nestled between the cities of Pinole and Richmond and the neighboring cities of El Cerrito and Hercules. The unincorporated community of El Sobrante is located to the north and south of the eastern extension of San Pablo. The north tip of Wildcat Canyon Park abuts the City's southeastern border. The City has an area of nearly 2.8 square miles. The regional setting is depicted in Figure 1.

Planning Boundaries

The Proposed Planning Area comprises a total of 1,790 acres (2.79 square miles) of both incorporated and unincorporated land bearing relation to the City's future growth. More specifically, the Planning Area extends north to the northern edge of the Bayview neighborhood touching Richmond Parkway, northeast to the Rollingwood residential area, east towards the Hillside neighborhood near El Portal Drive, west towards Giant Road, and south towards Costa Avenue. The Planning Area has been defined with the intention of focusing future growth on land contiguous to the city and encouraging urban infill. Being included within the Planning Area does not necessarily mean that the City is considering annexation.

City Limits

The City of San Pablo's existing City Limits encompasses approximately 1,666 acres (2.60 square miles) of incorporated land or 93 percent of the Planning Area. The existing City Limits include residential, commercial and industrial developments as well as public facilities, including parks and schools.

PROJECT SPONSOR'S NAME AND ADDRESS

Planning Division
City of San Pablo
13831 San Pablo Avenue, Building 3
San Pablo, California 94806

DESCRIPTION OF PROJECT

The City of San Pablo has initiated a comprehensive update of its General Plan (including the Housing Element), which is an opportunity for community members to explore long-term goals and development for the City. The State of California requires every city and county to have a comprehensive General Plan that serves as a constitution for long-term physical development. The Plan identifies current and future needs in areas such as land use, housing, transportation, public services, and environmental quality.

The purpose of the project is to update the City's existing General Plan to accommodate development through 2030. The last comprehensive update was completed in 1996. It is intended that this General Plan update will include land use and physical design, circulation, conservation, growth management, economic development, environment resource management (parks and recreation, noise and safety), and housing in addition to a public facilities and services element. The Housing Element will be separately reviewed by the HCD.

The General Plan Update will outline a comprehensive range of policies related to San Pablo's growth and conservation. The Update offers the Planning Commission and City Council an opportunity to establish the City's priorities related to growth through development of key infill sites, cross-town connectors, neighborhoods, and activity centers. A public participation process will provide opportunities for community input, and a General Plan Update Advisory Committee will work with City staff and the consultant team throughout the process. The new General Plan will serve as the framework for the City's Capital Improvements Program (CIP), any needed changes to zoning and other implementing ordinances, annual budget, and operations and maintenance activities.

The Draft General Plan resulting from the Update process will contain summary background information, goals, and policies addressing the following topics (which may be combined or be stand-alone elements):

- Land Use and Physical Design;
- Circulation;
- Growth Management;
- Economic Development;
- Environmental Resource Management (Parks and Recreation, Noise, and Safety);
- Housing; and
- Public Facilities and Services.

To meet the upcoming deadline of California's Department of Housing and Community Development (HCD) in 2009, the Housing Element will be updated concurrently with other General Plan Elements.

The EIR will analyze the potential consequences of adopting the proposed General Plan. It will discuss how General Plan policies will affect the environment, identify significant impacts, and recommend measures to mitigate those impacts. The EIR will also consider the environmental impacts of sketch plan alternatives developed earlier in the update process, and identify an environmentally superior alternative. This NOP is a required publication at the outset of the EIR process.

The EIR will provide a programmatic environmental assessment of the General Plan Update and identify potentially significant impact issues early in the process so that appropriate mitigation policies can be

developed and incorporated into the General Plan, and result in a "self-mitigating" document. Subsequent environmental review will be conducted for major development projects, public works and infrastructure improvements to evaluate site-specific issues.

A series of public hearings will allow for additional public input before City decision-makers certify the EIR and adopt the Plan.

SURROUNDING LAND USES

The Planning Area is largely surrounded by urban land uses from the City of Richmond. The unincorporated community of El Sobrante is located north and south of the eastern extension of San Pablo. Other unincorporated areas of Contra Costa Country are located north, east, and west of the city.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

No other public agency is required to approve the San Pablo General Plan Update. Development under the Plan, however, may require approval of State, federal and responsible trustee agencies that may rely on this EIR for information relative to their area of expertise and jurisdiction.

POTENTIAL ENVIRONMENTAL IMPACTS TO BE CONSIDERED

Preliminary topics for the EIR include:

- Land Use;
- Population and Housing;
- Visual Resources;
- Parks and Recreation;
- Biological Resources;
- Cultural Resources;
- Transportation;
- Air Quality;
- Noise;
- Geology and Seismicity;
- Water Resources;
- Hydrology and Water Quality;
- Wastewater and Solid Waste;
- Energy Use; and
- Hazardous Materials.

In addition to the potential environmental effects listed above, the EIR will evaluate potential cumulative effects of the proposed San Pablo General Plan Update as well as alternatives to the proposed General Plan. The No Project alternative will evaluate the impacts resulting from continued implementation of existing plans, policies, and regulations which govern the City. As appropriate, other alternatives that would avoid or lessen environmental effects related to the proposed Lemoore General Plan Update will be discussed. Referring to General Plan policies, the draft EIR will also recommend measures to mitigate environmental impacts.

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

Notice of Preparation

August 15, 2008

To: Reviewing Agencies

Re: City of San Pablo General Plan Update
SCH# 2008082069

Attached for your review and comment is the Notice of Preparation (NOP) for the City of San Pablo General Plan Update 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:

Tina Gallegos
City of San Pablo
13831 San Pablo Avenue, Building 3
San Pablo, CA 94806

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
Assistant Deputy Director & Senior Planner, State Clearinghouse

Attachments
cc: Lead Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2008082069
Project Title City of San Pablo General Plan Update
Lead Agency San Pablo, City of

Type NOP Notice of Preparation

Description The City of San Pablo has initiated a comprehensive update of its General Plan (including the Housing Element).

The purpose of the project is to update the City's existing General Plan to accommodate development through 2030. It is intended that this General Plan update will include land use and physical design, circulation, conservation, growth management, economic development, environment resource management (parks and recreation, noise and safety), and housing in addition to a public facilities and services element.

The Update offers the Planning Commission and City Council an opportunity to establish the City's priorities related to growth through development of key infill sites, cross-town connectors, neighborhoods, and activity centers.

The new General Plan will serve as the framework for the City's Capital Improvements Program (CIP), and needed changes to zoning and other implementing ordinances, annual budget, and operations and maintenance activities.

Lead Agency Contact

Name Tina Gallegos
Agency City of San Pablo
Phone (510) 215-3002 **Fax**
email
Address 13831 San Pablo Avenue, Building 3
City San Pablo **State** CA **Zip** 94806

Project Location

County Contra Costa
City
Region
Cross Streets
Lat / Long
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues Landuse; Population/Housing Balance; Aesthetic/Visual; Recreation/Parks; Biological Resources; Agricultural Land; Archaeologic-Historic; Traffic/Circulation; Air Quality; Noise; Geologic/Seismic; Water Quality; Solid Waste; Other Issues; Toxic/Hazardous

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 3; Department of Health Services; Office of Emergency Services; Native American Heritage Commission; California Highway Patrol; Department of Housing and Community Development; Caltrans, District 4; Integrated Waste Management Board; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 2

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: Contra Costa

SCH# 2008082069

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**
  Sharon Howell
- ☐ **California Energy Commission**
  Dale Edwards
- ☐ **Cal Fire**
  Allen Robertson
- ■ **Office of Historic Preservation**
  Wayne Donaldson
- ■ **Dept of Parks & Recreation**
  Environmental Stewardship Section
- ☐ **Central Valley Flood Protection Board**
  Mark Herald
- ☐ **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- ■ **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou
- ☐ _____
  Conservancy

Fish and Game

- ☐ **Depart. of Fish & Game**
  Scott Flint
  Environmental Services Division
- ☐ **Fish & Game Region 1**
  Donald Koch
- ☐ **Fish & Game Region 1E**
  Laurie Harnsberger
- ☐ **Fish & Game Region 2**
  Jeff Drongesen
- ■ **Fish & Game Region 3**
  Robert Floerke
- ☐ **Fish & Game Region 4**
  Julie Vance
- ☐ **Fish & Game Region 5**
  Don Chadwick
  Habitat Conservation Program
- ☐ **Fish & Game Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- ☐ **Fish & Game Region 6 I/M**
  Gabrina Getchel
  Inyo/Mono, Habitat Conservation Program
- ☐ **Dept. of Fish & Game M**
  George Isaac
  Marine Region

Other Departments

- ☐ **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture
- ☐ **Depart. of General Services**
  Public School Construction
- ☐ **Dept. of General Services**
  Anna Garbeff
  Environmental Services Section
- ■ **Dept. of Public Health**
  Veronica Malloy
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- ☐ **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
- ☐ **Santa Monica Bay Restoration**
  Guangyu Wang
- ☐ **State Lands Commission**
  Marina Brand
- ☐ **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- ☐ **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- ☐ **Caltrans - Planning**
  Terri Pencovic
- ■ **California Highway Patrol**
  Shirley Kelly
  Office of Special Projects
- ■ **Housing & Community Development**
  CEQA Coordinator
  Housing Policy Division

Dept. of Transportation

- ☐ **Caltrans, District 1**
  Rex Jackman
- ☐ **Caltrans, District 2**
  Marcelino Gonzalez
- ☐ **Caltrans, District 3**
  Bruce de Terra
- ■ **Caltrans, District 4**
  Lisa Carboni
- ☐ **Caltrans, District 5**
  David Murray
- ☐ **Caltrans, District 6**
  Michael Navarro
- ☐ **Caltrans, District 7**
  Elmer Alvarez
- ☐ **Caltrans, District 8**
  Dan Kopulsky
- ☐ **Caltrans, District 9**
  Gayle Rosander
- ☐ **Caltrans, District 10**
  Tom Dumas
- ☐ **Caltrans, District 11**
  Jacob Armstrong
- ☐ **Caltrans, District 12**
  Ryan P. Chamberlain

Cal EPA

Air Resources Board

- ☐ Airport Projects
  Jim Lerner
  - ☐ Transportation Projects
    Ravi Ramalingam
  - ☐ Industrial Projects
    Mike Tollstrup
- ■ **California Integrated Waste Management Board**
  Sue O'Leary
- ☐ **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- ☐ **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- ☐ **State Water Resouces Control Board**
  Steven Herrera
  Division of Water Rights
- ■ **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- ☐ **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- ☐ **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- ■ **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- ☐ **RWQCB 3**
  Central Coast Region (3)
- ☐ **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- ☐ **RWQCB 5S**
  Central Valley Region (5)
  - ☐ **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - ☐ **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- ☐ **RWQCB 6**
  Lahontan Region (6)
  - ☐ **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- ☐ **RWQCB 7**
  Colorado River Basin Region (7)
- ☐ **RWQCB 8**
  Santa Ana Region (8)
- ☐ **RWQCB 9**
  San Diego Region (9)
- ☐ **Other** _____

Last Updated on 08/13/2008

AC Transit
Research & Planning Dept
1600 Franklin Street
Oakland, CA 94612-2806

Contra Costa County Assessor
2530 Arnold Drive, Suite 100
Martinez, CA 94553

West County Sanitary District
2910 Hilltop Drive
Richmond, CA 94806

CCC Housing Authority
1805 Arnold Drive
Martinez, CA 94553

Pacific Gas & Electric Company
1100 South 27th Street
Richmond, CA 94801

Contra Costa County
Community Development Dept.
4th Floor, North Wing
651 Pine Street
Martinez, CA 94553

West Contra Costa Unified School Dist.
Nina Hurley, Facilities Planner
1300 Potrero Avenue
Richmond, CA 94804

City of Richmond
Planning Department
1401 Marina Way South
Richmond, CA 94804

Department of Transportation District 4
Environmental Planning & Engineering
111 Grand Avenue
P.O. Box 23660
Oakland, CA 94623-0660

East Bay Municipal Utility District
Water Service Planning
Attention Mr. Rehnstrom, Sr. Engineer
375 11th Street, MS 701
Oakland, CA 94607-4246

Bay Area Air Quality Management Dist.
939 Ellis Street
San Francisco, CA 94109

Contra Costa County Fire Protection Dist.
2010 Geary Blvd.
Pleasant Hill, CA 94523-4694

Contra Costa County Environmental Health
2120 Diamond Blvd. #200
Concord, CA 94520-5743

Marni Kinne-Lutes
SBC-Public Works Coordinator
2600 Camino Ramon; 2N450J
San Ramon, CA 94583

Northwest Information Center
Attention: Leigh Jordan
1303 Maurice Avenue
Rohnert Park, CA 94928

San Francisco Regional Water Quality Control Board
Matt Graul
1515 Clay Street; Suite 1400
Oakland, CA 94612

California Dept. of Fish & Game
Sandy Brenson
P.O. Box 47
Yountville, CA 94599

U.S. Army Engineer District
1455 Market Street, Floor 17
San Francisco, CA 94103-1368

Contra Costa County Flood Control Dist.
255 Glacier Drive
Martinez, CA 94553

Association of Bay Area Governments
P.O. Box 2050
Oakland, CA 94604-2050

State of California
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

Contra Costa County Library
1750 Oak Park Boulevard
Pleasant Hill, CA 94523

Contra Costa Water District
1331 Concord Avenue
Concord, CA 94520

The Ohlone Indian Tribe
Attn: Andrew Galvan
P.O. Box 3152
Mission San Jose, CA 94539

Indian Canyon Mutsun Band of Costanoan
Attn: Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister, CA 95024

Amah/Mutsun Tribal Band
Attn: Irene Zwierlein, Chairperson
789 Canada Road
Woodside, CA 94062

Lytton Rancheria Band of Pomo Indians
Attn: Margie Mejia, Chairperson
1300 N. Dutton, Suite A
Santa Rosa, CA 95401

County Clerk of Contra Costa
822 Main Street
Martinez, CA 94830

STATE OF CALIFORNIA

ARNOLD SCHWARZENEGGER, Governor

GOVERNOR'S OFFICE OF EMERGENCY SERVICES
DISASTER ASSISTANCE PROGRAMS BRANCH
3650 SCHRIEVER AVENUE
MATHER, CALIFORNIA 95655
PHONE: (916) 845-8101 FAX: (916) 845-8381

OES CALIFORNIA
Governor's Office of Emergency Services

September 3, 2008

Tina Gallegos
City of San Pablo
13831 San Pablo Avenue, Building 3
San Pablo, CA 94806

RE: Notice of Preparation for a Draft Environmental Impact Report for the City of San Pablo General Plan Update, SCH# 2008082069

Dear Ms. Gallegos:

Thank you for the opportunity to comment on your Notice of Preparation for a Draft Environmental Impact Report (DEIR) for the city's general plan update. In preparing the general plan and accompanying DEIR, the city should examine the sections of state planning law that involve potential hazards the city may face. For your information, I have underlined specific sections of state planning law where identification and analysis of hazards are discussed (see Attachment A).

Prior to the release of the draft general plan or within the DEIR, city staff or your consultants should examine each of the requirements in state planning law and determine if there are hazard issues within the community which the general plan should address. A table in the DEIR (or general plan) which identifies these specific issues and where they are addressed in the general plan would be helpful in demonstrating the city has complied with these requirements. If the DEIR determines that state planning law requirements have not been met, it should recommend that these issues be addressed in the general plan as a mitigation measure.

We note that state planning law includes a requirement for consultations with state agencies in regard to information related to hazards. OES would be happy to share all available information at our disposal to facilitate the city's ability to comply with state planning and environmental laws.

If you have any questions about these comments, please contact Andrew Rush at (916) 845-8269 or andrew.rush@OES.ca.gov.

Sincerely,

Dennis Castrillo

Dennis Castrillo
Environmental Officer

Attachment A
Hazards and State Planning Law Requirements

General Plan Consistency

65300.5. In construing the provisions of this article, the Legislature intends that the general plan and elements and parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency.

Seven Mandated Elements

65302. The general plan shall consist of a statement of development policies and shall include a diagram or diagrams and text setting forth objectives, principles, standards, and plan proposals. The plan shall include the following elements:

(a) A land use element that designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The location and designation of the extent of the uses of the land for public and private uses shall consider the identification of land and natural resources pursuant to paragraph (3) of subdivision (d). The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. The land use element shall identify and annually review those areas covered by the plan that are subject to flooding identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA) or the Department of Water Resources. The land use element shall also do both of the following:

(1) Designate in a land use category that provides for timber production those parcels of real property zoned for timberland production pursuant to the California Timberland Productivity Act of 1982, Chapter 6.7 (commencing with Section 51100) of Part 1 of Division 1 of Title 5.

(2) Consider the impact of new growth on military readiness activities carried out on military bases, installations, and operating and training areas, when proposing zoning ordinances or designating land uses covered by the general plan for land, or other territory adjacent to military facilities, or underlying designated military aviation routes and airspace.

(A) In determining the impact of new growth on military readiness activities, information provided by military facilities shall be considered. Cities and counties shall address military impacts based on information from the military and other sources.

(B) The following definitions govern this paragraph:

(i) "Military readiness activities" mean all of the following:

(I) Training, support, and operations that prepare the men and women of the military for combat.

(II) Operation, maintenance, and security of any military installation.

(III) Testing of military equipment, vehicles, weapons, and sensors for proper operation or suitability for combat use.

(ii) "Military installation" means a base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the United States Department of Defense as defined in paragraph (1) of subsection (e) of Section 2687 of Title 10 of the United States Code.

(b) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan.

(c) A housing element as provided in Article 10.6 (commencing with Section 65580).

(d) (1) A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. The conservation element shall consider the effect of development within the jurisdiction, as described in the land use element, on natural resources located on public lands, including military installations. That portion of the conservation element including waters shall be developed in coordination with any countywide water agency and with all district and city agencies, including flood management, water conservation, or groundwater agencies that have developed, served, controlled, managed, or conserved water of any type for any purpose in the county or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5, if that information has been submitted by the water agency to the city or county.

(2) The conservation element may also cover all of the following:

(A) The reclamation of land and waters.

(B) Prevention and control of the pollution of streams and other waters.

(C) Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.

(D) Prevention, control, and correction of the erosion of soils, beaches, and shores.

(E) Protection of watersheds.

(F) The location, quantity and quality of the rock, sand and gravel resources.

(3) Upon the next revision of the housing element on or after January 1, 2009, the conservation element shall identify rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

(e) An open-space element as provided in Article 10.5 (commencing with Section 65560).

(f) (1) A noise element which shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Care Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

(A) Highways and freeways.

(B) Primary arterials and major local streets.

(C) Passenger and freight on-line railroad operations and ground rapid transit systems.

(D) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.

(E) Local industrial plants, including, but not limited to, railroad classification yards.

(F) Other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

(2) Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average level (Ldn). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified in paragraphs (1) to (6), inclusive.

(3) The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

(4) The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards.

(g) (1) A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction, and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wild land and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

(2) The safety element, upon the next revision of the housing element on or after January 1, 2009, shall also do the following:

(A) Identify information regarding flood hazards, including, but not limited to, the following:

(i) Flood hazard zones. As used in this subdivision, "flood hazard zone" means an area subject to flooding that is delineated as either a special hazard area or an area of moderate or minimal hazard on an official flood insurance rate map issued by the Federal Emergency Management Agency. The identification of a flood hazard zone does not imply that areas outside the flood hazard zones or uses permitted within flood hazard zones will be free from flooding or flood damage.

(ii) National Flood Insurance Program maps published by FEMA.

(iii) Information about flood hazards that is available from the United States Army Corps of Engineers.

(iv) Designated floodway maps that are available from the Central Valley Flood Protection Board.

(v) Dam failure inundation maps prepared pursuant to Section 8589.5 that are available from the Office of Emergency Services.

(vi) Awareness Floodplain Mapping Program maps and 200-year flood plain maps that are or may be available from, or accepted by, the Department of Water Resources.

(vii) Maps of levee protection zones.

(viii) Areas subject to inundation in the event of the failure of project or nonproject levees or floodwalls.

(ix) Historical data on flooding, including locally prepared maps of areas that are subject to flooding, areas that are vulnerable to flooding after wildfires, and sites that have been repeatedly damaged by flooding.

(x) Existing and planned development in flood hazard zones, including structures, roads, utilities, and essential public facilities.

(xi) Local, state, and federal agencies with responsibility for flood protection, including special districts and local offices of emergency services.

(B) Establish a set of comprehensive goals, policies, and objectives based on the information identified pursuant to subparagraph (A), for the protection of the community from the unreasonable risks of flooding, including, but not limited to:

(i) Avoiding or minimizing the risks of flooding to new development.

(ii) Evaluating whether new development should be located in flood hazard zones, and identifying construction methods or other methods to minimize damage if new development is located in flood hazard zones.

(iii) Maintaining the structural and operational integrity of essential public facilities during flooding.

(iv) Locating, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities or identifying construction methods or other methods to minimize damage if these facilities are located in flood hazard zones.

(v) Establishing cooperative working relationships among public agencies with responsibility for flood protection.

(C) Establish a set of feasible implementation measures designed to carry out the goals, policies, and objectives established pursuant to subparagraph (B).

(3) After the initial revision of the safety element pursuant to paragraph (2), upon each revision of the housing element, the planning agency shall review and, if necessary, revise the safety element to identify new information that was not available during the previous revision of the safety element.

(4) Cities and counties that have flood plain management ordinances that have been approved by FEMA that substantially comply with this section, or have substantially equivalent provisions to this subdivision in their general plans, may use that information in the safety element to comply with this subdivision, and shall summarize and incorporate by reference into the safety element the other general plan provisions or the flood plain ordinance, specifically showing how each requirement of this subdivision has been met.

(5) Prior to the periodic review of its general plan and prior to preparing or revising its safety element, each city and county shall consult the California Geological Survey of the Department of Conservation, the Central Valley Flood Protection Board, if the city or county is located within the boundaries of the Sacramento and San Joaquin Drainage District, as set forth in Section 8501 of the Water Code, and the Office of Emergency Services for the purpose of including information known by and available to the department, the office, and the board required by this subdivision.

(6) To the extent that a county's safety element is sufficiently detailed and contains appropriate policies and programs for adoption by a city, a city may adopt that portion of the county's safety element that pertains to the city's planning area in satisfaction of the requirement imposed by this subdivision.

Consistency with Airport Land Use Plans

65302.3. (a) The general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the plan adopted or amended pursuant to Section 21675 of the Public Utilities Code.

Review of Safety Element

65302.5. (a) At least 45 days prior to adoption or amendment of the safety element, each county and city shall submit to the Division of Mines and Geology of the Department of Conservation one copy of a draft of the safety element or amendment and any technical studies used for

developing the safety element. The division may review drafts submitted to it to determine whether they incorporate known seismic and other geologic hazard information, and report its findings to the planning agency within 30 days of receipt of the draft of the safety element or amendment pursuant to this subdivision. The legislative body shall consider the division's findings prior to final adoption of the safety element or amendment unless the division's findings are not available within the above prescribed time limits or unless the division has indicated to the city or county that the division will not review the safety element. If the division's findings are not available within those prescribed time limits, the legislative body may take the division's findings into consideration at the time it considers future amendments to the safety element. Each county and city shall provide the division with a copy of its adopted safety element or amendments. The division may review adopted safety elements or amendments and report its findings. All findings made by the division shall be advisory to the planning agency and legislative body.

(1) The draft element of or draft amendment to the safety element of a county or a city's general plan shall be submitted to the State Board of Forestry and Fire Protection and to every local agency that provides fire protection to territory in the city or county at least 90 days prior to either of the following:

(A) The adoption or amendment to the safety element of its general plan for each county that contains state responsibility areas.

(B) The adoption or amendment to the safety element of its general plan for each city or county that contains a very high fire hazard severity zone as defined pursuant to subdivision (b) of Section 51177.

(2) A county that contains state responsibility areas and a city or county that contains a very high fire hazard severity zone as defined pursuant to subdivision (b) of Section 51177, shall submit for review the safety element of its general plan to the State Board of Forestry and Fire Protection and to every local agency that provides fire protection to territory in the city or county in accordance with the following dates as specified, unless the local government submitted the element within five years prior to that date:

(A) Local governments within the regional jurisdiction of the San Diego Association of Governments: December 31, 2010.

(B) Local governments within the regional jurisdiction of the Southern California Association of Governments: December 31, 2011.

(C) Local governments within the regional jurisdiction of the Association of Bay Area Governments: December 31, 2012.

(D) Local governments within the regional jurisdiction of the Council of Fresno County Governments, the Kern County Council of Governments, and the Sacramento Area Council of Governments: June 30, 2013.

(E) Local governments within the regional jurisdiction of the Association of Monterey Bay Area Governments: December 31, 2014.

(F) All other local governments: December 31, 2015.

(3) The State Board of Forestry and Fire Protection shall, and a local agency may, review the draft or an existing safety element and report its written recommendations to the planning agency within 60 days of its receipt of the draft or existing safety element. The State Board of Forestry and Fire Protection and local agency shall review the draft or existing safety element and may offer written recommendations for changes to the draft or existing safety element regarding both of the following:

(A) Uses of land and policies in state responsibility areas and very high fire hazard severity zones that will protect life, property, and natural resources from unreasonable risks associated with wildland fires.
(B) Methods and strategies for wildland fire risk reduction and prevention within state responsibility areas and very high hazard severity zones.
(b) Prior to the adoption of its draft element or draft amendment, the board of supervisors of the county or the city council of a city shall consider the recommendations made by the State Board of Forestry and Fire Protection and any local agency that provides fire protection to territory in the city or county. If the board of supervisors or city council determines not to accept all or some of the recommendations, if any, made by the State Board of Forestry and Fire Protection or local agency, the board of supervisors or city council shall communicate in writing to the State Board of Forestry and Fire Protection or to the local agency, its reasons for not accepting the recommendations.

Open Space Plans

65560. (a) "Local open-space plan" is the open-space element of a county or city general plan adopted by the board or council, either as the local open-space plan or as the interim local open-space plan adopted pursuant to Section 65563.
(b) "Open-space land" is any parcel or area of land or water that is essentially unimproved and devoted to an open-space use as defined in this section, and that is designated on a local, regional or state open-space plan as any of the following:
(1) Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands.
(2) Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of groundwater basins; bays, estuaries, marshes, rivers and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.
(3) 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.
(4) Open space for public health and safety, including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality.

EAST BAY
MUNICIPAL UTILITY DISTRICT

September 2, 2008

Tina Gallegos, Associate City Planner
Planning Division
City of San Pablo
13831 San Pablo Avenue, Building 3
San Pablo, CA 94806

Re: Notice of Preparation of a Draft Environmental Impact Report – City of San Pablo General Plan Update

Dear Ms. Gallegos:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report (EIR) for the City of San Pablo (City) General Plan Update. EBMUD has the following comments.

WATER SERVICE

The Notice of Preparation does not reference specific development projects. Any development project associated with the General Plan Update will be subject to the following general requirements.

Main extensions that may be required to serve any specific development projects to provide adequate domestic water supply, fire flows, and system redundancy will be at the project sponsor's expense. Pipeline and fire hydrant relocations and replacements due to modifications of existing streets, and off-site pipeline improvements, also at the project sponsor's expense, may be required depending on EBMUD metering requirements and fire flow requirements set by the local fire department. All project sponsors should contact EBMUD's New Business Office and request a water service estimate to determine costs and conditions of providing water service to the development. Engineering and installation of new and relocated pipeline and services requires substantial lead-time, which should be provided for in the project sponsor's development schedule.

Please note that depending on the size and/or square footage, the lead agency for future individual projects within the City's General Plan Update should contact EBMUD to request a Water Supply Assessment (WSA) that meets the threshold of a WSA pursuant to Section 15155 of the California Environmental Quality Act Guidelines, and Section 10910-10915 of the California Water Code. EBMUD requires project sponsors to provide future water demand data and estimates for

individual project sites for analysis of the WSA. Please be aware that the WSA can take up to 90 days to complete from the day on which the request is received.

WATER RECYCLING

EBMUD's Policy 8.01 requires that customers use non-potable water for non-domestic purposes when it is of adequate quality and quantity, available at reasonable cost, not detrimental to public health and not injurious to plant life, fish and wildlife to offset demand on EBMUD's limited potable water supply. The City and its planning area are located within EBMUD's recycled water service boundaries. As part of the water supply planning, EBMUD will consider the feasibility of providing recycled water to the City and its planning area for appropriate uses including landscape irrigation, commercial and industrial process uses, toilet and urinal flushing in non-residential buildings and other applications. EBMUD recommends that the City require developers of new or redevelopment projects within the City and its planning area to coordinate and consult with EBMUD regarding the feasibility of providing recycled water for appropriate non-potable purposes.

WATER CONSERVATION

The proposed San Pablo General Plan presents an opportunity to incorporate water conservation measures to help mitigate the impacts of additional water demands on the EBMUD's finite water supply. EBMUD would request that as part of the General Plan update, the City update their water conservation guidelines to be more consistent with the following two documents:

1. The state Model Water Efficient Landscape Ordinance, AB 325 currently under revision.
2. The recommendations of Governors AB 2717 Landscape Taskforce available at the California Urban Water Conservation Council (CUWCC) www.cuwcc.org

EBMUD staff would appreciate the opportunity to meet with City planners. Key objectives of this meeting would be to explore:

1. Best landscape, irrigation and building water conservation practices for new development.
2. How best to coordinate each of our agency's services to achieve the highest practical water use efficiencies in buildings and landscapes.
3. State-of-the-art water conservation technology.

If you have any questions concerning this response, please contact David J. Rehnstrom, Senior Civil Engineer, Water Service Planning at (510) 287-1365.

Sincerely,

William R. Kirkpatrick
Manager of Water Distribution Planning

WRK:LAT:sb
sb08_235.doc

DEPARTMENT OF TRANSPORTATION
111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 622-5491
FAX (510) 286-5559
TTY 711

Flex your power!
Be energy efficient!

September 15, 2008

CCGen010
SCH#2008082069

Ms. Tina Gallegos
City of San Pablo
13831 San Pablo Ave, Building 3
San Pablo, CA 94806

Dear Ms. Gallegos:

City of San Pablo General Plan Update – Notice of Preparation

Thank you for to including the California Department of Transportation (Department) in the environmental review process for the proposed City of San Pablo General Plan Update. We have reviewed the Notice of Preparation (NOP) for the Draft Environmental Impact Report (DEIR) and offer the following comments:

As lead agency, the City of San Pablo is responsible for all project mitigation, including improvements to State highways. The project's fair share contribution, financing, scheduling, and implementation responsibilities as well as lead agency monitoring should be fully discussed for all proposed mitigation measures. This information should also be presented in the Mitigation Monitoring and Reporting Plan of the DEIR. Any required roadway improvements should be completed prior to issuance of the project's building permit.

While an encroachment permit is only required when the project involves work in the State Right of Way (ROW), the Department will not issue an encroachment permit until our concerns have been adequately addressed. Therefore, we strongly recommend that the lead agency ensure resolution of the Department's concerns prior to submittal of an encroachment permit application.

Traffic Impact Analysis, Highway Operations and Fees

The Department is primarily concerned with impacts to the State Highway System. Specifically, a detailed Traffic Impact Analysis (TIA) should identify impacts to the State Highway System. The TIA should include, but is not limited to the following:

1. Information on the project's traffic impacts in terms of trip generation, distribution, and assignment. The assumptions and methodologies used in compiling this information should be addressed.

2. Average Daily Traffic (ADT) and AM and PM peak hour volumes on all significantly affected streets and highways, including crossroads and controlling intersections.

3. Schematic illustration of the traffic conditions for: 1) existing, 2) existing plus project, and 3) cumulative for the intersections in the project area.

4. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect the State Highway facilities being evaluated.

5. Mitigation measures should consider highway and non-highway improvements and services. Special attention should be given to the development of alternate solutions to circulation problems that do not rely on increased highway construction.

6. All mitigation measures proposed should be fully discussed, including financing, scheduling, implementation responsibilities, and lead agency monitoring.

We encourage the City of San Pablo to coordinate preparation of the TIA with our office, and we would appreciate the opportunity to review the scope of work. We recommend using the Department's Guide for the Preparation of Traffic Impact Studies for determining which scenarios and methodologies to use in the analysis. It is available at the following website address:
http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf

We look forward to reviewing the TIA, including technical appendices, the electronic raw traffic volume counts and the "Synchro" files for this project. We expect to receive a copy from the State Clearinghouse, but in order to expedite our review, you may send two copies in advance to:

Lisa Carboni
Office of Transit and Community Planning Office, MS 10D
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

Additionally, please identify any traffic impact fees. Development plans should require traffic impact fees based on projected traffic and based on associated cost estimates for public transportation facilities necessitated by development (Office of Planning and Research General Plan (OPR-GP) Guidelines p. 163).

Scheduling and costs associated with planned improvements on State ROW should be listed in addition to identifying viable funding sources correlated to the pace of improvements for roadway improvements, if any (OPR-GP Guidelines, p. 106).

Community Planning

Local Coordination
The General Plan Update should identify and demonstrate analysis on direct or indirect adverse effect on the local communities. Discuss all efforts to ensure meaningful opportunities for public participation and discussion on beneficial and adverse impacts on the overall community in terms of air, noise, water pollution, hazardous waste, community cohesion, employment effects, traffic congestion, safety and construction/temporary impacts (FHWA Western Resource Center Interim Guidance on Environmental Justice, 2001).

Moreover, the Department encourages you to locate any needed housing, jobs and neighborhood services near major mass transit nodes, and connect these uses with streets configured to facilitate walking and biking, as a means of promoting mass transit use and reducing regional vehicle miles traveled (VMT) and traffic impacts on the state highways.

Please consider developing and applying pedestrian, bicycling and transit performance or quality of service measures and modeling pedestrian, bicycle and transit trips that your plan will generate so that impacts can be quantified. Mitigation measures resulting from this analysis could improve pedestrian and bicycle access to transit facilities, thereby reducing traffic impacts on state highways. In tandem with urban design treatments, these measures could include Travel Demand Management (TDM) policies (for example, lower parking ratios, car-sharing programs, transit subsidies, etc.) to encourage usage of nearby public transit lines.

In addition, please analyze secondary impacts on pedestrians and bicyclists that may result from any traffic impact mitigation measures. Please describe any pedestrian and bicycle mitigation measures and safety countermeasures that would therefore be needed as a means of maintaining and improving access to transit facilities and reducing traffic impacts on state highways

Improvements on Interstate 80 (I-80)
Please be aware that the Department plans include several projects on I-80 and Interstate 580 (I-580) in the vicinity of San Pablo. Scheduling of construction and other project phases are subject to change:

- Highway planting and irrigation on I-80, which is scheduled to begin Spring 2008 and end in Summer 2011;
- Replace eastbound Hilltop Drive Overcrossing on I-80, which is scheduled to begin Summer 2008 and end in Fall 2009;
- Conduct environmental studies on I-80 for the San Pablo Dam Road interchange, which is scheduled to begin Summer 2010 and end Fall 2012;

Planning Consistency
Updates to the General Plan should be consistent with the County's General Plan and the Contra Costa Transportation Authority's Congestion Management Plan.

Land Use
Comprehensive land use planning ensures adequate buffers between residential / commercial development and industrial uses. Adequate buffer zones would alleviate potential congestion, noise complaints, increased biological impacts and increased exposure to harmful pollutants. Good land use practices promote energy efficient, affordable and sustainable living that will reduce VMT on State ROW.

Cumulative Impact and Sustainability
Cumulative impacts should also be considered where the updates to the General Plan would affect the State ROW such as any transportation of hazardous material on State ROW, greenhouse emissions, community impacts, traffic impacts, tree removal, endangered species, seasonal wetlands, and water quality impacts (e.g. drainages, culverts etc.).

Also, please show how the proposed land uses in the General Plan Update will promote sustainable transportation along the I-80 corridor. For example will analysis show that methods for reducing traffic congestion and minimizing the existing carbon footprint (through better land use mixing, bike lockers, showers and alternative modes of transportation such as transit, trains, biking, carpooling and park and ride lots) are beneficial for transportation?

Hazardous Waste
Avoiding heavily contaminated sites is highly recommended in order to reduce excessive impacts, costs and project delays related to State's ROW. Please describe any significant hazards to the public or the environment through routine transport, use or disposal of hazardous materials as well as any foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Greenhouse Gases
Recent concern about greenhouse gas (GHGs) emissions and the current release of Office of Planning and Research (OPR) Technical Advisory (June 19, 2008) have increased emphasis on the need to evaluate GHG impact. OPR's Technical Advisory has provided guidance on methods to identify potential emissions. Any increased emissions and/or expanded carbon footprint due to increased VMT should be evaluated and mitigation recommended, where appropriate.

Water Quality
Please identify any alterations or impacts to drainage facilities, and culverts on State ROW. Review the California Environmental Quality Act (CEQA) guidance Appendix G Environmental Checklist for Hydrology and Water Quality specifically c) and e) to ensure compliance.

Cultural Resources
If construction activities are proposed within the State's ROW, the Department requires documented results of a current archaeological record search from the Northwest Information Center (NIC) of the California Historical Resources Information System before an encroachment permit can be issued. Current record searches must be no more than five years old.

The Department requires the records search, and if warranted, a cultural resource study by a qualified, professional archaeologist, to ensure compliance with NEPA (if there is federal action on the project), CEQA, Section 5024.5 of the California Public Resources Code (for state-owned historic resources) and Volume 2 of the Department's Environmental Handbook (Caltrans Standard Environmental Reference (SER), available at http://www.dot.ca.gov/hq/env/index.htm). Work subject to these requirements includes, but is not limited to: lane widening, channelization, auxiliary lanes, and/or modification of existing features such as slopes, drainage features, curbs, sidewalks and driveways within or adjacent to State ROW.

Encroachment Permit
Any work or traffic control within the State ROW requires an encroachment permit that is issued by the Department. Traffic-related mitigation measures will be incorporated into the construction plans during the encroachment permit process. See the following website link for more information: http://www.dot.ca.gov/hq/traffops/developserv/permits/

To apply for an encroachment permit, submit a completed encroachment permit application, environmental documentation, and five (5) sets of plans which clearly indicate State ROW to the address at the top of this letterhead, marked ATTN: Michael Condie, Mail Stop #5E.

Should you have any questions regarding this letter, please contact Lisa Courington of my staff at (510) 286-5505 or via email at lisa.ann.courington@dot.ca.gov.

Sincerely,

LISA CARBONI
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

STATE OF CALIFORNIA

Arnold Schwarzenegger, *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

August 22, 2008

Tina Gallegos
City of San Pablo
13831 San Pablo Ave., Bldg. 3
San Pablo, CA 94806

Re: Notice of Preparation, Environmental Impact Report (DEIR)
City of San Pablo General Plan Update
SCH# 2008082069

Dear Ms. Gallegos:

As the state agency responsible for rail safety within California, the California Public Utilities Commission (CPUC or Commission) recommends that development projects proposed near rail corridors be planned with the safety of these corridors in mind. New developments and improvements to existing facilities may increase vehicular traffic volumes, not only on streets and at intersections, but also at at-grade highway-rail crossings. In addition, projects may increase pedestrian traffic at crossings, and elsewhere along rail corridor rights-of-way. Working with CPUC staff early in project planning will help project proponents, agency staff, and other reviewers to identify potential project impacts and appropriate mitigation measures, and thereby improve the safety of motorists, pedestrians, railroad personnel, and railroad passengers.

The Commission urges your agency to include consideration of potential project-related rail safety impacts, and measures to reduce adverse impacts in the DEIR for the update to your General Plan. In general, the major types of impacts to consider are collisions between trains and vehicles, and between trains and pedestrians. Changes in land use should not be allowed that would permit housing adjacent to existing rail yards. Similarly, where a need for grade-separated crossings is identified, new development should not be placed adjacent to at-grade highway rail crossings, within the footprint of land needed for future grade-separation structures.

General categories of measures to reduce potential adverse impacts on rail safety include:

- Installation of grade separations at crossings, i.e., physically separating roads and railroad track by constructing overpasses or underpasses
- Improvements to warning devices at existing highway-rail crossings
- Installation of additional warning signage
- Improvements to traffic signaling at intersections adjacent to crossings, e.g., traffic preemption
- Installation of median separation to prevent vehicles from driving around railroad crossing gates
- Where soundwalls, landscaping, buildings, etc. would be installed near crossings, maintaining the visibility of warning devices and approaching trains

- Prohibition of parking within 100 feet of crossings to improve the visibility of warning devices and approaching trains
- Installation of pedestrian-specific warning devices and channelization
- Construction of pull-out lanes for buses and vehicles transporting hazardous materials
- Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way
- Elimination of driveways near crossings
- Increased enforcement of traffic laws at crossings
- Rail safety awareness programs to educate the public about the hazards of highway-rail grade crossings

CPUC also encourages the establishment of mechanisms whereby new developments pay a fair share of their impact costs to fund the above measures, as appropriate, if such mechanisms do not currently exist.

If relevant, when considering school siting, the General Plan should reference the California Code of Regulations, Title 5, Section 14010(d), which mandates safety studies related to railroads for certain school sites:

> If the proposed site is within 1,500 feet of a railroad track easement, a safety study shall be done by a competent professional trained in assessing cargo manifests, frequency, speed, and schedule of railroad traffic, grade, curves, type and condition of track, need for sound or safety barriers, need for pedestrian and vehicle safeguards at railroad crossing, presence of high pressure gas lines near the tracks that could rupture in the event of a derailment, preparation of an evacuation plan. In addition to the analysis, possible and reasonable mitigation measures must be identified.

Commission approval is required to modify an existing highway-rail crossing or to construct a new crossing. If the project includes a proposed new crossing, the CPUC will be a responsible party under CEQA and the impacts of the crossing must be discussed in its CEQA documentation.

Thank you for your consideration of these comments. If you have any questions in this matter, please call me at (415) 703-1306.

Sincerely,

Daniel Kevin

Daniel Kevin
Regulatory Analyst
Consumer Protection and Safety Division

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT
SINCE 1955

ALAMEDA COUNTY
Tom Bates
Scott Haggerty
Janet Lockhart
Nate Miley

CONTRA COSTA COUNTY
John Gioia
Mark Ross
Michael Shimansky
Gayle B. Uilkema

MARIN COUNTY
Harold C. Brown, Jr.

NAPA COUNTY
Brad Wagenknecht
(Secretary)

SAN FRANCISCO COUNTY
Chris Daly
Jake McGoldrick
Gavin Newsom

SAN MATEO COUNTY
Jerry Hill
(Chair)
Carol Klatt

SANTA CLARA COUNTY
Erin Garner
Yoriko Kishimoto
Liz Kniss

SOLANO COUNTY
John F. Silva

SONOMA COUNTY
Tim Smith
Pamela Torliatt
(Vice-Chair)

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

September 10, 2008

Tina Gallegos, Planner
Planning Division
City of San Pablo
13831 San Pablo Avenue Building 3
San Pablo, CA 94806

Subject: Notice of Preparation of an Environmental Impact Report (EIR) for the City of San Pablo General Plan Update

Dear Ms. Gallegos:

Bay Area Air Quality Management District (District) staff reviewed your agency's Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the City of San Pablo General Plan Update (Project). We understand that the Project establishes goals and policies to guide future development in the City of San Pablo through 2030. The District has the following specific comments on the environmental analysis that should be included in the EIR.

1. The EIR should provide background information regarding the District's attainment status for all criteria pollutants and the implications for the region if these standards are not attained by statutory deadlines. This background information should also include the U.S. Environmental Protection Agency's (EPA) adoption of a new, more health protective national ozone standard. A discussion of the health effects of air pollution, especially on sensitive receptors, should be provided.

2. The *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans (1999)* provide guidance on how to evaluate a project's consistency with the District's Clean Air Pan. You may download a copy from the District's web site at: http://www.baaqmd.gov/pln/ceqa/index.htm.

3. The EIR should evaluate the potential land use compatibility impacts of siting sensitive receptors in close proximity to sources of toxic air contaminants (TAC) as a result of project implementation. We suggest referring to ARB's *Air Quality and Land Use Handbook: A Community Health Perspective* for guidelines on siting sensitive land uses. (http://www.arb.ca.gov/ch/landuse.htm)

4. The EIR should evaluate the Project's potential to increase the demand for energy. Increasing the demand for electricity, natural gas, and gasoline will result in an increase of criteria air pollutant emissions from combustion, as well as an increase in greenhouse gas emissions. We recommend that the EIR evaluate energy demand of the Project at build-out, including any cumulative impacts, such as the need to build peaker power plants to provide power during peak demand. When identifying strategies to minimize the Project's impact on energy and air quality, the EIR

should include feasible mitigation measures that require a minimum level of green building measures for new development. This minimum level could be based on the Leadership in Energy and Environmental Design (LEED) standards or by setting a target percentage reduction below California Building Code's Title 24 energy standards. Green building measures could include but are not limited to using: super-efficient heating, ventilation, and air conditioning (HVAC) systems; light-colored and reflective roofing materials, pavement treatments and other energy efficient building materials; shade trees adjacent to buildings and in parking areas; photovoltaic panels on buildings; and natural light and energy-efficient lighting.

5. The EIR should evaluate greenhouse gas (GHG) emissions associated with Project implementation. We recommend you consult the recent technical advisory issued by the Governor's Office of Planning and Research, *CEQA And Climate Change: Addressing Climate Change Through California Environmental Quality (CEQA) Act Review* for guidance on evaluating and mitigating GHG impacts in CEQA documents. The document can be found online at http://opr.ca.gov/. An additional resource to assist you in this area is a document released by the California Air Pollution Control Officers Association (CAPCOA) addressing GHG emissions from projects subject to CEQA. The resource document, *CEQA and Climate Change,* contains an overview of available tools and models for evaluating GHG emissions and strategies for mitigating potentially significant GHG emissions from projects. The report may be downloaded at http://www.capcoa.org. The Project should seek to minimize its contribution to climate change by implementing all feasible mitigation measures to reduce GHG emissions.

If you have any questions regarding these comments, please contact Nadine Wilmot, Environmental Planner, at (415) 749-5074.

Sincerely,

Jean Roggenkamp
Deputy Air Pollution Control Officer

cc: BAAQMD Director John Gioia
BAAQMD Director Mark Ross
BAAQMD Director Michael Shimansky
BAAQMD Director Gayle B. Uilkema

TOMARAS & OGAS, LLP

10755-F SCRIPPS POWAY PARKWAY #281 • SAN DIEGO, CALIFORNIA 92131
TELEPHONE (858) 554-0550 • FACSIMILE (858) 777-5765 • WWW.MTOWLAW.COM

btomaras@mtowlaw.com

September 2, 2008

Tina Gallegos, AICP
Associate City Planner
City of San Pablo, Planning Division
13831 San Pablo Avenue, Building 3
San Pablo, CA 94806

Re: Notice of Preparation of Draft Environmental Impact Report for the City of San Pablo General Plan Update

Dear Ms. Gallegos:

Our firm represents the Lytton Rancheria of California. The Lytton Rancheria of California, a federally recognized Indian Tribe (hereinafter "Lytton Tribe"), submits the following response to your Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the City of San Pablo General Plan Update (hereinafter "the Project"). The Lytton Tribe formally requests that it be involved in the entire General Plan Update and Environmental Impact Report (EIR) process for the proposed Project.

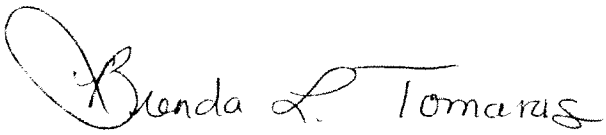
The Lytton Tribe, as one of the City's larger employers and a land holder in the City of San Pablo, has an interest in how the City revises its General Plan and the potential impacts of those revisions to the Tribe's current and future business expansion and land use. The Tribe has maintained an excellent working relationship with the City, and looks forward to continuing that relationship throughout this process.

As such, the Lytton Tribe requests that the City include the Tribe as a partner in the development of the General Plan Update. Further, the Lytton Tribe requests that the draft EIR specifically commit to the inclusion of the Tribe as a partner in the assessment of impacts on the Tribe's economic development activities and land uses within the City limits.

The Lytton Band appreciates the opportunity to provide comments on the Notice of Preparation for the Draft EIR on the City of San Pablo's General Plan Update and looks forward to working together with the City and other interested agencies.

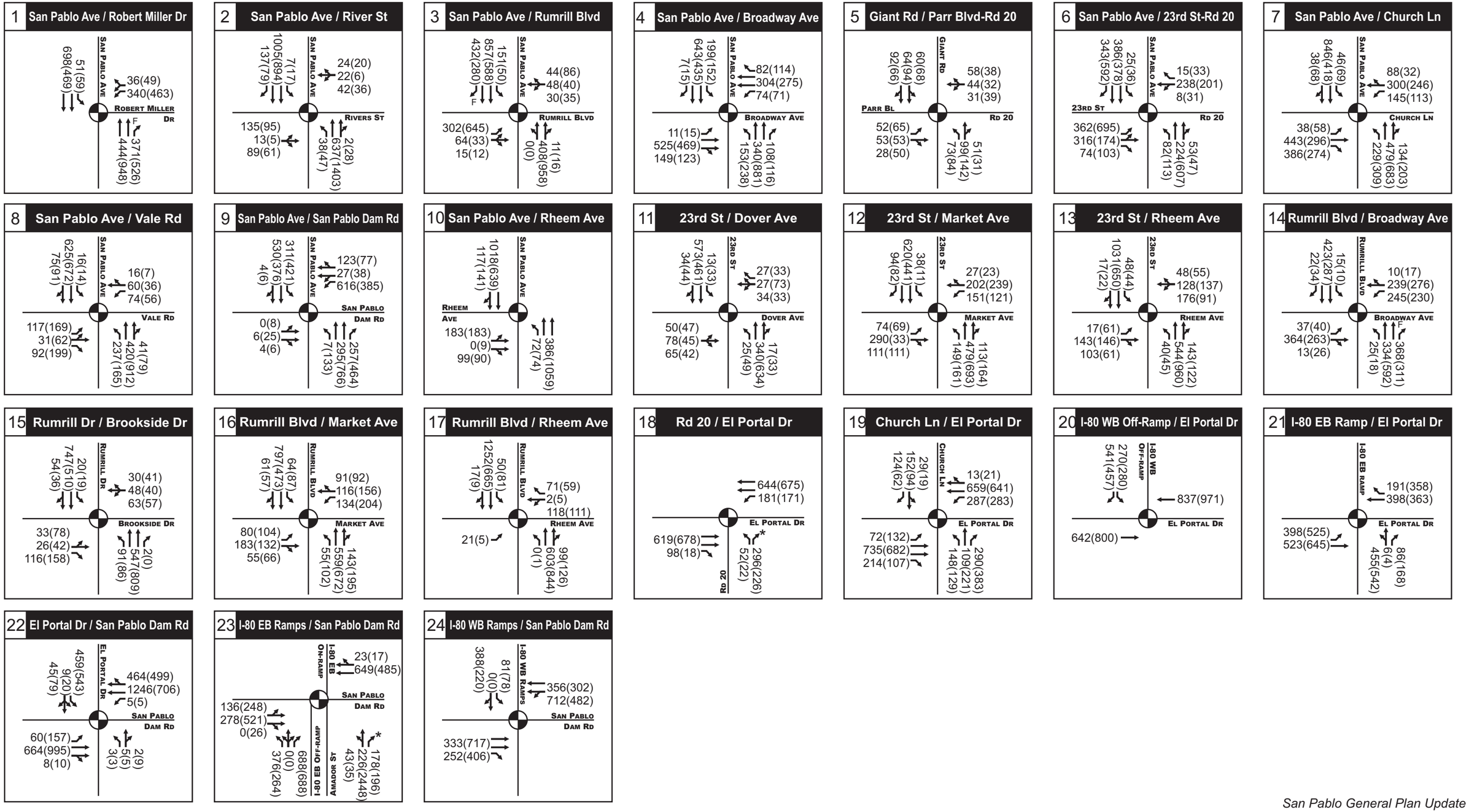
Very truly yours,

TOMARAS & OGAS, LLP



Brenda L. Tomaras
Attorneys for the Lytton Rancheria of California

Appendix B: Transportation Volume Figures and Modelling Results



San Pablo General Plan Update

LEGEND

Traffic lanes — F Free Right Movement

Signalized Intersection — * Stop sign Controlled Movement

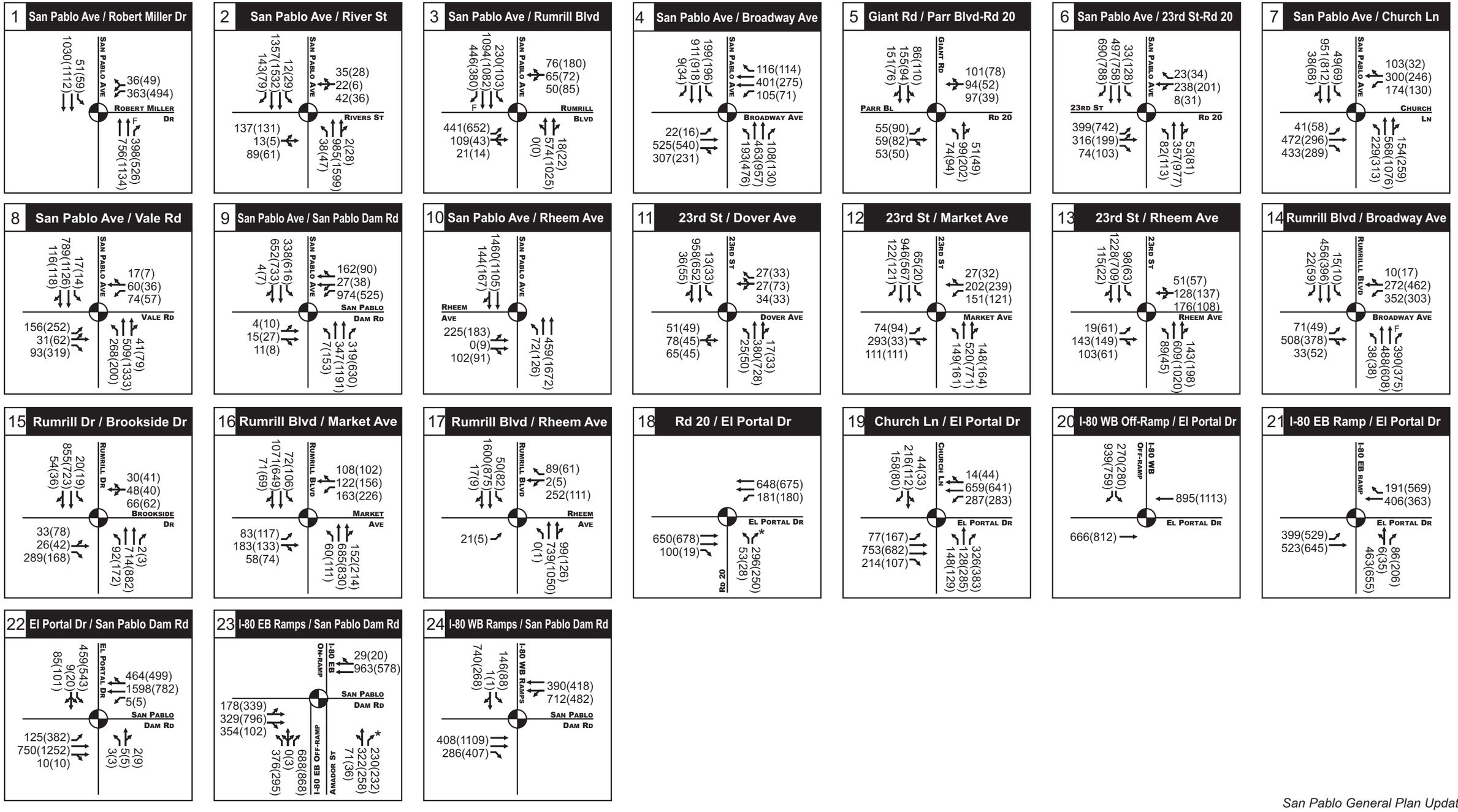
XX(YY) AM(PM) Peak Hour Volumes

N W E S

Not to Scale

Existing Lane Geometry & Peak Hour Volume AM(PM)

Dowling Associates, Inc.
Transportation Engineering • Planning • Research • Education



San Pablo General Plan Update

LEGEND

Traffic lanes — F Free Right Movement

Signalized Intersection — * Stop sign Controlled Movement

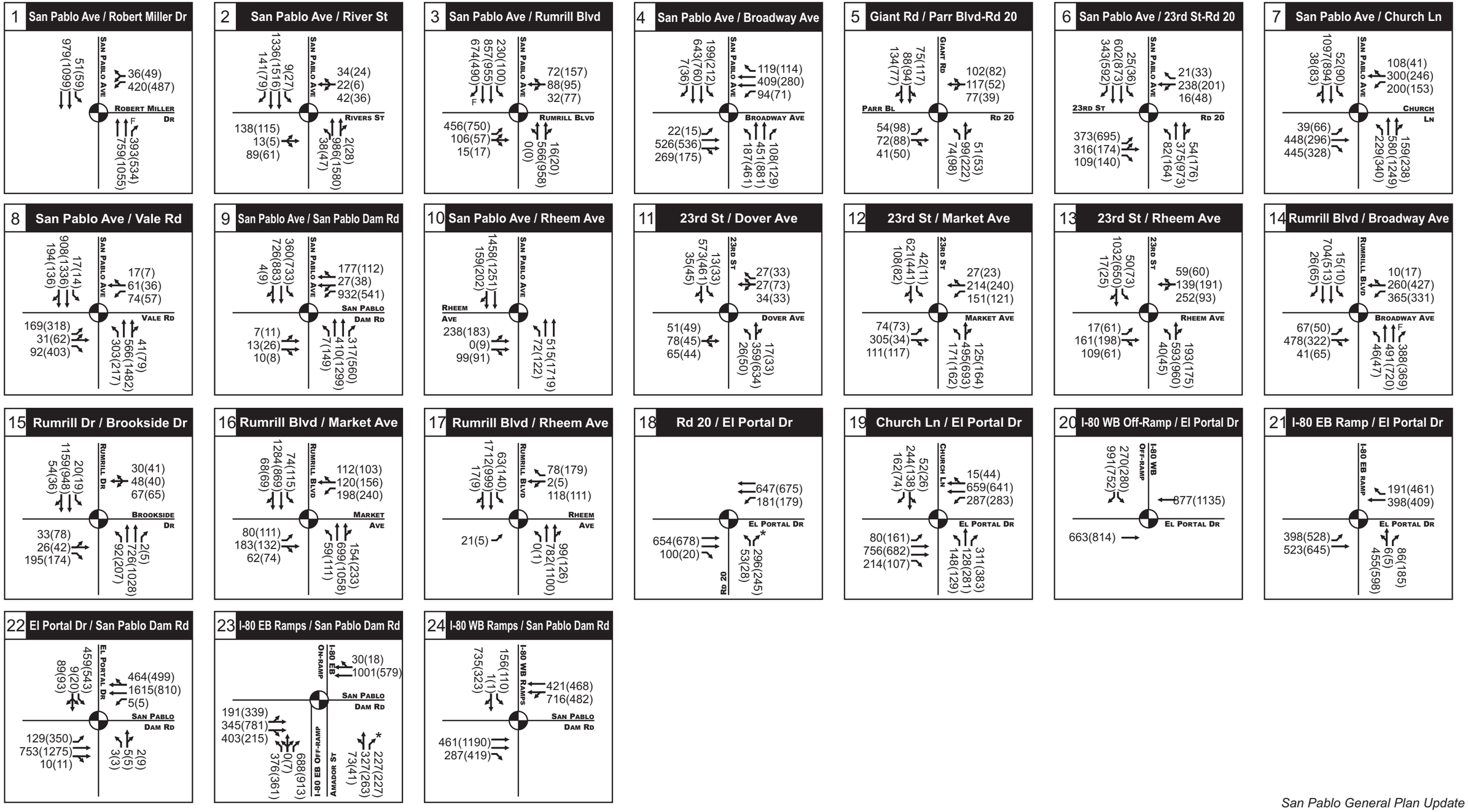
XX(YY) AM(PM) Peak Hour Volumes

N W E S

Not to Scale

Cumulative
No Project Alternative
Lane Geometry & Peak Hour Volume
AM(PM)

Dowling Associates, Inc.
Transportation Engineering • Planning • Research • Education



San Pablo General Plan Update

LEGEND

Traffic lanes — F Free Right Movement

Signalized Intersection — * Stop sign Controlled Movement

XX(YY) AM(PM) Peak Hour Volumes

N W E S

Not to Scale

Dowling Associates, Inc.
Transportation Engineering • Planning • Research • Education

Cumulative
General Plan Update
Lane Geometry & Peak Hour Volume
AM(PM)

San Pablo General Plan Update
Existing AM Peak Hour

Scenario Report

Scenario:	ExAM
Command:	ExAM
Volume:	ExAM
Geometry:	Ex
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #101 San Pablo Ave/Robert Miller Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.323
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	A

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			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	0 1	1 0	2	0 0	0 0	0	0 0	1 0	1!	0 0
Volume Module: >> Count Date: 14 Apr 2005 <<												
Base Vol:	0	444	371	51	698	0	0	0	0	340	0	36
Growth Adj:	1.00	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	444	371	51	698	0	0	0	0	340	0	36
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:	0	444	371	51	698	0	0	0	0	340	0	36
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	444	371	51	698	0	0	0	0	340	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	444	371	51	698	0	0	0	0	340	0	36
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	444	371	51	698	0	0	0	0	340	0	36
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	0	444	371	51	698	0	0	0	0	340	0	36
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.81	0.00	0.19
Final Sat.:	0	3440	1720	1720	3440	0	0	0	0	2828	0	329
Capacity Analysis Module:												
Vol/Sat:	0.00	0.13	0.22	0.03	0.20	0.00	0.00	0.00	0.00	0.12	0.00	0.11
Crit Volume:	0				349			0		188		
Crit Moves:	****				****					****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #102 San Pablo Ave/Rivers St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.525
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 Level Of Service: A

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	2	0	1	0	0	1!	0	0	0	0	1!	0	0
Volume Module:																
Base Vol:	38	637	2		7	1005	137		135	13	89		42	22	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:	38	637	2		7	1005	137		135	13	89		42	22	24	
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:	38	637	2		7	1005	137		135	13	89		42	22	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:	38	637	2		7	1005	137		135	13	89		42	22	24	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	38	637	2		7	1005	137		135	13	89		42	22	24	
RTOR Reduct:	0	0	0		0	0	135		0	0	0		0	0	0	
RTOR Vol:	38	637	2		7	1005	2		135	13	89		42	22	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	
FinalVolume:	38	637	2		7	1005	2		135	13	89		42	22	24	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.99	0.01		1.00	2.00	1.00		0.57	0.05	0.38		0.48	0.25	0.27	
Final Sat.:	1650	3290	10		1650	3300	1650		940	91	620		788	413	450	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.19	0.19		0.00	0.30	0.00		0.14	0.14	0.14		0.05	0.05	0.05	
Crit Volume:	38					503					237			88		
Crit Moves:	****					****					****			****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #103 San Pablo Ave//Rumrill Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.442
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

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				Ignore				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	1	1	0	1	0	2	0	1	1	0	1!	0	0	0	0	1!	0	0
Volume Module: >> Count Date: 1 Oct 2005 <<																
Base Vol:	0	408	11		151	857	432		302	64	15		30	48	44	
Growth Adj:	1.00	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	408	11		151	857	432		302	64	15		30	48	44	
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:	0	408	11		151	857	432		302	64	15		30	48	44	
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	408	11		151	857	432		302	64	15		30	48	44	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	408	11		151	857	432		302	64	15		30	48	44	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	0	408	11		151	857	432		302	64	15		30	48	44	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	0	408	11		151	857	432		302	64	15		30	48	44	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	1.95	0.05		1.00	2.00	1.00		1.58	0.34	0.08		0.25	0.39	0.36	
Final Sat.:	0	3350	90		1720	3440	1720		2479	578	135		423	677	620	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.12	0.12		0.09	0.25	0.25		0.12	0.11	0.11		0.07	0.07	0.07	
Crit Volume:	0					429			190					122		
Crit Moves:	****					****			****					****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #104 San Pablo Ave//Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.537
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	1	1	0	
Volume Module:																
Base Vol:	153	340	108		199	643		7	11	525	149		74	304	82	
Growth Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	153	340	108		199	643		7	11	525	149		74	304	82	
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:	153	340	108		199	643		7	11	525	149		74	304	82	
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:	153	340	108		199	643		7	11	525	149		74	304	82	
Reduct Vol:	0	0	0		0	0		0	0	0	0		0	0	0	
Reduced Vol:	153	340	108		199	643		7	11	525	149		74	304	82	
RTOR Reduct:	0	0	74		0	0		7	0	0	0		0	0	82	
RTOR Vol:	153	340	34		199	643		0	11	525	149		74	304	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	
FinalVolume:	153	340	34		199	643		0	11	525	149		74	304	0	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650		1650	1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00		1.00	1.00	1.56	0.44		1.00	2.00	1.00	
Final Sat.:	1650	3300	1650		1650	3300		1650	1650	2570	730		1650	3300	1650	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.10	0.02		0.12	0.19		0.00	0.01	0.20	0.20		0.04	0.09	0.00	
Crit Volume:	153					322					337		74			
Crit Moves:	****					****					****		****			

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #105 Giant Rd/Parr Bl-Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.239
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 24 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	0	1	0	1	0	0	1	0	0	1!	0
Volume Module: >> Count Date: 12 Dec 2006 <<																
Base Vol:	73	99	51		60	64		92	52	53	28		31	44	58	
Growth Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	73	99	51		60	64		92	52	53	28		31	44	58	
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:	73	99	51		60	64		92	52	53	28		31	44	58	
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:	73	99	51		60	64		92	52	53	28		31	44	58	
Reduct Vol:	0	0	0		0	0		0	0	0	0		0	0	0	
Reduced Vol:	73	99	51		60	64		92	52	53	28		31	44	58	
RTOR Reduct:	0	0	0		0	0		0	0	0	0		0	0	0	
RTOR Vol:	73	99	51		60	64		92	52	53	28		31	44	58	
PCE Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	73	99	51		60	64		92	52	53	28		31	44	58	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650		1650	1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.66	0.34		0.56	0.59		0.85	1.00	0.65	0.35		0.23	0.33	0.44	
Final Sat.:	1650	1089	561		917	978		1406	1650	1080	570		385	546	720	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.09	0.09		0.07	0.07		0.07	0.03	0.05	0.05		0.08	0.08	0.08	
Crit Volume:	73					108					81			133		
Crit Moves:	****					****					****			****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #106 San Pablo Ave/Rd 20/23rrd St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.542
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: A

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	2	0	1	1	1	0	0	1	0	1	0	0	1
Volume Module: >> Count Date: 1 Feb 2004 <<																
Base Vol:	82	224	53		25	386	343		362	316	74		8	238	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:	82	224	53		25	386	343		362	316	74		8	238	15	
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:	82	224	53		25	386	343		362	316	74		8	238	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:	82	224	53		25	386	343		362	316	74		8	238	15	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	82	224	53		25	386	343		362	316	74		8	238	15	
RTOR Reduct:	0	0	0		0	0	199		0	0	74		0	0	15	
RTOR Vol:	82	224	53		25	386	144		362	316	0		8	238	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	
FinalVolume:	82	224	53		25	386	144		362	316	0		8	238	0	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.62	0.38		1.00	2.00	1.00		1.07	0.93	1.00		0.03	0.97	1.00	
Final Sat.:	1650	2669	631		1650	3300	1650		1602	1538	1650		54	1596	1650	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.08	0.08		0.02	0.12	0.09		0.23	0.21	0.00		0.15	0.15	0.00	
Crit Volume:	82					193			339					246		
Crit Moves:	****					****			****					****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #107 Church Ln/San Pablo Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.763
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 96 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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	0	1	0
Volume Module: >> Count Date: 1 Aug 2006 <<																
Base Vol:	229	479	134		46	846	38		38	443	386		145	300	88	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	229	479	134		46	846	38		38	443	386		145	300	88	
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:	229	479	134		46	846	38		38	443	386		145	300	88	
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:	229	479	134		46	846	38		38	443	386		145	300	88	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	229	479	134		46	846	38		38	443	386		145	300	88	
RTOR Reduct:	0	0	0		0	0	0		0	0	229		0	0	0	
RTOR Vol:	229	479	134		46	846	38		38	443	157		145	300	88	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	229	479	134		46	846	38		38	443	157		145	300	88	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.56	0.44		1.00	1.91	0.09		1.00	1.00	1.00		1.00	0.77	0.23	
Final Sat.:	1650	2579	721		1650	3158	142		1650	1650	1650		1650	1276	374	
Capacity Analysis Module:																
Vol/Sat:	0.14	0.19	0.19		0.03	0.27	0.27		0.02	0.27	0.10		0.09	0.24	0.24	
Crit Volume:	229						442			443			145			
Crit Moves:	****						****			****			****			

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #108 San Pablo Ave//Vale Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.451
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 42 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	0	1	1	0	0	1	0
Volume Module: >> Count Date: 1 Oct 2005 <<																
Base Vol:	237	420	41		16	625	75		117	31	92		74	60	16	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	237	420	41		16	625	75		117	31	92		74	60	16	
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:	237	420	41		16	625	75		117	31	92		74	60	16	
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:	237	420	41		16	625	75		117	31	92		74	60	16	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	237	420	41		16	625	75		117	31	92		74	60	16	
RTOR Reduct:	0	0	0		0	0	0		0	0	92		0	0	0	
RTOR Vol:	237	420	41		16	625	75		117	31	0		74	60	16	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	237	420	41		16	625	75		117	31	0		74	60	16	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.82	0.18		1.00	1.79	0.21		1.58	0.42	1.00		1.00	0.79	0.21	
Final Sat.:	1650	3007	293		1650	2946	354		2371	691	1650		1650	1303	347	
Capacity Analysis Module:																
Vol/Sat:	0.14	0.14	0.14		0.01	0.21	0.21		0.05	0.04	0.00		0.04	0.05	0.05	
Crit Volume:	237					350			74						76	
Crit Moves:	****					****			****						****	

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #109 San Pablo Ave/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.486
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 44 Level Of Service: A

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	1	1	0	0	1	0	1	1	0
Volume Module: >> Count Date: 1 Dec 2005 <<																
Base Vol:	7	295	257		311	530	4		0	6	4		616	27	123	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	7	295	257		311	530	4		0	6	4		616	27	123	
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:	7	295	257		311	530	4		0	6	4		616	27	123	
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:	7	295	257		311	530	4		0	6	4		616	27	123	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	7	295	257		311	530	4		0	6	4		616	27	123	
RTOR Reduct:	0	0	257		0	0	0		0	0	0		0	0	0	
RTOR Vol:	7	295	0		311	530	4		0	6	4		616	27	123	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	7	295	0		311	530	4		0	6	4		616	27	123	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.99	0.01		0.00	1.20	0.80		2.00	0.18	0.82	
Final Sat.:	1650	3300	1650		1650	3275	25		0	1980	1320		3000	297	1353	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.09	0.00		0.19	0.16	0.16		0.00	0.00	0.00		0.21	0.09	0.09	
Crit Volume:		148			311					5			308			
Crit Moves:		****			****					****			****			

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #110 San Pablo Ave//Rheem Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.457
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: A

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				WideBypass				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	0	0	1	1	0	1	0	0	0	1	0	0
Volume Module: >> Count Date: 1 Oct 2005 <<																
Base Vol:	72	386	0		0	1018	117		183	0	99		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	72	386	0		0	1018	117		183	0	99		0	0	0	
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:	72	386	0		0	1018	117		183	0	99		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:	72	386	0		0	1018	117		183	0	99		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	72	386	0		0	1018	117		183	0	99		0	0	0	
RTOR Reduct:	0	0	0		0	0	0		0	0	90		0	0	0	
RTOR Vol:	72	386	0		0	1018	117		183	0	9		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	
FinalVolume:	72	386	0		0	1018	117		183	0	9		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	1.79	0.21		1.00	0.00	1.00		0.00	0.00	0.00	
Final Sat.:	1800	3600	0		0	3229	371		1800	0	1800		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.11	0.00		0.00	0.32	0.32		0.10	0.00	0.01		0.00	0.00	0.00	
Crit Volume:	72						568		183					0		
Crit Moves:	****						****		****							

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #111 23rd St/Dover Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.388
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 30 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	0	1!	0	0	0	1! 0 1
Volume Module:																
Base Vol:	25	340	17		13	573	34		50	78	65		34	27	27	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	25	340	17		13	573	34		50	78	65		34	27	27	
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:	25	340	17		13	573	34		50	78	65		34	27	27	
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:	25	340	17		13	573	34		50	78	65		34	27	27	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	25	340	17		13	573	34		50	78	65		34	27	27	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	13	
RTOR Vol:	25	340	17		13	573	34		50	78	65		34	27	14	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	25	340	17		13	573	34		50	78	65		34	27	14	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.91	
Lanes:	1.00	1.90	0.10		1.00	1.89	0.11		0.26	0.40	0.34		0.91	0.09	1.00	
Final Sat.:	1720	3276	164		1720	3247	193		446	695	579		1559	161	1563	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.10	0.10		0.01	0.18	0.18		0.11	0.11	0.11		0.02	0.17	0.01	
Crit Volume:	25					304			50					289		
Crit Moves:	****					****			****					****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #112 23rd St/Market Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.535
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:		Include			Include			WideBypass			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module: >> Count Date: 1 Aug 2006 <<												
Base Vol:	149	479	113	38	620	94	74	290	111	151	202	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	479	113	38	620	94	74	290	111	151	202	27
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:	149	479	113	38	620	94	74	290	111	151	202	27
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:	149	479	113	38	620	94	74	290	111	151	202	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	479	113	38	620	94	74	290	111	151	202	27
RTOR Reduct:	0	0	0	0	0	74	0	0	90	0	0	0
RTOR Vol:	149	479	113	38	620	20	74	290	21	151	202	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	149	479	113	38	620	20	74	290	21	151	202	27
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.62	0.38	1.00	2.00	1.00	1.00	0.93	0.07	1.00	0.88	0.12
Final Sat.:	1720	2783	657	1720	3440	1720	1720	1604	116	1720	1517	203
Capacity Analysis Module:												
Vol/Sat:	0.09	0.17	0.17	0.02	0.18	0.01	0.04	0.18	0.18	0.09	0.13	0.13
Crit Volume:	149				310			311		151		
Crit Moves:	****				****			****		****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #113 23rd St/Rheem Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.640
Loss Time (sec): 6 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 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			Permitted			Permitted		
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	0 0	1! 0	0
Volume Module: >> Count Date: 1 Aug 2006 <<												
Base Vol:	40	544	143	48	1031	17	17	143	103	176	128	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	544	143	48	1031	17	17	143	103	176	128	48
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:	40	544	143	48	1031	17	17	143	103	176	128	48
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:	0.77	0.77	0.77	0.90	0.90	0.90	0.76	0.76	0.76	0.91	0.91	0.91
PHF Volume:	52	706	186	53	1146	19	22	188	136	193	141	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	52	706	186	53	1146	19	22	188	136	193	141	53
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	52	706	186	53	1146	19	22	188	136	193	141	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
FinalVolume:	52	706	186	53	1146	19	22	188	136	193	141	53
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.58	0.42	1.00	1.97	0.03	1.00	0.58	0.42	0.50	0.36	0.14
Final Sat.:	1800	2851	749	1800	3542	58	1800	1046	754	900	655	245
Capacity Analysis Module:												
Vol/Sat:	0.03	0.25	0.25	0.03	0.32	0.32	0.01	0.18	0.18	0.21	0.21	0.21
Crit Volume:	52				582				324	193		
Crit Moves:	****				****				****	****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #114 Rumrilll Blvd/Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.523
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 Level Of Service: A

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				Split Phase				Split Phase			
Rights:	Ignore				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	0	1	0	1	0
Volume Module:																	
Base Vol:	25	334	368		15	423		22	37	364		13	245	239		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:	25	334	368		15	423		22	37	364		13	245	239		10
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:	25	334	368		15	423		22	37	364		13	245	239		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:	25	334	368		15	423		22	37	364		13	245	239		10
Reduct Vol:	0	0	0		0	0		0	0	0		0	0	0		0
Reduced Vol:	25	334	368		15	423		22	37	364		13	245	239		10
RTOR Reduct:	0	0	0		0	0		22	0	0		0	0	0		0
RTOR Vol:	25	334	368		15	423		0	37	364		13	245	239		10
PCE Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	25	334	368		15	423		0	37	364		13	245	239		10
Saturation Flow Module:																	
Sat/Lane:	1650	1650	1650		1650	1650		1650	1650	1650		1650	1650	1650		1650
Adjustment:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	1.00	2.00	1.00		1.00	2.00		1.00	1.00	0.97		0.03	1.00	0.96		0.04
Final Sat.:	1650	3300	1650		1650	3300		1650	1650	1593		57	1650	1584		66
Capacity Analysis Module:																	
Vol/Sat:	0.02	0.10	0.22		0.01	0.13		0.00	0.02	0.23		0.23	0.15	0.15		0.15
Crit Volume:	25					212						377				249
Crit Moves:	****					****						****				****

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #115 Rumrill Dr/Brookside Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.463
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	WideBypass				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	1	1	0	0	1	0	0	1!	0	0
Volume Module: >> Count Date: 2 Feb 2006 <<																	
Base Vol:	91	547	2		20	747		54	33	26		116	63	48		30
Growth Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	91	547	2		20	747		54	33	26		116	63	48		30
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:	91	547	2		20	747		54	33	26		116	63	48		30
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:	0.86	0.86	0.86		0.87	0.87		0.87	0.78	0.78		0.78	0.75	0.75		0.75
PHF Volume:	106	636	2		23	859		62	42	33		149	84	64		40
Reduct Vol:	0	0	0		0	0		0	0	0		0	0	0		0
Reduced Vol:	106	636	2		23	859		62	42	33		149	84	64		40
RTOR Reduct:	0	0	2		0	0		0	0	0		106	0	0		0
RTOR Vol:	106	636	0		23	859		62	42	33		43	84	64		40
PCE Adj:	1.00	1.00	1.00		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
FinalVolume:	106	636	0		23	859		62	42	33		43	84	64		40
Saturation Flow Module:																	
Sat/Lane:	1720	1720	1720		1720	1720		1720	1720	1720		1720	1720	1720		1720
Adjustment:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	1.00	2.00	1.00		1.00	1.87		0.13	0.56	0.44		1.00	0.45	0.34		0.21
Final Sat.:	1720	3440	1720		1720	3208		232	962	758		1720	769	586		366
Capacity Analysis Module:																	
Vol/Sat:	0.06	0.18	0.00		0.01	0.27		0.27	0.04	0.04		0.02	0.11	0.11		0.11
Crit Volume:	106					460			42					188		
Crit Moves:	****					****			****					****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #116 Rumrill Blvd/Market Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.589
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 55 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	
Volume Module:																
Base Vol:	55	559	143		64	797	61		80	183	55		134	116	91	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	55	559	143		64	797	61		80	183	55		134	116	91	
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:	55	559	143		64	797	61		80	183	55		134	116	91	
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:	0.92	0.92	0.92		0.79	0.79	0.79		0.93	0.93	0.93		0.87	0.87	0.87	
PHF Volume:	60	608	155		81	1009	77		86	197	59		154	133	105	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	60	608	155		81	1009	77		86	197	59		154	133	105	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	60	608	155		81	1009	77		86	197	59		154	133	105	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	60	608	155		81	1009	77		86	197	59		154	133	105	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.59	0.41		1.00	1.86	0.14		1.00	0.77	0.23		1.00	0.56	0.44	
Final Sat.:	1720	2739	701		1720	3195	245		1720	1323	397		1720	964	756	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.22	0.22		0.05	0.32	0.32		0.05	0.15	0.15		0.09	0.14	0.14	
Crit Volume:	60						543				256		154			
Crit Moves:	****						****				****		****			

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #117 Rumrill Blvd/Rheem Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.451
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	
Volume Module:																
Base Vol:	0	603	99		50	1252	17		21	0	0		118	2	71	
Growth Adj:	1.00	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	603	99		50	1252	17		21	0	0		118	2	71	
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:	0	603	99		50	1252	17		21	0	0		118	2	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:	0	603	99		50	1252	17		21	0	0		118	2	71	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	603	99		50	1252	17		21	0	0		118	2	71	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	50	
RTOR Vol:	0	603	99		50	1252	17		21	0	0		118	2	21	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	0	603	99		50	1252	17		21	0	0		118	2	21	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.72	0.28		1.00	1.97	0.03		1.00	0.00	0.00		0.98	0.02	1.00	
Final Sat.:	1720	2955	485		1720	3394	46		1720	0	0		1691	29	1720	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.20	0.20		0.03	0.37	0.37		0.01	0.00	0.00		0.07	0.07	0.01	
Crit Volume:	0						635		21					120		
Crit Moves:	****						****		****					****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #118 El Portal Dr/Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.352
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	0 1	0	0	0	0 0	0	0	2	0 1	1	0	2	0 0
Volume Module:																
Base Vol:	52	0	296		0	0	0		0	619	98		181	644	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:	52	0	296		0	0	0		0	619	98		181	644	0	
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:	52	0	296		0	0	0		0	619	98		181	644	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:	52	0	296		0	0	0		0	619	98		181	644	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	52	0	296		0	0	0		0	619	98		181	644	0	
RTOR Reduct:	0	0	181		0	0	0		0	0	52		0	0	0	
RTOR Vol:	52	0	115		0	0	0		0	619	46		181	644	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	
FinalVolume:	52	0	115		0	0	0		0	619	46		181	644	0	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.00	1.00		0.00	0.00	0.00		0.00	2.00	1.00		1.00	2.00	0.00	
Final Sat.:	1720	0	1720		0	0	0		0	3440	1720		1720	3440	0	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.00	0.07		0.00	0.00	0.00		0.00	0.18	0.03		0.11	0.19	0.00	
Crit Volume:			115		0					310			181			
Crit Moves:			****							****			****			

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #119 Church Ln/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.572
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 43 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	0 1	0	1	0	0 1	1	0	2	0 1	1	0	1	1 0
Volume Module: >> Count Date: 23 Mar 2004 <<																
Base Vol:	148	109	290		29	152	124		72	735	214		287	659	13	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	148	109	290		29	152	124		72	735	214		287	659	13	
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:	148	109	290		29	152	124		72	735	214		287	659	13	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	148	109	290		29	152	124		72	735	214		287	659	13	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	148	109	290		29	152	124		72	735	214		287	659	13	
RTOR Reduct:	0	0	287		0	0	72		0	0	148		0	0	0	
RTOR Vol:	148	109	3		29	152	52		72	735	66		287	659	13	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	148	109	3		29	152	52		72	735	66		287	659	13	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		0.16	0.84	1.00		1.00	2.00	1.00		1.00	1.96	0.04	
Final Sat.:	1720	1720	1720		276	1444	1720		1720	3440	1720		1720	3373	67	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.06	0.00		0.11	0.11	0.03		0.04	0.21	0.04		0.17	0.20	0.20	
Crit Volume:	148					181				368			287			
Crit Moves:	****					****				****			****			

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #120 I-80 WB Off-ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.766
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 79 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:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0	0	1 0	0	0 1	0 0	1	0 0	0 0	1	0 0
Volume Module: >> Count Date: 23 Mar 2004 <<												
Base Vol:	0	0	0	270	0	541	0	642	0	0	837	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	270	0	541	0	642	0	0	837	0
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:	0	0	0	270	0	541	0	642	0	0	837	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	0	0	270	0	541	0	642	0	0	837	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	270	0	541	0	642	0	0	837	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	270	0	541	0	642	0	0	837	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
FinalVolume:	0	0	0	270	0	541	0	642	0	0	837	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Final Sat.:	0	0	0	1800	0	1800	0	1800	0	0	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.00	0.30	0.00	0.36	0.00	0.00	0.47	0.00
Crit Volume:	0					541	0				837	
Crit Moves:						****	****				****	

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #121 I-80 EB ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.731
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 85 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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 0	0	0 0	1 0	1	0 0	0 0	1	0 1
Volume Module: >> Count Date: 23 Mar 2004 <<												
Base Vol:	455	6	86	0	0	0	398	523	0	0	398	191
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	455	6	86	0	0	0	398	523	0	0	398	191
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:	455	6	86	0	0	0	398	523	0	0	398	191
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:	455	6	86	0	0	0	398	523	0	0	398	191
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	455	6	86	0	0	0	398	523	0	0	398	191
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	455	6	86	0	0	0	398	523	0	0	398	191
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	455	6	86	0	0	0	398	523	0	0	398	191
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.99	0.01	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1698	22	1720	0	0	0	1720	1720	0	0	1720	1720
Capacity Analysis Module:												
Vol/Sat:	0.27	0.27	0.05	0.00	0.00	0.00	0.23	0.30	0.00	0.00	0.23	0.11
Crit Volume:	461				0		398				398	
Crit Moves:	****						****				****	

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #122 El Portal Dr/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.730
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 84 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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	1	0	1!	0	0	1	0	1	1	0	0
Volume Module: >> Count Date: 23 Mar 2004 <<																
Base Vol:	3	5	2		459	9	45		60	664	8		5	1246	464	
Growth Adj:	1.00	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	5	2		459	9	45		60	664	8		5	1246	464	
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:	3	5	2		459	9	45		60	664	8		5	1246	464	
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	5	2		459	9	45		60	664	8		5	1246	464	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	3	5	2		459	9	45		60	664	8		5	1246	464	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	3	5	2		459	9	45		60	664	8		5	1246	464	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	3	5	2		459	9	45		60	664	8		5	1246	464	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.71	0.29		1.79	0.03	0.18		1.00	1.98	0.02		1.00	1.46	0.54	
Final Sat.:	1650	1179	471		2684	58	289		1650	3261	39		1650	2405	895	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.17	0.16	0.16		0.04	0.20	0.20		0.00	0.52	0.52	
Crit Volume:			7		256				60					855		
Crit Moves:			****		****				****					****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #123 I-80 EB ramps/San Pablo Dam Rd [N=Amador St; S=I-80 EB ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.698
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Split Phase				Split Phase				Split Phase				Split Phase			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0	1	1	0	1!	0	1	0	1	0	1	0	1
Volume Module: >> Count Date: 1 Oct 2005 <<																
Base Vol:	43	226	178		376	0	688		136	278	0		0	649	23	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	43	226	178		376	0	688		136	278	0		0	649	23	
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:	43	226	178		376	0	688		136	278	0		0	649	23	
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:	43	226	178		376	0	688		136	278	0		0	649	23	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	43	226	178		376	0	688		136	278	0		0	649	23	
RTOR Reduct:	0	0	0		0	0	136		0	0	0		0	0	0	
RTOR Vol:	43	226	178		376	0	552		136	278	0		0	649	23	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	43	226	178		376	0	552		136	278	0		0	649	23	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		0.91	1.00	0.91		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.16	0.84	1.00		1.22	xxxx	1.78		0.66	1.34	0.00		0.00	1.93	0.07	
Final Sat.:	264	1386	1650		1823	0	2676		1084	2216	0		0	3187	113	
Capacity Analysis Module:																
Vol/Sat:	0.16	0.16	0.11		0.21	0.00	0.21		0.13	0.13	0.00		0.00	0.20	0.20	
Crit Volume:		269			309					207				336		
Crit Moves:		****			****					****				****		

San Pablo General Plan Update
Existing AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #124 I-80 WB Ramps/San Pablo Dam Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.751
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	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:	Split Phase				Split Phase				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0 0	1	0	0	1 0	0	0	2	0 1	0	1	1	0 0
Volume Module: >> Count Date: 1 Oct 2005 <<																
Base Vol:	0	0	0	81	0	388	0	333	252	712	356	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	81	0	388	0	333	252	712	356	0				
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:	0	0	0	81	0	388	0	333	252	712	356	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	0	0	81	0	388	0	333	252	712	356	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	81	0	388	0	333	252	712	356	0				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0				
RTOR Vol:	0	0	0	81	0	388	0	333	252	712	356	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	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				
FinalVolume:	0	0	0	81	0	388	0	333	252	1424	356	0				
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	1.00	1.00	1.00	0.00				
Final Sat.:	0	0	0	1800	0	1800	0	3600	1800	1800	1800	0				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.22	0.00	0.09	0.14	0.40	0.20	0.00				
Crit Volume:	0					388			252	712						
Crit Moves:						****			****	****						

San Pablo General Plan Update
Existing PM Peak Hour

Scenario Report

Scenario:	ExPM
Command:	ExPM
Volume:	ExPM
Geometry:	Ex
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #101 San Pablo Ave/Robert Miller Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.474
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	A

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			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	1! 0	0
Volume Module:												
Base Vol:	0	948	526	59	469	0	0	0	0	463	0	49
Growth Adj:	1.00	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	948	526	59	469	0	0	0	0	463	0	49
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:	0	948	526	59	469	0	0	0	0	463	0	49
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	948	526	59	469	0	0	0	0	463	0	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	948	526	59	469	0	0	0	0	463	0	49
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	948	526	59	469	0	0	0	0	463	0	49
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	0	948	526	59	469	0	0	0	0	463	0	49
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.81	0.00	0.19
Final Sat.:	0	3440	1720	1720	3440	0	0	0	0	2828	0	329
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.31	0.03	0.14	0.00	0.00	0.00	0.00	0.16	0.00	0.15
Crit Volume:		474		59				0		256		
Crit Moves:		****		****						****		

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #102 San Pablo Ave/Rivers St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.579
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 54 Level Of Service: A

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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	2	0 1	0	0	1!	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	47	1403	28	17	894	79	95	5	61	36	6	20				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	47	1403	28	17	894	79	95	5	61	36	6	20				
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:	47	1403	28	17	894	79	95	5	61	36	6	20				
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:	47	1403	28	17	894	79	95	5	61	36	6	20				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	47	1403	28	17	894	79	95	5	61	36	6	20				
RTOR Reduct:	0	0	0	0	0	79	0	0	0	0	0	0				
RTOR Vol:	47	1403	28	17	894	0	95	5	61	36	6	20				
PCE Adj:	1.00	1.00	1.00	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				
FinalVolume:	47	1403	28	17	894	0	95	5	61	36	6	20				
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	0.59	0.03	0.38	0.58	0.10	0.32				
Final Sat.:	1650	3235	65	1650	3300	1650	974	51	625	958	160	532				
Capacity Analysis Module:																
Vol/Sat:	0.03	0.43	0.43	0.01	0.27	0.00	0.10	0.10	0.10	0.04	0.04	0.04				
Crit Volume:			716	17					161			62				
Crit Moves:			****	****					****			****				

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #103 San Pablo Ave//Rumrill Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.626
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 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				Ignore				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1	1 0	1	0	2	0 1	1	0	1!	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	958	16	50	588	280	645	33	12	35	40	86				
Growth Adj:	1.00	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	958	16	50	588	280	645	33	12	35	40	86				
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:	0	958	16	50	588	280	645	33	12	35	40	86				
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	958	16	50	588	280	645	33	12	35	40	86				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	958	16	50	588	280	645	33	12	35	40	86				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0				
RTOR Vol:	0	958	16	50	588	280	645	33	12	35	40	86				
PCE Adj:	1.00	1.00	1.00	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				
FinalVolume:	0	958	16	50	588	280	645	33	12	35	40	86				
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	1.97	0.03	1.00	2.00	1.00	1.87	0.10	0.03	0.22	0.25	0.53				
Final Sat.:	0	3383	57	1720	3440	1720	2923	165	60	374	427	919				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.28	0.28	0.03	0.17	0.16	0.22	0.20	0.20	0.09	0.09	0.09				
Crit Volume:			487	50			345				161					
Crit Moves:			****	****			****				****					

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #104 San Pablo Ave//Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.582
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 54 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	1	1	0	1
Volume Module:																
Base Vol:	238	881	116		152	435	15		15	469	123		71	275	114	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	238	881	116		152	435	15		15	469	123		71	275	114	
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:	238	881	116		152	435	15		15	469	123		71	275	114	
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:	238	881	116		152	435	15		15	469	123		71	275	114	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	238	881	116		152	435	15		15	469	123		71	275	114	
RTOR Reduct:	0	0	71		0	0	15		0	0	0		0	0	114	
RTOR Vol:	238	881	45		152	435	0		15	469	123		71	275	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	
FinalVolume:	238	881	45		152	435	0		15	469	123		71	275	0	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	1.58	0.42		1.00	2.00	1.00	
Final Sat.:	1650	3300	1650		1650	3300	1650		1650	2614	686		1650	3300	1650	
Capacity Analysis Module:																
Vol/Sat:	0.14	0.27	0.03		0.09	0.13	0.00		0.01	0.18	0.18		0.04	0.08	0.00	
Crit Volume:		441			152						296		71			
Crit Moves:		****			****						****		****			

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #105 Giant Rd/Parr Bl-Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.248
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	0	1	0	1	0	0	1	0	0	1!	0
Volume Module: >> Count Date: 12 Dec 2006 <<																
Base Vol:	84	142	31		68	94	66		65	53	50		39	32	38	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	84	142	31		68	94	66		65	53	50		39	32	38	
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:	84	142	31		68	94	66		65	53	50		39	32	38	
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:	84	142	31		68	94	66		65	53	50		39	32	38	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	84	142	31		68	94	66		65	53	50		39	32	38	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	84	142	31		68	94	66		65	53	50		39	32	38	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	84	142	31		68	94	66		65	53	50		39	32	38	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.82	0.18		0.60	0.82	0.58		1.00	0.51	0.49		0.36	0.29	0.35	
Final Sat.:	1650	1354	296		984	1361	955		1650	849	801		590	484	575	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.10	0.10		0.07	0.07	0.07		0.04	0.06	0.06		0.07	0.07	0.07	
Crit Volume:	84						114				103			109		
Crit Moves:	****						****				****			****		

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #106 San Pablo Ave/Rd 20/23rrd St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.650
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 65 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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	2	0	1	1	1	0	0	1	0	1	0	0	1
Volume Module:																
Base Vol:	113	607	47		36	378	592		695	174	103		31	201	33	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	113	607	47		36	378	592		695	174	103		31	201	33	
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:	113	607	47		36	378	592		695	174	103		31	201	33	
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	607	47		36	378	592		695	174	103		31	201	33	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	113	607	47		36	378	592		695	174	103		31	201	33	
RTOR Reduct:	0	0	0		0	0	382		0	0	103		0	0	33	
RTOR Vol:	113	607	47		36	378	210		695	174	0		31	201	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	
FinalVolume:	113	607	47		36	378	210		695	174	0		31	201	0	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.86	0.14		1.00	2.00	1.00		1.60	0.40	1.00		0.13	0.87	1.00	
Final Sat.:	1650	3063	237		1650	3300	1650		2399	661	1650		220	1430	1650	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.20	0.20		0.02	0.11	0.13		0.29	0.26	0.00		0.14	0.14	0.00	
Crit Volume:			327		36				435					232		
Crit Moves:			****		****				****					****		

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #107 Church Ln/San Pablo Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.582
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 55 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	0	1	0	1	0	1	0
Volume Module:																
Base Vol:	309	683	203		69	418	68		58	296	274		113	246	32	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	309	683	203		69	418	68		58	296	274		113	246	32	
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:	309	683	203		69	418	68		58	296	274		113	246	32	
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:	309	683	203		69	418	68		58	296	274		113	246	32	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	309	683	203		69	418	68		58	296	274		113	246	32	
RTOR Reduct:	0	0	0		0	0	0		0	0	274		0	0	0	
RTOR Vol:	309	683	203		69	418	68		58	296	0		113	246	32	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	309	683	203		69	418	68		58	296	0		113	246	32	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.54	0.46		1.00	1.72	0.28		1.00	1.00	1.00		1.00	0.88	0.12	
Final Sat.:	1650	2544	756		1650	2838	462		1650	1650	1650		1650	1460	190	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.27	0.27		0.04	0.15	0.15		0.04	0.18	0.00		0.07	0.17	0.17	
Crit Volume:	309					243				296			113			
Crit Moves:	****					****				****			****			

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #108 San Pablo Ave//Vale Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.434
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	1 0	0	1	1	0 0	1	0
Volume Module:																
Base Vol:	165	912	79		14	672	91		169	62	199		56	36	7	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	165	912	79		14	672	91		169	62	199		56	36	7	
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:	165	912	79		14	672	91		169	62	199		56	36	7	
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:	165	912	79		14	672	91		169	62	199		56	36	7	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	165	912	79		14	672	91		169	62	199		56	36	7	
RTOR Reduct:	0	0	0		0	0	0		0	0	165		0	0	0	
RTOR Vol:	165	912	79		14	672	91		169	62	34		56	36	7	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	165	912	79		14	672	91		169	62	34		56	36	7	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.84	0.16		1.00	1.76	0.24		1.46	0.54	1.00		1.00	0.84	0.16	
Final Sat.:	1650	3037	263		1650	2906	394		2195	886	1650		1650	1381	269	
Capacity Analysis Module:																
Vol/Sat:	0.10	0.30	0.30		0.01	0.23	0.23		0.08	0.07	0.02		0.03	0.03	0.03	
Crit Volume:	165						382		116						43	
Crit Moves:	****						****		****						****	

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #109 San Pablo Ave/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.627
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 61 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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 2	0	1	1	0 1	1	0	0	1 0	1	0	1	1 0	1	0
Volume Module:																
Base Vol:	133	766	464		421	376	6		8	25	6		385	38	77	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	133	766	464		421	376	6		8	25	6		385	38	77	
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:	133	766	464		421	376	6		8	25	6		385	38	77	
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:	133	766	464		421	376	6		8	25	6		385	38	77	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	133	766	464		421	376	6		8	25	6		385	38	77	
RTOR Reduct:	0	0	212		0	0	0		0	0	0		0	0	0	
RTOR Vol:	133	766	252		421	376	6		8	25	6		385	38	77	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	133	766	252		421	376	6		8	25	6		385	38	77	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.97	0.03		0.41	1.28	0.31		2.00	0.33	0.67	
Final Sat.:	1650	3300	1650		1650	3248	52		677	2115	508		3000	545	1105	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.23	0.15		0.26	0.12	0.12		0.01	0.01	0.01		0.13	0.07	0.07	
Crit Volume:		383			421					19			193			
Crit Moves:		****			****					****			****			

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #110 San Pablo Ave//Rheem Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.396
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: A

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				WideBypass				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	0	0	1	1	0	0	1	0	1	0	0	0
Volume Module:																
Base Vol:	74	1059	0		0	639	141		183	9	90		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:	74	1059	0		0	639	141		183	9	90		0	0	0	
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:	74	1059	0		0	639	141		183	9	90		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:	74	1059	0		0	639	141		183	9	90		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	74	1059	0		0	639	141		183	9	90		0	0	0	
RTOR Reduct:	0	0	0		0	0	0		0	0	90		0	0	0	
RTOR Vol:	74	1059	0		0	639	141		183	9	0		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	
FinalVolume:	74	1059	0		0	639	141		183	9	0		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	1.64	0.36		1.00	1.00	0.00		0.00	0.00	0.00	
Final Sat.:	1800	3600	0		0	2949	651		1800	1800	0		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.29	0.00		0.00	0.22	0.22		0.10	0.01	0.00		0.00	0.00	0.00	
Crit Volume:		530				0			183					0		
Crit Moves:		****			****				****							

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #111 23rd St/Dover Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.310
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 27 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1!	0	0	0
Volume Module:																
Base Vol:	49	634	33		33	461	44		47	45	42		33	73	33	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	49	634	33		33	461	44		47	45	42		33	73	33	
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:	49	634	33		33	461	44		47	45	42		33	73	33	
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:	49	634	33		33	461	44		47	45	42		33	73	33	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	49	634	33		33	461	44		47	45	42		33	73	33	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	33	
RTOR Vol:	49	634	33		33	461	44		47	45	42		33	73	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	
FinalVolume:	49	634	33		33	461	44		47	45	42		33	73	0	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.91	
Lanes:	1.00	1.90	0.10		1.00	1.83	0.17		0.35	0.34	0.31		0.31	0.69	1.00	
Final Sat.:	1720	3270	170		1720	3140	300		603	578	539		535	1185	1563	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.19	0.19		0.02	0.15	0.15		0.08	0.08	0.08		0.06	0.06	0.00	
Crit Volume:			334		33					134			33			
Crit Moves:			****		****					****			****			

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #112 23rd St/Market Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.509
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				WideBypass				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 1	1	0	1	0 2	0	1	1	0 0	1	0	1	0 0	1	0
Volume Module: >> Count Date: 2 Feb 2006 <<																
Base Vol:	161	693	164		11	441	82		69	33	111		121	239	23	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	161	693	164		11	441	82		69	33	111		121	239	23	
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:	161	693	164		11	441	82		69	33	111		121	239	23	
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:	0.95	0.95	0.95		0.78	0.78	0.78		0.84	0.84	0.84		0.80	0.80	0.80	
PHF Volume:	169	729	173		14	565	105		82	39	132		151	299	29	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	169	729	173		14	565	105		82	39	132		151	299	29	
RTOR Reduct:	0	0	0		0	0	82		0	0	90		0	0	0	
RTOR Vol:	169	729	173		14	565	23		82	39	42		151	299	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	
FinalVolume:	169	729	173		14	565	23		82	39	42		151	299	29	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.62	0.38		1.00	2.00	1.00		1.00	0.48	0.52		1.00	0.91	0.09	
Final Sat.:	1720	2782	658		1720	3440	1720		1720	830	890		1720	1569	151	
Capacity Analysis Module:																
Vol/Sat:	0.10	0.26	0.26		0.01	0.16	0.01		0.05	0.05	0.05		0.09	0.19	0.19	
Crit Volume:	451				14				82				328			
Crit Moves:	****				****				****				****			

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #113 23rd St/Rheem Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.556
Loss Time (sec): 6 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Permitted				Permitted				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 0	1	0	0	0 1!	0	0
Volume Module: >> Count Date: 2 Feb 2006 <<																
Base Vol:	45	960	122		44	650	22		61	146	61		91	137	55	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	45	960	122		44	650	22		61	146	61		91	137	55	
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:	45	960	122		44	650	22		61	146	61		91	137	55	
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:	0.93	0.93	0.93		0.91	0.91	0.91		0.92	0.92	0.92		0.93	0.93	0.93	
PHF Volume:	48	1032	131		48	714	24		66	159	66		98	147	59	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	48	1032	131		48	714	24		66	159	66		98	147	59	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	48	1032	131		48	714	24		66	159	66		98	147	59	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	48	1032	131		48	714	24		66	159	66		98	147	59	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.77	0.23		1.00	1.93	0.07		1.00	0.71	0.29		0.32	0.49	0.19	
Final Sat.:	1800	3194	406		1800	3482	118		1800	1270	530		579	871	350	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.32	0.32		0.03	0.21	0.21		0.04	0.13	0.13		0.17	0.17	0.17	
Crit Volume:	582				48				66				304			
Crit Moves:	****				****				****				****			

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #114 Rumrilll Blvd/Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.538
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: A

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				Split Phase				Split Phase			
Rights:	Ignore				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	0	1	0	0
Volume Module:																
Base Vol:	18	592	311		10	287	34		40	263	26		230	276	17	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	18	592	311		10	287	34		40	263	26		230	276	17	
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:	18	592	311		10	287	34		40	263	26		230	276	17	
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:	18	592	311		10	287	34		40	263	26		230	276	17	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	18	592	311		10	287	34		40	263	26		230	276	17	
RTOR Reduct:	0	0	0		0	0	34		0	0	0		0	0	0	
RTOR Vol:	18	592	311		10	287	0		40	263	26		230	276	17	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	18	592	311		10	287	0		40	263	26		230	276	17	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	0.91	0.09		1.00	0.94	0.06	
Final Sat.:	1650	3300	1650		1650	3300	1650		1650	1502	148		1650	1554	96	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.18	0.19		0.01	0.09	0.00		0.02	0.18	0.18		0.14	0.18	0.18	
Crit Volume:		296				10				289				293		
Crit Moves:		****				****				****				****		

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #115 Rumrill Dr/Brookside Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.420
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	WideBypass				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	1	1	0	0	1	0	1	0	0
Volume Module: >> Count Date: 2 Feb 2006 <<																
Base Vol:	86	809	0		19	510	36		78	42	158		57	40	41	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	86	809	0		19	510	36		78	42	158		57	40	41	
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:	86	809	0		19	510	36		78	42	158		57	40	41	
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:	0.94	0.94	0.94		0.86	0.86	0.86		0.91	0.91	0.91		0.75	0.75	0.75	
PHF Volume:	91	861	0		22	593	42		86	46	174		76	53	55	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	91	861	0		22	593	42		86	46	174		76	53	55	
RTOR Reduct:	0	0	0		0	0	0		0	0	91		0	0	0	
RTOR Vol:	91	861	0		22	593	42		86	46	82		76	53	55	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	91	861	0		22	593	42		86	46	82		76	53	55	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.87	0.13		0.65	0.35	1.00		0.41	0.29	0.30	
Final Sat.:	1720	3440	1720		1720	3213	227		1118	602	1720		710	499	511	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.25	0.00		0.01	0.18	0.18		0.08	0.08	0.05		0.11	0.11	0.11	
Crit Volume:		430				22				86					184	
Crit Moves:		****				****				****					****	

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #116 Rumrill Blvd/Market Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.536
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	102	672	195	87	473	57	104	132	66	204	156	92
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	672	195	87	473	57	104	132	66	204	156	92
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:	102	672	195	87	473	57	104	132	66	204	156	92
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:	102	672	195	87	473	57	104	132	66	204	156	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	672	195	87	473	57	104	132	66	204	156	92
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	102	672	195	87	473	57	104	132	66	204	156	92
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	102	672	195	87	473	57	104	132	66	204	156	92
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.55	0.45	1.00	1.78	0.22	1.00	0.67	0.33	1.00	0.63	0.37
Final Sat.:	1720	2666	774	1720	3070	370	1720	1147	573	1720	1082	638
Capacity Analysis Module:																
Vol/Sat:	0.06	0.25	0.25	0.05	0.15	0.15	0.06	0.12	0.12	0.12	0.14	0.14
Crit Volume:			434	87					198	204		
Crit Moves:			****	****					****	****		

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #117 Rumrill Blvd/Rheem Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.399
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	0 0	0	1	0	0 1
Volume Module:																
Base Vol:	1	844	126	81	665	9	5	0	0	111	5	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	844	126	81	665	9	5	0	0	111	5	59
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:	1	844	126	81	665	9	5	0	0	111	5	59
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:	1	844	126	81	665	9	5	0	0	111	5	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	844	126	81	665	9	5	0	0	111	5	59
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	59
RTOR Vol:	1	844	126	81	665	9	5	0	0	111	5	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
FinalVolume:	1	844	126	81	665	9	5	0	0	111	5	0
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.97	0.03	1.00	0.00	0.00	0.96	0.04	1.00
Final Sat.:	1720	2993	447	1720	3394	46	1720	0	0	1646	74	1720
Capacity Analysis Module:																
Vol/Sat:	0.00	0.28	0.28	0.05	0.20	0.20	0.00	0.00	0.00	0.07	0.07	0.00
Crit Volume:			485	81			5				116	
Crit Moves:			****	****			****				****	

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #118 El Portal Dr/Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.328
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	0 1	0	0	0	0 0	0	0	2	0 1	1	0	2	0 0
Volume Module: >> Count Date: 5 Oct 2005 <<																
Base Vol:	22	0	226		0	0	0		0	678	18		171	675	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:	22	0	226		0	0	0		0	678	18		171	675	0	
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:	22	0	226		0	0	0		0	678	18		171	675	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:	22	0	226		0	0	0		0	678	18		171	675	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	22	0	226		0	0	0		0	678	18		171	675	0	
RTOR Reduct:	0	0	171		0	0	0		0	0	18		0	0	0	
RTOR Vol:	22	0	55		0	0	0		0	678	0		171	675	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	
FinalVolume:	22	0	55		0	0	0		0	678	0		171	675	0	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.00	1.00		0.00	0.00	0.00		0.00	2.00	1.00		1.00	2.00	0.00	
Final Sat.:	1720	0	1720		0	0	0		0	3440	1720		1720	3440	0	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.00	0.03		0.00	0.00	0.00		0.00	0.20	0.00		0.10	0.20	0.00	
Crit Volume:			55		0					339			171			
Crit Moves:			****							****			****			

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #119 Church Ln/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.503
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	0 1	0	1	0	0 1	1	0	2	0 1	1	0	1	1 0
Volume Module:																
Base Vol:	129	221	383		19	94	62		132	682	107		283	641	21	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	129	221	383		19	94	62		132	682	107		283	641	21	
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:	129	221	383		19	94	62		132	682	107		283	641	21	
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:	129	221	383		19	94	62		132	682	107		283	641	21	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	129	221	383		19	94	62		132	682	107		283	641	21	
RTOR Reduct:	0	0	283		0	0	62		0	0	107		0	0	0	
RTOR Vol:	129	221	100		19	94	0		132	682	0		283	641	21	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	129	221	100		19	94	0		132	682	0		283	641	21	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		0.17	0.83	1.00		1.00	2.00	1.00		1.00	1.94	0.06	
Final Sat.:	1720	1720	1720		289	1431	1720		1720	3440	1720		1720	3331	109	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.13	0.06		0.07	0.07	0.00		0.08	0.20	0.00		0.16	0.19	0.19	
Crit Volume:	129					113				341			283			
Crit Moves:	****					****				****			****			

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #120 I-80 WB Off-ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.793
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 90 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:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0	0 0	1 0	0	0 1	0 0	1	0 0	0 0	1	0 0
Volume Module:												
Base Vol:	0	0	0	280	0	457	0	800	0	0	971	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	280	0	457	0	800	0	0	971	0
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:	0	0	0	280	0	457	0	800	0	0	971	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	0	0	280	0	457	0	800	0	0	971	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	280	0	457	0	800	0	0	971	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	280	0	457	0	800	0	0	971	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
FinalVolume:	0	0	0	280	0	457	0	800	0	0	971	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Final Sat.:	0	0	0	1800	0	1800	0	1800	0	0	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.16	0.00	0.25	0.00	0.44	0.00	0.00	0.54	0.00
Crit Volume:	0					457	0				971	
Crit Moves:						****	****				****	

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #121 I-80 EB ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.834
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 137 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:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 0	0	0 0	1 0	1	0 0	0 0	1	0 1
Volume Module:												
Base Vol:	542	4	168	0	0	0	525	645	0	0	363	358
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	542	4	168	0	0	0	525	645	0	0	363	358
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:	542	4	168	0	0	0	525	645	0	0	363	358
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:	542	4	168	0	0	0	525	645	0	0	363	358
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	542	4	168	0	0	0	525	645	0	0	363	358
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	542	4	168	0	0	0	525	645	0	0	363	358
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	542	4	168	0	0	0	525	645	0	0	363	358
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.99	0.01	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1707	13	1720	0	0	0	1720	1720	0	0	1720	1720
Capacity Analysis Module:												
Vol/Sat:	0.32	0.32	0.10	0.00	0.00	0.00	0.31	0.38	0.00	0.00	0.21	0.21
Crit Volume:		546			0		525				363	
Crit Moves:		****					****				****	

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #122 El Portal Dr/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.683
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 72 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			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	3	5	9	543	20	79	157	995	10	5	706	499
Growth Adj:	1.00	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	5	9	543	20	79	157	995	10	5	706	499
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:	3	5	9	543	20	79	157	995	10	5	706	499
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	5	9	543	20	79	157	995	10	5	706	499
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	5	9	543	20	79	157	995	10	5	706	499
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	3	5	9	543	20	79	157	995	10	5	706	499
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	3	5	9	543	20	79	157	995	10	5	706	499
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.36	0.64	1.69	0.06	0.25	1.00	1.98	0.02	1.00	1.17	0.83
Final Sat.:	1650	589	1061	2537	103	406	1650	3267	33	1650	1933	1367
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.21	0.19	0.19	0.10	0.30	0.30	0.00	0.37	0.37
Crit Volume:		14		321			157				603	
Crit Moves:		****		****			****				****	

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #123 I-80 EB ramps/San Pablo Dam Rd [N=Amador St; S=I-80 EB ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.719
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 81 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:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	1 0	1! 0	1	0 1	0	1 0	0 1	0	1 0
Volume Module:												
Base Vol:	35	244	196	264	0	688	248	521	26	0	485	17
Growth Adj:	1.00	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	244	196	264	0	688	248	521	26	0	485	17
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	244	196	264	0	688	248	521	26	0	485	17
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	244	196	264	0	688	248	521	26	0	485	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	244	196	264	0	688	248	521	26	0	485	17
RTOR Reduct:	0	0	0	0	0	248	0	0	0	0	0	0
RTOR Vol:	35	244	196	264	0	440	248	521	26	0	485	17
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	35	244	196	264	0	440	248	521	26	0	485	17
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.87	1.00	1.12	xxxx	1.88	0.62	1.31	0.07	0.00	1.93	0.07
Final Sat.:	207	1443	1650	1687	0	2812	1029	2163	108	0	3188	112
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.12	0.16	0.00	0.16	0.24	0.24	0.24	0.00	0.15	0.15
Crit Volume:		279		235			397				251	
Crit Moves:		****		****			****				****	

San Pablo General Plan Update
Existing PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #124 I-80 WB Ramps/San Pablo Dam Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.616
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	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:	Split Phase			Split Phase			Permitted			Permitted		
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	1 0	0 1	0	0 0	2 0	1	0 1	1 0	0
Volume Module:												
Base Vol:	0	0	0	78	0	220	0	717	406	482	302	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	78	0	220	0	717	406	482	302	0
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:	0	0	0	78	0	220	0	717	406	482	302	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	0	0	78	0	220	0	717	406	482	302	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	78	0	220	0	717	406	482	302	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	78	0	220	0	717	406	482	302	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	4.00	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
FinalVolume:	0	0	0	78	0	220	0	717	406	1928	302	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	1800	0	1800	0	3600	1800	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.12	0.00	0.20	0.23	0.27	0.17	0.00
Crit Volume:	0					220			406	482		
Crit Moves:						****			****	****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Scenario Report

Scenario:	2030NP AM
Command:	2030NP AM
Volume:	2030NP AM
Geometry:	2030
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #101 San Pablo Ave/Robert Miller Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.427
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

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			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	1! 0	0
Volume Module:												
Base Vol:	0	756	398	51	1030	0	0	0	0	363	0	36
Growth Adj:	1.00	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	756	398	51	1030	0	0	0	0	363	0	36
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:	0	756	398	51	1030	0	0	0	0	363	0	36
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	756	398	51	1030	0	0	0	0	363	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	756	398	51	1030	0	0	0	0	363	0	36
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	756	398	51	1030	0	0	0	0	363	0	36
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	0	756	398	51	1030	0	0	0	0	363	0	36
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.82	0.00	0.18
Final Sat.:	0	3440	1720	1720	3440	0	0	0	0	2845	0	310
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.23	0.03	0.30	0.00	0.00	0.00	0.00	0.13	0.00	0.12
Crit Volume:	0				515			0		200		
Crit Moves:	****				****					****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #102 San Pablo Ave/Rivers St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.639
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 63 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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	2	0	1	0	0	1!	0	0	0	0	1!	0	0
Volume Module:																
Base Vol:	38	985	2		12	1357	143		137	13	89		42	22	35	
Growth Adj:	1.00	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	985	2		12	1357	143		137	13	89		42	22	35	
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:	38	985	2		12	1357	143		137	13	89		42	22	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:	38	985	2		12	1357	143		137	13	89		42	22	35	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	38	985	2		12	1357	143		137	13	89		42	22	35	
RTOR Reduct:	0	0	0		0	0	137		0	0	0		0	0	0	
RTOR Vol:	38	985	2		12	1357	6		137	13	89		42	22	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	
FinalVolume:	38	985	2		12	1357	6		137	13	89		42	22	35	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.99	0.01		1.00	2.00	1.00		0.58	0.05	0.37		0.43	0.22	0.35	
Final Sat.:	1650	3293	7		1650	3300	1650		946	90	614		700	367	583	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.30	0.30		0.01	0.41	0.00		0.14	0.14	0.14		0.06	0.06	0.06	
Crit Volume:	38					679				239					99	
Crit Moves:	****					****				****					****	

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #103 San Pablo Ave//Rumrill Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.612
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 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				Ignore				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	1	1	0	1	0	2	0	1	1	0	1!	0	0	0	0	1!	0	0
Volume Module:																
Base Vol:	0	574	18		230	1094	446		441	109	21		50	65	76	
Growth Adj:	1.00	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	574	18		230	1094	446		441	109	21		50	65	76	
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:	0	574	18		230	1094	446		441	109	21		50	65	76	
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	574	18		230	1094	446		441	109	21		50	65	76	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	574	18		230	1094	446		441	109	21		50	65	76	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	0	574	18		230	1094	446		441	109	21		50	65	76	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	0	574	18		230	1094	446		441	109	21		50	65	76	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	1.94	0.06		1.00	2.00	1.00		1.55	0.38	0.07		0.26	0.34	0.40	
Final Sat.:	0	3335	105		1720	3440	1720		2415	657	127		450	585	684	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.17	0.17		0.13	0.32	0.26		0.18	0.17	0.17		0.11	0.11	0.11	
Crit Volume:	0					547			286					191		
Crit Moves:	****					****			****					****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #104 San Pablo Ave//Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.709
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 78 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				Permitted				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	1	1	0	
Volume Module:																
Base Vol:	193	463	108		199	911	9		22	525	307		105	401	116	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	193	463	108		199	911	9		22	525	307		105	401	116	
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:	193	463	108		199	911	9		22	525	307		105	401	116	
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:	193	463	108		199	911	9		22	525	307		105	401	116	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	193	463	108		199	911	9		22	525	307		105	401	116	
RTOR Reduct:	0	0	105		0	0	9		0	0	0		0	0	116	
RTOR Vol:	193	463	3		199	911	0		22	525	307		105	401	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	
FinalVolume:	193	463	3		199	911	0		22	525	307		105	401	0	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	1.26	0.74		1.00	2.00	1.00	
Final Sat.:	1650	3300	1650		1650	3300	1650		1650	2082	1218		1650	3300	1650	
Capacity Analysis Module:																
Vol/Sat:	0.12	0.14	0.00		0.12	0.28	0.00		0.01	0.25	0.25		0.06	0.12	0.00	
Crit Volume:	193					456				416			105			
Crit Moves:	****					****				****			****			

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #105 Giant Rd/Parr Bl-Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.408
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Permitted				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	0	1	0	1	0	1	0	0	0	1!	0
Volume Module:																
Base Vol:	74	99	51		86	155	151		55	59	53		97	94	101	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	74	99	51		86	155	151		55	59	53		97	94	101	
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:	74	99	51		86	155	151		55	59	53		97	94	101	
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:	74	99	51		86	155	151		55	59	53		97	94	101	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	74	99	51		86	155	151		55	59	53		97	94	101	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	74	99	51		86	155	151		55	59	53		97	94	101	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	74	99	51		86	155	151		55	59	53		97	94	101	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.66	0.34		0.44	0.79	0.77		1.00	0.53	0.47		0.33	0.32	0.35	
Final Sat.:	1650	1089	561		724	1305	1271		1650	869	781		548	531	571	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.09	0.09		0.12	0.12	0.12		0.03	0.07	0.07		0.18	0.18	0.18	
Crit Volume:	74						196				112			292		
Crit Moves:	****						****				****			****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #106 San Pablo Ave/Rd 20/23rrd St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.722
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 82 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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	2	0	1	1	1	0	0	1	0	1	0	0	1
Volume Module:																
Base Vol:	82	357	53		33	497	690		399	316	74		8	238	23	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	82	357	53		33	497	690		399	316	74		8	238	23	
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:	82	357	53		33	497	690		399	316	74		8	238	23	
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:	82	357	53		33	497	690		399	316	74		8	238	23	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	82	357	53		33	497	690		399	316	74		8	238	23	
RTOR Reduct:	0	0	0		0	0	219		0	0	74		0	0	23	
RTOR Vol:	82	357	53		33	497	471		399	316	0		8	238	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	
FinalVolume:	82	357	53		33	497	471		399	316	0		8	238	0	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.74	0.26		1.00	2.00	1.00		1.12	0.88	1.00		0.03	0.97	1.00	
Final Sat.:	1650	2873	427		1650	3300	1650		1674	1458	1650		54	1596	1650	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.12	0.12		0.02	0.15	0.29		0.24	0.22	0.00		0.15	0.15	0.00	
Crit Volume:	82						471		358					246		
Crit Moves:	****						****		****					****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #107 Church Ln/San Pablo Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.830
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 134 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				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	0	1	0	1	0	1
Volume Module:																
Base Vol:	229	568	154		49	951	38		41	472	433		174	300	103	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	229	568	154		49	951	38		41	472	433		174	300	103	
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:	229	568	154		49	951	38		41	472	433		174	300	103	
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:	229	568	154		49	951	38		41	472	433		174	300	103	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	229	568	154		49	951	38		41	472	433		174	300	103	
RTOR Reduct:	0	0	0		0	0	0		0	0	229		0	0	0	
RTOR Vol:	229	568	154		49	951	38		41	472	204		174	300	103	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	229	568	154		49	951	38		41	472	204		174	300	103	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.57	0.43		1.00	1.92	0.08		1.00	1.00	1.00		1.00	0.74	0.26	
Final Sat.:	1650	2596	704		1650	3173	127		1650	1650	1650		1650	1228	422	
Capacity Analysis Module:																
Vol/Sat:	0.14	0.22	0.22		0.03	0.30	0.30		0.02	0.29	0.12		0.11	0.24	0.24	
Crit Volume:	229						495			472			174			
Crit Moves:	****						****			****			****			

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #108 San Pablo Ave//Vale Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.546
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	1 0	0	1	1	0 0	1	0
Volume Module:																
Base Vol:	268	509	41		17	789	116		156	31	93		74	60	17	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	268	509	41		17	789	116		156	31	93		74	60	17	
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:	268	509	41		17	789	116		156	31	93		74	60	17	
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:	268	509	41		17	789	116		156	31	93		74	60	17	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	268	509	41		17	789	116		156	31	93		74	60	17	
RTOR Reduct:	0	0	0		0	0	0		0	0	93		0	0	0	
RTOR Vol:	268	509	41		17	789	116		156	31	0		74	60	17	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	268	509	41		17	789	116		156	31	0		74	60	17	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.85	0.15		1.00	1.74	0.26		1.67	0.33	1.00		1.00	0.78	0.22	
Final Sat.:	1650	3054	246		1650	2877	423		2502	547	1650		1650	1286	364	
Capacity Analysis Module:																
Vol/Sat:	0.16	0.17	0.17		0.01	0.27	0.27		0.06	0.06	0.00		0.04	0.05	0.05	
Crit Volume:	268					453			93						77	
Crit Moves:	****					****			****						****	

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #109 San Pablo Ave/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.644
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 64 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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 2	0	1	1	0 1	1	0	0	1 0	1	0	1	1 0	1	0
Volume Module:																
Base Vol:	7	347	319		338	652	4		4	15	11		974	27	162	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	7	347	319		338	652	4		4	15	11		974	27	162	
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:	7	347	319		338	652	4		4	15	11		974	27	162	
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:	7	347	319		338	652	4		4	15	11		974	27	162	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	7	347	319		338	652	4		4	15	11		974	27	162	
RTOR Reduct:	0	0	319		0	0	0		0	0	0		0	0	0	
RTOR Vol:	7	347	0		338	652	4		4	15	11		974	27	162	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	7	347	0		338	652	4		4	15	11		974	27	162	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.99	0.01		0.27	1.00	0.73		2.00	0.14	0.86	
Final Sat.:	1650	3300	1650		1650	3280	20		440	1650	1210		3000	236	1414	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.11	0.00		0.20	0.20	0.20		0.01	0.01	0.01		0.32	0.11	0.11	
Crit Volume:		174			338					15			487			
Crit Moves:		****			****					****			****			

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #110 San Pablo Ave//Rheem Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.611
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 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				WideBypass				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	0	0	0	1	1	0	1	0	0	1	0	0
Volume Module:																
Base Vol:	72	459	0	0	1460	144	225	0	102	0	0	0	0	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	1.00	1.00	1.00	1.00
Initial Bse:	72	459	0	0	1460	144	225	0	102	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	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	0	0	0	0
Initial Fut:	72	459	0	0	1460	144	225	0	102	0	0	0	0	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	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	1.00	1.00	1.00	1.00
PHF Volume:	72	459	0	0	1460	144	225	0	102	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	459	0	0	1460	144	225	0	102	0	0	0	0	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	90	0	0	0	0	0	0	0
RTOR Vol:	72	459	0	0	1460	144	225	0	12	0	0	0	0	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	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	1.00	1.00	1.00	1.00
FinalVolume:	72	459	0	0	1460	144	225	0	12	0	0	0	0	0	0	0
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.82	0.18	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	1800	3600	0	0	3277	323	1800	0	1800	0	0	0	0	0	0	0
Capacity Analysis Module:																
Vol/Sat:	0.04	0.13	0.00	0.00	0.45	0.45	0.13	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crit Volume:	72				802		225				0					
Crit Moves:	****				****		****									

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #111 23rd St/Dover Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.501
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1!	0	0	0
Volume Module:																
Base Vol:	25	380	17	13	958	36	51	78	65	34	27	27				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	25	380	17	13	958	36	51	78	65	34	27	27				
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:	25	380	17	13	958	36	51	78	65	34	27	27				
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:	25	380	17	13	958	36	51	78	65	34	27	27				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	25	380	17	13	958	36	51	78	65	34	27	27				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	13				
RTOR Vol:	25	380	17	13	958	36	51	78	65	34	27	14				
PCE Adj:	1.00	1.00	1.00	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				
FinalVolume:	25	380	17	13	958	36	51	78	65	34	27	14				
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91				
Lanes:	1.00	1.91	0.09	1.00	1.93	0.07	0.26	0.40	0.34	0.91	0.09	1.00				
Final Sat.:	1720	3293	147	1720	3315	125	452	692	576	1559	161	1563				
Capacity Analysis Module:																
Vol/Sat:	0.01	0.12	0.12	0.01	0.29	0.29	0.11	0.11	0.11	0.02	0.17	0.01				
Crit Volume:	25				497		51				289					
Crit Moves:	****				****		****				****					

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #112 23rd St/Market Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.632
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 51 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			Permitted			Permitted		
Rights:		Include			Include			WideBypass			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	149	520	148	65	946	122	74	293	111	151	202	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	520	148	65	946	122	74	293	111	151	202	27
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:	149	520	148	65	946	122	74	293	111	151	202	27
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:	149	520	148	65	946	122	74	293	111	151	202	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	520	148	65	946	122	74	293	111	151	202	27
RTOR Reduct:	0	0	0	0	0	74	0	0	90	0	0	0
RTOR Vol:	149	520	148	65	946	48	74	293	21	151	202	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	149	520	148	65	946	48	74	293	21	151	202	27
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.56	0.44	1.00	2.00	1.00	1.00	0.93	0.07	1.00	0.88	0.12
Final Sat.:	1720	2678	762	1720	3440	1720	1720	1605	115	1720	1517	203
Capacity Analysis Module:												
Vol/Sat:	0.09	0.19	0.19	0.04	0.28	0.03	0.04	0.18	0.18	0.09	0.13	0.13
Crit Volume:	149				473			314		151		
Crit Moves:	****				****			****		****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #113 23rd St/Rheem Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.657
Loss Time (sec): 6 Average Delay (sec/veh): xxxxxx
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:	Permitted			Permitted			Permitted			Permitted		
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	0 0	1! 0	0
Volume Module:												
Base Vol:	89	609	143	98	1228	115	19	143	103	176	128	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	609	143	98	1228	115	19	143	103	176	128	51
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:	89	609	143	98	1228	115	19	143	103	176	128	51
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:	89	609	143	98	1228	115	19	143	103	176	128	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	609	143	98	1228	115	19	143	103	176	128	51
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	89	609	143	98	1228	115	19	143	103	176	128	51
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	89	609	143	98	1228	115	19	143	103	176	128	51
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.62	0.38	1.00	1.83	0.17	1.00	0.58	0.42	0.50	0.36	0.14
Final Sat.:	1800	2915	685	1800	3292	308	1800	1046	754	892	649	259
Capacity Analysis Module:												
Vol/Sat:	0.05	0.21	0.21	0.05	0.37	0.37	0.01	0.14	0.14	0.20	0.20	0.20
Crit Volume:	89				672			246		176		
Crit Moves:	****				****			****		****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #114 Rumrilll Blvd/Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.702
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 77 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				Split Phase				Split Phase			
Rights:	Ignore				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	0	1	1	0
Volume Module:																
Base Vol:	38	488	390		15	456	22		71	508	33		352	272	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	488	390		15	456	22		71	508	33		352	272	10	
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:	38	488	390		15	456	22		71	508	33		352	272	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	488	390		15	456	22		71	508	33		352	272	10	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	38	488	390		15	456	22		71	508	33		352	272	10	
RTOR Reduct:	0	0	0		0	0	22		0	0	0		0	0	0	
RTOR Vol:	38	488	390		15	456	0		71	508	33		352	272	10	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	38	488	390		15	456	0		71	508	33		352	272	10	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	0.94	0.06		1.00	0.96	0.04	
Final Sat.:	1650	3300	1650		1650	3300	1650		1650	1549	101		1650	1591	59	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.15	0.24		0.01	0.14	0.00		0.04	0.33	0.33		0.21	0.17	0.17	
Crit Volume:	38					228					541		352			
Crit Moves:	****					****					****		****			

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #115 Rumrill Dr/Brookside Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.471
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	WideBypass				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	1	1	0	0	1	0	0	1!	0
Volume Module:																
Base Vol:	92	714	2		20	855	54		33	26	289		66	48	30	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	92	714	2		20	855	54		33	26	289		66	48	30	
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:	92	714	2		20	855	54		33	26	289		66	48	30	
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:	92	714	2		20	855	54		33	26	289		66	48	30	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	92	714	2		20	855	54		33	26	289		66	48	30	
RTOR Reduct:	0	0	2		0	0	0		0	0	92		0	0	0	
RTOR Vol:	92	714	0		20	855	54		33	26	197		66	48	30	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	92	714	0		20	855	54		33	26	197		66	48	30	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.88	0.12		0.56	0.44	1.00		0.46	0.33	0.21	
Final Sat.:	1720	3440	1720		1720	3236	204		962	758	1720		788	573	358	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.21	0.00		0.01	0.26	0.26		0.03	0.03	0.11		0.08	0.08	0.08	
Crit Volume:	92					455					197		66			
Crit Moves:	****					****					****		****			

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #116 Rumrill Blvd/Market Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.602
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	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				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	
Volume Module:																
Base Vol:	60	685	152		72	1071	71		83	183	58		163	122	108	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	60	685	152		72	1071	71		83	183	58		163	122	108	
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:	60	685	152		72	1071	71		83	183	58		163	122	108	
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:	60	685	152		72	1071	71		83	183	58		163	122	108	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	60	685	152		72	1071	71		83	183	58		163	122	108	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	60	685	152		72	1071	71		83	183	58		163	122	108	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	60	685	152		72	1071	71		83	183	58		163	122	108	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.64	0.36		1.00	1.88	0.12		1.00	0.76	0.24		1.00	0.53	0.47	
Final Sat.:	1720	2815	625		1720	3226	214		1720	1306	414		1720	912	808	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.24	0.24		0.04	0.33	0.33		0.05	0.14	0.14		0.09	0.13	0.13	
Crit Volume:	60						571			241			163			
Crit Moves:	****						****			****			****			

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #117 Rumrill Blvd/Rheem Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.630
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	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				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	
Volume Module:																
Base Vol:	0	739	99		50	1600	17		21	0	0		252	2	89	
Growth Adj:	1.00	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	739	99		50	1600	17		21	0	0		252	2	89	
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:	0	739	99		50	1600	17		21	0	0		252	2	89	
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	739	99		50	1600	17		21	0	0		252	2	89	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	739	99		50	1600	17		21	0	0		252	2	89	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	50	
RTOR Vol:	0	739	99		50	1600	17		21	0	0		252	2	39	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	739	99		50	1600	17		21	0	0		252	2	39	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.76	0.24		1.00	1.98	0.02		1.00	0.00	0.00		0.99	0.01	1.00	
Final Sat.:	1720	3034	406		1720	3404	36		1720	0	0		1706	14	1720	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.24	0.24		0.03	0.47	0.47		0.01	0.00	0.00		0.15	0.15	0.02	
Crit Volume:	0						809			21				254		
Crit Moves:	****						****			****				****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #118 El Portal Dr/Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.361
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	0 1	0	0	0	0 0	0	0	2	0 1	1	0	2	0 0
Volume Module:																
Base Vol:	53	0	296		0	0	0		0	650	100		181	648	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:	53	0	296		0	0	0		0	650	100		181	648	0	
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:	53	0	296		0	0	0		0	650	100		181	648	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:	53	0	296		0	0	0		0	650	100		181	648	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	53	0	296		0	0	0		0	650	100		181	648	0	
RTOR Reduct:	0	0	181		0	0	0		0	0	53		0	0	0	
RTOR Vol:	53	0	115		0	0	0		0	650	47		181	648	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	
FinalVolume:	53	0	115		0	0	0		0	650	47		181	648	0	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.00	1.00		0.00	0.00	0.00		0.00	2.00	1.00		1.00	2.00	0.00	
Final Sat.:	1720	0	1720		0	0	0		0	3440	1720		1720	3440	0	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.00	0.07		0.00	0.00	0.00		0.00	0.19	0.03		0.11	0.19	0.00	
Crit Volume:			115		0					325			181			
Crit Moves:			****							****			****			

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #119 Church Ln/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.623
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 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				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	0 1	0	1	0	0 1	1	0	2	0 1	1	0	1	1 0
Volume Module:																
Base Vol:	148	128	326		44	216	158		77	753	214		287	659	14	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	148	128	326		44	216	158		77	753	214		287	659	14	
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:	148	128	326		44	216	158		77	753	214		287	659	14	
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:	148	128	326		44	216	158		77	753	214		287	659	14	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	148	128	326		44	216	158		77	753	214		287	659	14	
RTOR Reduct:	0	0	287		0	0	77		0	0	148		0	0	0	
RTOR Vol:	148	128	39		44	216	81		77	753	66		287	659	14	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	148	128	39		44	216	81		77	753	66		287	659	14	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		0.17	0.83	1.00		1.00	2.00	1.00		1.00	1.96	0.04	
Final Sat.:	1720	1720	1720		291	1429	1720		1720	3440	1720		1720	3368	72	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.07	0.02		0.15	0.15	0.05		0.04	0.22	0.04		0.17	0.20	0.20	
Crit Volume:	148					260				377			287			
Crit Moves:	****					****				****			****			

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #120 I-80 WB Off-ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 1.019
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Split Phase				Split Phase				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	0	0 0	1	0	0	0 1	0	0	1	0 0	0	0	1	0 0
Volume Module:																
Base Vol:	0	0	0		270	0	939		0	666	0		0	895	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		270	0	939		0	666	0		0	895	0	
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:	0	0	0		270	0	939		0	666	0		0	895	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	0	0		270	0	939		0	666	0		0	895	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	0	0		270	0	939		0	666	0		0	895	0	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	0	0	0		270	0	939		0	666	0		0	895	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	
FinalVolume:	0	0	0		270	0	939		0	666	0		0	895	0	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	0.00	0.00		1.00	0.00	1.00		0.00	1.00	0.00		0.00	1.00	0.00	
Final Sat.:	0	0	0		1800	0	1800		0	1800	0		0	1800	0	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.15	0.00	0.52		0.00	0.37	0.00		0.00	0.50	0.00	
Crit Volume:	0						939		0					895		
Crit Moves:							****		****					****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #121 I-80 EB ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.741
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 88 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:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0 1	0	0	0	0 0	1	0	1	0 0	0	0	1	0 1
Volume Module:																
Base Vol:	463	6	86		0	0	0		399	523	0		0	406	191	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	463	6	86		0	0	0		399	523	0		0	406	191	
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:	463	6	86		0	0	0		399	523	0		0	406	191	
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:	463	6	86		0	0	0		399	523	0		0	406	191	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	463	6	86		0	0	0		399	523	0		0	406	191	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	463	6	86		0	0	0		399	523	0		0	406	191	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	463	6	86		0	0	0		399	523	0		0	406	191	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.99	0.01	1.00		0.00	0.00	0.00		1.00	1.00	0.00		0.00	1.00	1.00	
Final Sat.:	1698	22	1720		0	0	0		1720	1720	0		0	1720	1720	
Capacity Analysis Module:																
Vol/Sat:	0.27	0.27	0.05		0.00	0.00	0.00		0.23	0.30	0.00		0.00	0.24	0.11	
Crit Volume:	469						0		399					406		
Crit Moves:	****								****					****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #122 El Portal Dr/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.889
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 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				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	1	0	1!	0	0	1	0	1	1	0	1
Volume Module:																
Base Vol:	3	5	2		459	9	85		125	750	10		5	1598	464	
Growth Adj:	1.00	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	5	2		459	9	85		125	750	10		5	1598	464	
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:	3	5	2		459	9	85		125	750	10		5	1598	464	
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	5	2		459	9	85		125	750	10		5	1598	464	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	3	5	2		459	9	85		125	750	10		5	1598	464	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	3	5	2		459	9	85		125	750	10		5	1598	464	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	3	5	2		459	9	85		125	750	10		5	1598	464	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.71	0.29		1.66	0.03	0.31		1.00	1.97	0.03		1.00	1.55	0.45	
Final Sat.:	1650	1179	471		2490	54	507		1650	3257	43		1650	2557	743	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.18	0.17	0.17		0.08	0.23	0.23		0.00	0.62	0.62	
Crit Volume:			7		277				125					1031		
Crit Moves:			****		****				****					****		

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #123 I-80 EB ramps/San Pablo Dam Rd [N=Amador St; S=I-80 EB ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.997
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Split Phase				Split Phase				Split Phase				Split Phase			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0	1	1	0	1!	0	1	0	1	0	1	0	1
Volume Module:																
Base Vol:	71	322	230		376	0	688		178	329	354		0	963	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:	71	322	230		376	0	688		178	329	354		0	963	29	
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:	71	322	230		376	0	688		178	329	354		0	963	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:	71	322	230		376	0	688		178	329	354		0	963	29	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	71	322	230		376	0	688		178	329	354		0	963	29	
RTOR Reduct:	0	0	0		0	0	178		0	0	0		0	0	0	
RTOR Vol:	71	322	230		376	0	510		178	329	354		0	963	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	
FinalVolume:	71	322	230		376	0	510		178	329	354		0	963	29	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		0.91	1.00	0.91		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.18	0.82	1.00		1.27	xxxx	1.73		0.41	0.76	0.83		0.00	1.94	0.06	
Final Sat.:	298	1352	1650		1910	0	2590		682	1261	1357		0	3204	96	
Capacity Analysis Module:																
Vol/Sat:	0.24	0.24	0.14		0.20	0.00	0.20		0.26	0.26	0.26		0.00	0.30	0.30	
Crit Volume:		393					295			430					496	
Crit Moves:		****					****			****					****	

San Pablo General Plan Update
2030 No Project AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #124 I-80 WB Ramps/San Pablo Dam Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.966
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
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:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	1 0	0 1	0	0 0	2 0	1	0 1	1 0	0
Volume Module:												
Base Vol:	0	0	0	146	1	740	0	408	286	712	390	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	146	1	740	0	408	286	712	390	0
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:	0	0	0	146	1	740	0	408	286	712	390	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	0	0	146	1	740	0	408	286	712	390	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	146	1	740	0	408	286	712	390	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	146	1	740	0	408	286	712	390	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	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
FinalVolume:	0	0	0	146	1	740	0	408	286	1424	390	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.01	0.99	0.00	2.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	1800	2	1798	0	3600	1800	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.08	0.41	0.41	0.00	0.11	0.16	0.40	0.22	0.00
Crit Volume:	0					741			286	712		
Crit Moves:						****			****	****		

San Pablo General Plan Update
2030 No Project PM Peak Hour

Scenario Report

Scenario:	2030NP PM
Command:	2030 NP PM
Volume:	2030NP PM
Geometry:	2030
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #101 San Pablo Ave/Robert Miller Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.538
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	A

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			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	1! 0	0
Volume Module:												
Base Vol:	0	1134	526	59	1112	0	0	0	0	494	0	49
Growth Adj:	1.00	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	1134	526	59	1112	0	0	0	0	494	0	49
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:	0	1134	526	59	1112	0	0	0	0	494	0	49
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	1134	526	59	1112	0	0	0	0	494	0	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1134	526	59	1112	0	0	0	0	494	0	49
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1134	526	59	1112	0	0	0	0	494	0	49
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	0	1134	526	59	1112	0	0	0	0	494	0	49
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.82	0.00	0.18
Final Sat.:	0	3440	1720	1720	3440	0	0	0	0	2845	0	310
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.31	0.03	0.32	0.00	0.00	0.00	0.00	0.17	0.00	0.16
Crit Volume:		567		59				0		272		
Crit Moves:		****		****						****		

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #102 San Pablo Ave/Rivers St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.672
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 70 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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	2	0	1	0	0	1!	0	0	0	0	1!	0	0
Volume Module:																
Base Vol:	47	1599	28		29	1532	79		131	5	61		36	6	28	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	47	1599	28		29	1532	79		131	5	61		36	6	28	
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:	47	1599	28		29	1532	79		131	5	61		36	6	28	
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:	47	1599	28		29	1532	79		131	5	61		36	6	28	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	47	1599	28		29	1532	79		131	5	61		36	6	28	
RTOR Reduct:	0	0	0		0	0	79		0	0	0		0	0	0	
RTOR Vol:	47	1599	28		29	1532	0		131	5	61		36	6	28	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	47	1599	28		29	1532	0		131	5	61		36	6	28	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.97	0.03		1.00	2.00	1.00		0.66	0.03	0.31		0.51	0.09	0.40	
Final Sat.:	1650	3243	57		1650	3300	1650		1097	42	511		849	141	660	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.49	0.49		0.02	0.46	0.00		0.12	0.12	0.12		0.04	0.04	0.04	
Crit Volume:			814		29					197				70		
Crit Moves:			****		****					****				****		

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #103 San Pablo Ave//Rumrill Blvd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.787
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 87 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				Ignore				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	1	1	0	1	0	2	0	1	1	0	1!	0	0	0	0	1!	0	0
Volume Module:																
Base Vol:	0	1025	22		103	1082	380		652	43	14		85	72	180	
Growth Adj:	1.00	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	1025	22		103	1082	380		652	43	14		85	72	180	
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:	0	1025	22		103	1082	380		652	43	14		85	72	180	
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	1025	22		103	1082	380		652	43	14		85	72	180	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1025	22		103	1082	380		652	43	14		85	72	180	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	0	1025	22		103	1082	380		652	43	14		85	72	180	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	0	1025	22		103	1082	380		652	43	14		85	72	180	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	1.96	0.04		1.00	2.00	1.00		1.84	0.12	0.04		0.25	0.21	0.54	
Final Sat.:	0	3368	72		1720	3440	1720		2876	209	68		434	367	919	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.30	0.30		0.06	0.31	0.22		0.23	0.21	0.21		0.20	0.20	0.20	
Crit Volume:			524		103					355				337		
Crit Moves:			****		****					****				****		

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #104 San Pablo Ave//Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.843
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 146 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				Permitted				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	1	1	0	1
Volume Module:																
Base Vol:	476	957	130		196	918	34		16	540	231		71	275	114	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	476	957	130		196	918	34		16	540	231		71	275	114	
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:	476	957	130		196	918	34		16	540	231		71	275	114	
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:	476	957	130		196	918	34		16	540	231		71	275	114	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	476	957	130		196	918	34		16	540	231		71	275	114	
RTOR Reduct:	0	0	71		0	0	16		0	0	0		0	0	114	
RTOR Vol:	476	957	59		196	918	18		16	540	231		71	275	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	
FinalVolume:	476	957	59		196	918	18		16	540	231		71	275	0	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	1.40	0.60		1.00	2.00	1.00	
Final Sat.:	1650	3300	1650		1650	3300	1650		1650	2311	989		1650	3300	1650	
Capacity Analysis Module:																
Vol/Sat:	0.29	0.29	0.04		0.12	0.28	0.01		0.01	0.23	0.23		0.04	0.08	0.00	
Crit Volume:	476					459					386		71			
Crit Moves:	****					****					****		****			

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #105 Giant Rd/Parr Bl-Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.335
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Permitted				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	0	1	0	1	0	0	1	0	0	1!	0
Volume Module:																
Base Vol:	94	202	49		110	94	76		90	82	50		39	52	78	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	94	202	49		110	94	76		90	82	50		39	52	78	
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:	94	202	49		110	94	76		90	82	50		39	52	78	
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:	94	202	49		110	94	76		90	82	50		39	52	78	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	94	202	49		110	94	76		90	82	50		39	52	78	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	94	202	49		110	94	76		90	82	50		39	52	78	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	94	202	49		110	94	76		90	82	50		39	52	78	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.80	0.20		0.79	0.67	0.54		1.00	0.62	0.38		0.23	0.31	0.46	
Final Sat.:	1650	1328	322		1296	1108	896		1650	1025	625		381	508	762	
Capacity Analysis Module:																
Vol/Sat:	0.06	0.15	0.15		0.08	0.08	0.08		0.05	0.08	0.08		0.10	0.10	0.10	
Crit Volume:		251				140				132					169	
Crit Moves:		****								****					****	

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #106 San Pablo Ave/Rd 20/23rrd St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.852
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 155 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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	2	0	1	1	1	0	0	1	0	1	0	0	1
Volume Module:																
Base Vol:	113	977	81		128	758	788		742	199	103		31	201	34	
Growth Adj:	1.00	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	977	81		128	758	788		742	199	103		31	201	34	
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:	113	977	81		128	758	788		742	199	103		31	201	34	
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	977	81		128	758	788		742	199	103		31	201	34	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	113	977	81		128	758	788		742	199	103		31	201	34	
RTOR Reduct:	0	0	0		0	0	408		0	0	103		0	0	34	
RTOR Vol:	113	977	81		128	758	380		742	199	0		31	201	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	
FinalVolume:	113	977	81		128	758	380		742	199	0		31	201	0	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.85	0.15		1.00	2.00	1.00		1.58	0.42	1.00		0.13	0.87	1.00	
Final Sat.:	1650	3047	253		1650	3300	1650		2365	698	1650		220	1430	1650	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.32	0.32		0.08	0.23	0.23		0.31	0.29	0.00		0.14	0.14	0.00	
Crit Volume:			529		128				470					232		
Crit Moves:			****		****				****					****		

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #107 Church Ln/San Pablo Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.715
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 80 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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	0	1	0	1	0	1
Volume Module:																
Base Vol:	313	1076	259		69	812	68		58	296	289		130	246	32	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	313	1076	259		69	812	68		58	296	289		130	246	32	
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:	313	1076	259		69	812	68		58	296	289		130	246	32	
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:	313	1076	259		69	812	68		58	296	289		130	246	32	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	313	1076	259		69	812	68		58	296	289		130	246	32	
RTOR Reduct:	0	0	0		0	0	0		0	0	289		0	0	0	
RTOR Vol:	313	1076	259		69	812	68		58	296	0		130	246	32	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	313	1076	259		69	812	68		58	296	0		130	246	32	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.61	0.39		1.00	1.85	0.15		1.00	1.00	1.00		1.00	0.88	0.12	
Final Sat.:	1650	2660	640		1650	3045	255		1650	1650	1650		1650	1460	190	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.40	0.40		0.04	0.27	0.27		0.04	0.18	0.00		0.08	0.17	0.17	
Crit Volume:	313					440				296			130			
Crit Moves:	****					****				****			****			

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #108 San Pablo Ave//Vale Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.629
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 61 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				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	0	1	1	0	0	1	0
Volume Module:																
Base Vol:	200	1333	79		14	1126	118		252	62	319		57	36	7	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	200	1333	79		14	1126	118		252	62	319		57	36	7	
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:	200	1333	79		14	1126	118		252	62	319		57	36	7	
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:	200	1333	79		14	1126	118		252	62	319		57	36	7	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	200	1333	79		14	1126	118		252	62	319		57	36	7	
RTOR Reduct:	0	0	0		0	0	0		0	0	200		0	0	0	
RTOR Vol:	200	1333	79		14	1126	118		252	62	119		57	36	7	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	200	1333	79		14	1126	118		252	62	119		57	36	7	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.89	0.11		1.00	1.81	0.19		1.61	0.39	1.00		1.00	0.84	0.16	
Final Sat.:	1650	3115	185		1650	2987	313		2407	652	1650		1650	1381	269	
Capacity Analysis Module:																
Vol/Sat:	0.12	0.43	0.43		0.01	0.38	0.38		0.10	0.10	0.07		0.03	0.03	0.03	
Crit Volume:	200					622			157						43	
Crit Moves:	****					****			****						****	

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #109 San Pablo Ave/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.923
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	1	1	0	0	1	0	1	1	0	1	0
Volume Module:																
Base Vol:	153	1191	630		616	733	7		10	27	8		525	38	90	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	153	1191	630		616	733	7		10	27	8		525	38	90	
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:	153	1191	630		616	733	7		10	27	8		525	38	90	
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:	153	1191	630		616	733	7		10	27	8		525	38	90	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	153	1191	630		616	733	7		10	27	8		525	38	90	
RTOR Reduct:	0	0	289		0	0	0		0	0	0		0	0	0	
RTOR Vol:	153	1191	341		616	733	7		10	27	8		525	38	90	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	153	1191	341		616	733	7		10	27	8		525	38	90	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.98	0.02		0.44	1.20	0.36		2.00	0.30	0.70	
Final Sat.:	1650	3300	1650		1650	3269	31		733	1980	587		3000	490	1160	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.36	0.21		0.37	0.22	0.22		0.01	0.01	0.01		0.18	0.08	0.08	
Crit Volume:		596			616					23			263			
Crit Moves:		****			****					****			****			

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #110 San Pablo Ave//Rheem Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.566
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 43 Level Of Service: A

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				WideBypass				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	0	0	1	1	0	0	1	0	1	0	0	0
Volume Module:																
Base Vol:	126	1672	0		0	1105	167		183	9	91		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:	126	1672	0		0	1105	167		183	9	91		0	0	0	
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:	126	1672	0		0	1105	167		183	9	91		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:	126	1672	0		0	1105	167		183	9	91		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	126	1672	0		0	1105	167		183	9	91		0	0	0	
RTOR Reduct:	0	0	0		0	0	0		0	0	90		0	0	0	
RTOR Vol:	126	1672	0		0	1105	167		183	9	1		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	
FinalVolume:	126	1672	0		0	1105	167		183	9	1		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	1.74	0.26		1.00	0.99	0.01		0.00	0.00	0.00	
Final Sat.:	1800	3600	0		0	3127	473		1800	1781	19		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.46	0.00		0.00	0.35	0.35		0.10	0.01	0.05		0.00	0.00	0.00	
Crit Volume:		836				0			183					0		
Crit Moves:		****			****				****							

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #111 23rd St/Dover Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.340
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1!	0	0	1
Volume Module:																
Base Vol:	50	728	33		33	652	55		49	45	45		33	73	33	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	50	728	33		33	652	55		49	45	45		33	73	33	
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:	50	728	33		33	652	55		49	45	45		33	73	33	
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:	50	728	33		33	652	55		49	45	45		33	73	33	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	50	728	33		33	652	55		49	45	45		33	73	33	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	33	
RTOR Vol:	50	728	33		33	652	55		49	45	45		33	73	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	
FinalVolume:	50	728	33		33	652	55		49	45	45		33	73	0	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.91	
Lanes:	1.00	1.91	0.09		1.00	1.84	0.16		0.36	0.32	0.32		0.31	0.69	1.00	
Final Sat.:	1720	3291	149		1720	3172	268		606	557	557		535	1185	1563	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.22	0.22		0.02	0.21	0.21		0.08	0.08	0.08		0.06	0.06	0.00	
Crit Volume:			381		33					139			33			
Crit Moves:			****		****					****			****			

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #112 23rd St/Market Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.496
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			WideBypass			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	161	771	164	20	567	121	94	33	111	121	239	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	161	771	164	20	567	121	94	33	111	121	239	32
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:	161	771	164	20	567	121	94	33	111	121	239	32
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:	161	771	164	20	567	121	94	33	111	121	239	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	161	771	164	20	567	121	94	33	111	121	239	32
RTOR Reduct:	0	0	0	0	0	94	0	0	90	0	0	0
RTOR Vol:	161	771	164	20	567	27	94	33	21	121	239	32
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	161	771	164	20	567	27	94	33	21	121	239	32
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	2.00	1.00	1.00	0.61	0.39	1.00	0.88	0.12
Final Sat.:	1720	2837	603	1720	3440	1720	1720	1051	669	1720	1517	203
Capacity Analysis Module:												
Vol/Sat:	0.09	0.27	0.27	0.01	0.16	0.02	0.05	0.03	0.03	0.07	0.16	0.16
Crit Volume:		468			20			94				271
Crit Moves:		****			****			****				****

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #113 23rd St/Rheem Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.575
Loss Time (sec): 6 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	0 1	0	0 0	1! 0	0
Volume Module:												
Base Vol:	45	1020	198	63	709	22	61	149	61	108	137	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	1020	198	63	709	22	61	149	61	108	137	57
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:	45	1020	198	63	709	22	61	149	61	108	137	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:	45	1020	198	63	709	22	61	149	61	108	137	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	1020	198	63	709	22	61	149	61	108	137	57
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	45	1020	198	63	709	22	61	149	61	108	137	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
FinalVolume:	45	1020	198	63	709	22	61	149	61	108	137	57
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.67	0.33	1.00	1.94	0.06	1.00	0.71	0.29	0.36	0.45	0.19
Final Sat.:	1800	3015	585	1800	3492	108	1800	1277	523	644	817	340
Capacity Analysis Module:												
Vol/Sat:	0.03	0.34	0.34	0.04	0.20	0.20	0.03	0.12	0.12	0.17	0.17	0.17
Crit Volume:			609	63			61				302	
Crit Moves:			****	****			****				****	

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #114 Rumrilll Blvd/Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.741
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 88 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			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	38	608	375	10	396	59	49	378	52	303	462	17
Growth Adj:	1.00	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	608	375	10	396	59	49	378	52	303	462	17
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:	38	608	375	10	396	59	49	378	52	303	462	17
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	608	375	10	396	59	49	378	52	303	462	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	608	375	10	396	59	49	378	52	303	462	17
RTOR Reduct:	0	0	0	0	0	49	0	0	0	0	0	0
RTOR Vol:	38	608	375	10	396	10	49	378	52	303	462	17
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	38	608	375	10	396	10	49	378	52	303	462	17
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	0.88	0.12	1.00	0.96	0.04
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	1450	200	1650	1591	59
Capacity Analysis Module:												
Vol/Sat:	0.02	0.18	0.23	0.01	0.12	0.01	0.03	0.26	0.26	0.18	0.29	0.29
Crit Volume:		304		10					430		479	
Crit Moves:		****		****					****		****	

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #115 Rumrill Dr/Brookside Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.449
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	WideBypass			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	0 1	0 0	1	0 0	1! 0	0
Volume Module:												
Base Vol:	172	882	3	19	723	36	78	42	168	62	40	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	172	882	3	19	723	36	78	42	168	62	40	41
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:	172	882	3	19	723	36	78	42	168	62	40	41
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	882	3	19	723	36	78	42	168	62	40	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	172	882	3	19	723	36	78	42	168	62	40	41
RTOR Reduct:	0	0	3	0	0	0	0	0	168	0	0	0
RTOR Vol:	172	882	0	19	723	36	78	42	0	62	40	41
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	172	882	0	19	723	36	78	42	0	62	40	41
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.91	0.09	0.65	0.35	1.00	0.43	0.28	0.29
Final Sat.:	1720	3440	1720	1720	3277	163	1118	602	1720	746	481	493
Capacity Analysis Module:												
Vol/Sat:	0.10	0.26	0.00	0.01	0.22	0.22	0.07	0.07	0.00	0.08	0.08	0.08
Crit Volume:	172				380		78					143
Crit Moves:	****				****		****					****

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #116 Rumrill Blvd/Market Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.617
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 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				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	111	830	214	106	649	69	117	133	74	226	156	102				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	111	830	214	106	649	69	117	133	74	226	156	102				
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:	111	830	214	106	649	69	117	133	74	226	156	102				
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:	111	830	214	106	649	69	117	133	74	226	156	102				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	111	830	214	106	649	69	117	133	74	226	156	102				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0				
RTOR Vol:	111	830	214	106	649	69	117	133	74	226	156	102				
PCE Adj:	1.00	1.00	1.00	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				
FinalVolume:	111	830	214	106	649	69	117	133	74	226	156	102				
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	1.00	1.59	0.41	1.00	1.81	0.19	1.00	0.64	0.36	1.00	0.60	0.40				
Final Sat.:	1720	2735	705	1720	3109	331	1720	1105	615	1720	1040	680				
Capacity Analysis Module:																
Vol/Sat:	0.06	0.30	0.30	0.06	0.21	0.21	0.07	0.12	0.12	0.13	0.15	0.15				
Crit Volume:	522			106				207		226						
Crit Moves:	****			****				****		****						

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #117 Rumrill Blvd/Rheem Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.460
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	0 0	0	1	0	0 1
Volume Module:																
Base Vol:	1	1050	126	82	875	9	5	0	0	111	5	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:	1	1050	126	82	875	9	5	0	0	111	5	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:	1	1050	126	82	875	9	5	0	0	111	5	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:	1	1050	126	82	875	9	5	0	0	111	5	61				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	1	1050	126	82	875	9	5	0	0	111	5	61				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	61				
RTOR Vol:	1	1050	126	82	875	9	5	0	0	111	5	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				
FinalVolume:	1	1050	126	82	875	9	5	0	0	111	5	0				
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	1.00	1.79	0.21	1.00	1.98	0.02	1.00	0.00	0.00	0.96	0.04	1.00				
Final Sat.:	1720	3071	369	1720	3405	35	1720	0	0	1646	74	1720				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.34	0.34	0.05	0.26	0.26	0.00	0.00	0.00	0.07	0.07	0.00				
Crit Volume:	588			82			5				116					
Crit Moves:	****			****			****				****					

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #118 El Portal Dr/Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.342
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	0 1	0	0	0	0 0	0	0	2	0 1	1	0	2	0 0
Volume Module:																
Base Vol:	28	0	250		0	0	0		0	678	19		180	675	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:	28	0	250		0	0	0		0	678	19		180	675	0	
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:	28	0	250		0	0	0		0	678	19		180	675	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:	28	0	250		0	0	0		0	678	19		180	675	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	28	0	250		0	0	0		0	678	19		180	675	0	
RTOR Reduct:	0	0	180		0	0	0		0	0	19		0	0	0	
RTOR Vol:	28	0	70		0	0	0		0	678	0		180	675	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	
FinalVolume:	28	0	70		0	0	0		0	678	0		180	675	0	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.00	1.00		0.00	0.00	0.00		0.00	2.00	1.00		1.00	2.00	0.00	
Final Sat.:	1720	0	1720		0	0	0		0	3440	1720		1720	3440	0	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.00	0.04		0.00	0.00	0.00		0.00	0.20	0.00		0.10	0.20	0.00	
Crit Volume:			70		0					339			180			
Crit Moves:			****							****			****			

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #119 Church Ln/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.548
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	0 1	0	1	0	0 1	1	0	2	0 1	1	0	1	1 0
Volume Module:																
Base Vol:	129	285	383		33	112	80		167	682	107		283	641	44	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	129	285	383		33	112	80		167	682	107		283	641	44	
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:	129	285	383		33	112	80		167	682	107		283	641	44	
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:	129	285	383		33	112	80		167	682	107		283	641	44	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	129	285	383		33	112	80		167	682	107		283	641	44	
RTOR Reduct:	0	0	283		0	0	80		0	0	107		0	0	0	
RTOR Vol:	129	285	100		33	112	0		167	682	0		283	641	44	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	129	285	100		33	112	0		167	682	0		283	641	44	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		0.23	0.77	1.00		1.00	2.00	1.00		1.00	1.87	0.13	
Final Sat.:	1720	1720	1720		391	1329	1720		1720	3440	1720		1720	3219	221	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.17	0.06		0.08	0.08	0.00		0.10	0.20	0.00		0.16	0.20	0.20	
Crit Volume:		285			33					341			283			
Crit Moves:		****			****					****			****			

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #120 I-80 WB Off-ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 1.040
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Split Phase				Split Phase				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	0	0 0	1	0	0	0 1	0	0	1	0 0	0	0	1	0 0
Volume Module:																
Base Vol:	0	0	0		280	0	759		0	812	0		0	1113	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		280	0	759		0	812	0		0	1113	0	
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:	0	0	0		280	0	759		0	812	0		0	1113	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	0	0		280	0	759		0	812	0		0	1113	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	0	0		280	0	759		0	812	0		0	1113	0	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	0	0	0		280	0	759		0	812	0		0	1113	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	
FinalVolume:	0	0	0		280	0	759		0	812	0		0	1113	0	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	0.00	0.00		1.00	0.00	1.00		0.00	1.00	0.00		0.00	1.00	0.00	
Final Sat.:	0	0	0		1800	0	1800		0	1800	0		0	1800	0	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.16	0.00	0.42		0.00	0.45	0.00		0.00	0.62	0.00	
Crit Volume:	0						759		0					1113		
Crit Moves:							****		****					****		

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #121 I-80 EB ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 1.040
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0 1	0	0	0	0 0	1	0	1	0 0	0	0	1	0 1
Volume Module:																
Base Vol:	655	35	206		0	0	0		529	645	0		0	363	569	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	655	35	206		0	0	0		529	645	0		0	363	569	
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:	655	35	206		0	0	0		529	645	0		0	363	569	
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:	655	35	206		0	0	0		529	645	0		0	363	569	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	655	35	206		0	0	0		529	645	0		0	363	569	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	655	35	206		0	0	0		529	645	0		0	363	569	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	655	35	206		0	0	0		529	645	0		0	363	569	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.95	0.05	1.00		0.00	0.00	0.00		1.00	1.00	0.00		0.00	1.00	1.00	
Final Sat.:	1633	87	1720		0	0	0		1720	1720	0		0	1720	1720	
Capacity Analysis Module:																
Vol/Sat:	0.40	0.40	0.12		0.00	0.00	0.00		0.31	0.38	0.00		0.00	0.21	0.33	
Crit Volume:	690						0		529						569	
Crit Moves:	****								****						****	

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #122 El Portal Dr/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.850
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 152 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				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	1	0	1!	0	0	1	0	1	1	0	1
Volume Module:																
Base Vol:	3	5	9		543	20	101		382	1252	10		5	782	499	
Growth Adj:	1.00	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	5	9		543	20	101		382	1252	10		5	782	499	
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:	3	5	9		543	20	101		382	1252	10		5	782	499	
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	5	9		543	20	101		382	1252	10		5	782	499	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	3	5	9		543	20	101		382	1252	10		5	782	499	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	3	5	9		543	20	101		382	1252	10		5	782	499	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	3	5	9		543	20	101		382	1252	10		5	782	499	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.36	0.64		1.64	0.06	0.30		1.00	1.98	0.02		1.00	1.22	0.78	
Final Sat.:	1650	589	1061		2453	99	502		1650	3274	26		1650	2015	1285	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.01	0.01		0.22	0.20	0.20		0.23	0.38	0.38		0.00	0.39	0.39	
Crit Volume:		14			332				382						641	
Crit Moves:		****			****				****						****	

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #123 I-80 EB ramps/San Pablo Dam Rd [N=Amador St; S=I-80 EB ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.918
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Split Phase				Split Phase				Split Phase				Split Phase			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0	1	1	0	1!	0	1	0	1	0	1	0	1
Volume Module:																
Base Vol:	36	258	232		295	3	868		339	796	102		0	578	20	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	36	258	232		295	3	868		339	796	102		0	578	20	
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:	36	258	232		295	3	868		339	796	102		0	578	20	
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:	36	258	232		295	3	868		339	796	102		0	578	20	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	36	258	232		295	3	868		339	796	102		0	578	20	
RTOR Reduct:	0	0	0		0	0	339		0	0	0		0	0	0	
RTOR Vol:	36	258	232		295	3	529		339	796	102		0	578	20	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	36	258	232		295	3	529		339	796	102		0	578	20	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		0.91	1.00	0.91		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.12	0.88	1.00		1.07	0.01	1.92		0.55	1.29	0.16		0.00	1.93	0.07	
Final Sat.:	202	1448	1650		1605	18	2878		904	2124	272		0	3190	110	
Capacity Analysis Module:																
Vol/Sat:	0.18	0.18	0.14		0.18	0.17	0.18		0.37	0.37	0.37		0.00	0.18	0.18	
Crit Volume:		294					276				619				299	
Crit Moves:		****					****				****				****	

San Pablo General Plan Update
2030 No Project PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #124 I-80 WB Ramps/San Pablo Dam Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.725
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
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:	Split Phase				Split Phase				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0 0	1	0	0	1 0	0	0	2	0 1	0	1	1	0 0
Volume Module:																
Base Vol:	0	0	0	88	1	268	0	1109	407	482	418	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	88	1	268	0	1109	407	482	418	0				
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:	0	0	0	88	1	268	0	1109	407	482	418	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	0	0	88	1	268	0	1109	407	482	418	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	88	1	268	0	1109	407	482	418	0				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0				
RTOR Vol:	0	0	0	88	1	268	0	1109	407	482	418	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	6.00	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				
FinalVolume:	0	0	0	88	1	268	0	1109	407	2892	418	0				
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.01	0.99	0.00	2.00	1.00	1.00	1.00	0.00				
Final Sat.:	0	0	0	1800	7	1793	0	3600	1800	1800	1800	0				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.05	0.15	0.15	0.00	0.31	0.23	0.27	0.23	0.00				
Crit Volume:	0					269		555		482						
Crit Moves:						****		****		****						

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Scenario Report

Scenario:	2030Pref AM
Command:	2030Pref AM
Volume:	2030Pref AM
Geometry:	23rd St Diet
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #101 San Pablo Ave/Robert Miller Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.430
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

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			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	1! 0	0
Volume Module:												
Base Vol:	0	759	393	51	979	0	0	0	0	420	0	36
Growth Adj:	1.00	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	759	393	51	979	0	0	0	0	420	0	36
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:	0	759	393	51	979	0	0	0	0	420	0	36
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	759	393	51	979	0	0	0	0	420	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	759	393	51	979	0	0	0	0	420	0	36
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	759	393	51	979	0	0	0	0	420	0	36
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	0	759	393	51	979	0	0	0	0	420	0	36
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.84	0.00	0.16
Final Sat.:	0	3440	1720	1720	3440	0	0	0	0	2880	0	272
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.23	0.03	0.28	0.00	0.00	0.00	0.00	0.15	0.00	0.13
Crit Volume:	0				489			0		228		
Crit Moves:	****				****					****		

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #102 San Pablo Ave/Rivers St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.633
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	2	0 1	0	0	1!	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	38	986	2	9	1336	141	138	13	89	42	22	34				
Growth Adj:	1.00	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	986	2	9	1336	141	138	13	89	42	22	34				
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:	38	986	2	9	1336	141	138	13	89	42	22	34				
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	986	2	9	1336	141	138	13	89	42	22	34				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	38	986	2	9	1336	141	138	13	89	42	22	34				
RTOR Reduct:	0	0	0	0	0	138	0	0	0	0	0	0				
RTOR Vol:	38	986	2	9	1336	3	138	13	89	42	22	34				
PCE Adj:	1.00	1.00	1.00	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				
FinalVolume:	38	986	2	9	1336	3	138	13	89	42	22	34				
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	1.00	1.99	0.01	1.00	2.00	1.00	0.58	0.05	0.37	0.43	0.22	0.35				
Final Sat.:	1650	3293	7	1650	3300	1650	949	89	612	707	370	572				
Capacity Analysis Module:																
Vol/Sat:	0.02	0.30	0.30	0.01	0.40	0.00	0.15	0.15	0.15	0.06	0.06	0.06				
Crit Volume:	38				668			240			98					
Crit Moves:	****				****			****			****					

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #103 San Pablo Ave//Rumrill Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.599
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

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				Ignore				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1	1 0	1	0	2	0 1	1	0	1!	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	566	16	230	857	674	456	106	15	32	88	72				
Growth Adj:	1.00	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	566	16	230	857	674	456	106	15	32	88	72				
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:	0	566	16	230	857	674	456	106	15	32	88	72				
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	566	16	230	857	674	456	106	15	32	88	72				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	566	16	230	857	674	456	106	15	32	88	72				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0				
RTOR Vol:	0	566	16	230	857	674	456	106	15	32	88	72				
PCE Adj:	1.00	1.00	1.00	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				
FinalVolume:	0	566	16	230	857	674	456	106	15	32	88	72				
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	1.95	0.05	1.00	2.00	1.00	1.58	0.37	0.05	0.17	0.46	0.37				
Final Sat.:	0	3345	95	1720	3440	1720	2471	632	89	287	788	645				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.17	0.17	0.13	0.25	0.39	0.18	0.17	0.17	0.11	0.11	0.11				
Crit Volume:		291		230			288				192					
Crit Moves:		****		****			****				****					

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #104 San Pablo Ave//Broadway Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.606
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	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			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	187	451	108	199	643	7	22	526	269	94	409	119
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	187	451	108	199	643	7	22	526	269	94	409	119
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:	187	451	108	199	643	7	22	526	269	94	409	119
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	451	108	199	643	7	22	526	269	94	409	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	187	451	108	199	643	7	22	526	269	94	409	119
RTOR Reduct:	0	0	94	0	0	7	0	0	0	0	0	119
RTOR Vol:	187	451	14	199	643	0	22	526	269	94	409	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
FinalVolume:	187	451	14	199	643	0	22	526	269	94	409	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.32	0.68	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	2183	1117	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.14	0.01	0.12	0.19	0.00	0.01	0.24	0.24	0.06	0.12	0.00
Crit Volume:	187				322				398	94		
Crit Moves:	****				****				****	****		

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #105 Giant Rd/Parr Bl-Rd 20

Cycle (sec):	100	Critical Vol./Cap.(X):	0.383
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	0 1	0 1	0	1 0	0 1	0	0 0	1! 0	0
Volume Module:												
Base Vol:	74	99	51	75	88	134	54	72	41	77	117	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	74	99	51	75	88	134	54	72	41	77	117	102
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:	74	99	51	75	88	134	54	72	41	77	117	102
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:	74	99	51	75	88	134	54	72	41	77	117	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	99	51	75	88	134	54	72	41	77	117	102
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	74	99	51	75	88	134	54	72	41	77	117	102
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	74	99	51	75	88	134	54	72	41	77	117	102
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.66	0.34	0.51	0.59	0.90	1.00	0.64	0.36	0.26	0.40	0.34
Final Sat.:	1650	1089	561	833	978	1489	1650	1051	599	429	652	569
Capacity Analysis Module:												
Vol/Sat:	0.04	0.09	0.09	0.09	0.09	0.09	0.03	0.07	0.07	0.18	0.18	0.18
Crit Volume:	74					148		113				296
Crit Moves:	****					****		****				****

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #106 San Pablo Ave/Rd 20/23rrd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.616
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	2	0	1	1	1	0	0	1	0	1	0	0	1
Volume Module:																
Base Vol:	82	375	54		25	602	343		373	316	109		16	238	21	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	82	375	54		25	602	343		373	316	109		16	238	21	
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:	82	375	54		25	602	343		373	316	109		16	238	21	
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:	82	375	54		25	602	343		373	316	109		16	238	21	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	82	375	54		25	602	343		373	316	109		16	238	21	
RTOR Reduct:	0	0	0		0	0	205		0	0	82		0	0	21	
RTOR Vol:	82	375	54		25	602	138		373	316	27		16	238	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	
FinalVolume:	82	375	54		25	602	138		373	316	27		16	238	0	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.75	0.25		1.00	2.00	1.00		1.08	0.92	1.00		0.06	0.94	1.00	
Final Sat.:	1650	2885	415		1650	3300	1650		1624	1513	1650		104	1546	1650	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.13	0.13		0.02	0.18	0.08		0.23	0.21	0.02		0.15	0.15	0.00	
Crit Volume:	82					301			344					254		
Crit Moves:	****					****			****					****		

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #107 Church Ln/San Pablo Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.875
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	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				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	0	1	0	1	0	1	0
Volume Module:																
Base Vol:	229	580	159		52	1097	38		39	448	445		200	300	108	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	229	580	159		52	1097	38		39	448	445		200	300	108	
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:	229	580	159		52	1097	38		39	448	445		200	300	108	
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:	229	580	159		52	1097	38		39	448	445		200	300	108	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	229	580	159		52	1097	38		39	448	445		200	300	108	
RTOR Reduct:	0	0	0		0	0	0		0	0	229		0	0	0	
RTOR Vol:	229	580	159		52	1097	38		39	448	216		200	300	108	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	229	580	159		52	1097	38		39	448	216		200	300	108	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.57	0.43		1.00	1.93	0.07		1.00	1.00	1.00		1.00	0.74	0.26	
Final Sat.:	1650	2590	710		1650	3190	110		1650	1650	1650		1650	1213	437	
Capacity Analysis Module:																
Vol/Sat:	0.14	0.22	0.22		0.03	0.34	0.34		0.02	0.27	0.13		0.12	0.25	0.25	
Crit Volume:	229						568			448			200			
Crit Moves:	****						****			****			****			

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #108 San Pablo Ave//Vale Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.632
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 62 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				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	1 0	0	1	1	0 0	1	0
Volume Module:																
Base Vol:	303	566	41		17	908	194		169	31	92		74	61	17	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	303	566	41		17	908	194		169	31	92		74	61	17	
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:	303	566	41		17	908	194		169	31	92		74	61	17	
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:	303	566	41		17	908	194		169	31	92		74	61	17	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	303	566	41		17	908	194		169	31	92		74	61	17	
RTOR Reduct:	0	0	0		0	0	0		0	0	92		0	0	0	
RTOR Vol:	303	566	41		17	908	194		169	31	0		74	61	17	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	303	566	41		17	908	194		169	31	0		74	61	17	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.86	0.14		1.00	1.65	0.35		1.69	0.31	1.00		1.00	0.78	0.22	
Final Sat.:	1650	3077	223		1650	2719	581		2535	512	1650		1650	1290	360	
Capacity Analysis Module:																
Vol/Sat:	0.18	0.18	0.18		0.01	0.33	0.33		0.07	0.06	0.00		0.04	0.05	0.05	
Crit Volume:	303					551			100						78	
Crit Moves:	****					****			****						****	

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #109 San Pablo Ave/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.662
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 67 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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 2	0	1	1	0 1	1	0	0	1 0	1	0	1	1 0	1	0
Volume Module:																
Base Vol:	7	410	317		360	726	4		7	13	10		932	27	177	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	7	410	317		360	726	4		7	13	10		932	27	177	
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:	7	410	317		360	726	4		7	13	10		932	27	177	
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:	7	410	317		360	726	4		7	13	10		932	27	177	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	7	410	317		360	726	4		7	13	10		932	27	177	
RTOR Reduct:	0	0	317		0	0	0		0	0	0		0	0	0	
RTOR Vol:	7	410	0		360	726	4		7	13	10		932	27	177	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	7	410	0		360	726	4		7	13	10		932	27	177	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.99	0.01		0.47	0.87	0.66		2.00	0.13	0.87	
Final Sat.:	1650	3300	1650		1650	3282	18		770	1430	1100		3000	218	1432	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.12	0.00		0.22	0.22	0.22		0.01	0.01	0.01		0.31	0.12	0.12	
Crit Volume:		205			360					15			466			
Crit Moves:		****			****					****			****			

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #110 San Pablo Ave//Rheem Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.621
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	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				WideBypass				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0
Volume Module:																
Base Vol:	72	515	0	0	1458	159	238	0	99	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	515	0	0	1458	159	238	0	99	0	0	0
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:	72	515	0	0	1458	159	238	0	99	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:	72	515	0	0	1458	159	238	0	99	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	515	0	0	1458	159	238	0	99	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	90	0	0	0
RTOR Vol:	72	515	0	0	1458	159	238	0	9	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
FinalVolume:	72	515	0	0	1458	159	238	0	9	0	0	0
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.80	0.20	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1800	3600	0	0	3246	354	1800	0	1800	0	0	0
Capacity Analysis Module:																
Vol/Sat:	0.04	0.14	0.00	0.00	0.45	0.45	0.13	0.00	0.01	0.00	0.00	0.00
Crit Volume:	72				809		238				0	
Crit Moves:	****				****		****					

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #111 23rd St/Dover Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.566
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0	1	0	1	0	0	1	0	0	0	1!	0	0	0	0	1!	0	1
Volume Module:																
Base Vol:	26	359	17	13	573	35	51	78	65	34	27	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	359	17	13	573	35	51	78	65	34	27	27
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:	26	359	17	13	573	35	51	78	65	34	27	27
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:	26	359	17	13	573	35	51	78	65	34	27	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	359	17	13	573	35	51	78	65	34	27	27
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	13
RTOR Vol:	26	359	17	13	573	35	51	78	65	34	27	14
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	26	359	17	13	573	35	51	78	65	34	27	14
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91
Lanes:	1.00	0.95	0.05	1.00	0.94	0.06	0.26	0.40	0.34	0.91	0.09	1.00
Final Sat.:	1720	1642	78	1720	1621	99	452	692	576	1559	161	1563
Capacity Analysis Module:																
Vol/Sat:	0.02	0.22	0.22	0.01	0.35	0.35	0.11	0.11	0.11	0.02	0.17	0.01
Crit Volume:	26				608		51				289	
Crit Moves:	****				****		****				****	

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #112 23rd St/Market Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.801
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	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			Permitted			Permitted		
Rights:	Include			Include			WideBypass			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	171	495	125	42	621	108	74	305	111	151	214	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	171	495	125	42	621	108	74	305	111	151	214	27
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:	171	495	125	42	621	108	74	305	111	151	214	27
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:	171	495	125	42	621	108	74	305	111	151	214	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	171	495	125	42	621	108	74	305	111	151	214	27
RTOR Reduct:	0	0	0	0	0	0	0	0	90	0	0	0
RTOR Vol:	171	495	125	42	621	108	74	305	21	151	214	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	171	495	125	42	621	108	74	305	21	151	214	27
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.80	0.20	1.00	0.85	0.15	1.00	0.94	0.06	1.00	0.89	0.11
Final Sat.:	1720	1373	347	1720	1465	255	1720	1609	111	1720	1527	193
Capacity Analysis Module:												
Vol/Sat:	0.10	0.36	0.36	0.02	0.42	0.42	0.04	0.19	0.19	0.09	0.14	0.14
Crit Volume:	171					729		326		151		
Crit Moves:	****					****		****		****		

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #113 23rd St/Rheem Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.895
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	137	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:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	0	1 0	0 0	1!	0 0
Volume Module:												
Base Vol:	40	593	193	50	1032	17	17	161	109	252	139	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	593	193	50	1032	17	17	161	109	252	139	59
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:	40	593	193	50	1032	17	17	161	109	252	139	59
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:	40	593	193	50	1032	17	17	161	109	252	139	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	593	193	50	1032	17	17	161	109	252	139	59
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	40	593	193	50	1032	17	17	161	109	252	139	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	593	193	50	1032	17	17	161	109	252	139	59
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.75	0.25	1.00	0.98	0.02	1.00	0.60	0.40	0.56	0.31	0.13
Final Sat.:	1800	1358	442	1800	1771	29	1800	1073	727	1008	556	236
Capacity Analysis Module:												
Vol/Sat:	0.02	0.44	0.44	0.03	0.58	0.58	0.01	0.15	0.15	0.25	0.25	0.25
Crit Volume:	40				1049			270		252		
Crit Moves:	****				****			****		****		

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #114 Rumrilll Blvd/Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.777
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 102 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				Split Phase				Split Phase			
Rights:	Ignore				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	0	1	0	1	0
Volume Module:																	
Base Vol:	46	491	388		15	704	26		67	478	41		365	260	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:	46	491	388		15	704	26		67	478	41		365	260	10	
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:	46	491	388		15	704	26		67	478	41		365	260	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:	46	491	388		15	704	26		67	478	41		365	260	10	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	46	491	388		15	704	26		67	478	41		365	260	10	
RTOR Reduct:	0	0	0		0	0	26		0	0	0		0	0	0	
RTOR Vol:	46	491	388		15	704	0		67	478	41		365	260	10	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	46	491	388		15	704	0		67	478	41		365	260	10	
Saturation Flow Module:																	
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	0.92	0.08		1.00	0.96	0.04	
Final Sat.:	1650	3300	1650		1650	3300	1650		1650	1520	130		1650	1589	61	
Capacity Analysis Module:																	
Vol/Sat:	0.03	0.15	0.24		0.01	0.21	0.00		0.04	0.31	0.31		0.22	0.16	0.16	
Crit Volume:	46					352					519		365			
Crit Moves:	****					****					****		****			

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #115 Rumrill Dr/Brookside Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.505
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	WideBypass				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	1	1	0	0	1	0	1	0	0	1
Volume Module:																	
Base Vol:	92	726	2		20	1159	54		33	26	195		67	48	30	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	92	726	2		20	1159	54		33	26	195		67	48	30	
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:	92	726	2		20	1159	54		33	26	195		67	48	30	
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:	92	726	2		20	1159	54		33	26	195		67	48	30	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	92	726	2		20	1159	54		33	26	195		67	48	30	
RTOR Reduct:	0	0	2		0	0	0		0	0	92		0	0	0	
RTOR Vol:	92	726	0		20	1159	54		33	26	103		67	48	30	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	92	726	0		20	1159	54		33	26	103		67	48	30	
Saturation Flow Module:																	
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.91	0.09		0.56	0.44	1.00		0.46	0.33	0.21	
Final Sat.:	1720	3440	1720		1720	3287	153		962	758	1720		795	569	356	
Capacity Analysis Module:																	
Vol/Sat:	0.05	0.21	0.00		0.01	0.35	0.35		0.03	0.03	0.06		0.08	0.08	0.08	
Crit Volume:	92						607				103		67			
Crit Moves:	****						****				****		****			

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #116 Rumrill Blvd/Market Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.685
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 72 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				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 0	1	0	1	0 0	1	0
Volume Module:																
Base Vol:	59	699	154		74	1284	68		80	183	62		198	120	112	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	59	699	154		74	1284	68		80	183	62		198	120	112	
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:	59	699	154		74	1284	68		80	183	62		198	120	112	
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:	59	699	154		74	1284	68		80	183	62		198	120	112	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	59	699	154		74	1284	68		80	183	62		198	120	112	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	59	699	154		74	1284	68		80	183	62		198	120	112	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	59	699	154		74	1284	68		80	183	62		198	120	112	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.64	0.36		1.00	1.90	0.10		1.00	0.75	0.25		1.00	0.52	0.48	
Final Sat.:	1720	2819	621		1720	3267	173		1720	1285	435		1720	890	830	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.25	0.25		0.04	0.39	0.39		0.05	0.14	0.14		0.12	0.13	0.13	
Crit Volume:	59						676			245			198			
Crit Moves:	****						****			****			****			

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #117 Rumrill Blvd/Rheem Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.585
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 45 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 0	0	0	0	1 0	0	1
Volume Module:																
Base Vol:	0	782	99		63	1712	17		21	0	0		118	2	78	
Growth Adj:	1.00	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	782	99		63	1712	17		21	0	0		118	2	78	
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:	0	782	99		63	1712	17		21	0	0		118	2	78	
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	782	99		63	1712	17		21	0	0		118	2	78	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	782	99		63	1712	17		21	0	0		118	2	78	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	63	
RTOR Vol:	0	782	99		63	1712	17		21	0	0		118	2	15	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	0	782	99		63	1712	17		21	0	0		118	2	15	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.78	0.22		1.00	1.98	0.02		1.00	0.00	0.00		0.98	0.02	1.00	
Final Sat.:	1720	3053	387		1720	3406	34		1720	0	0		1691	29	1720	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.26	0.26		0.04	0.50	0.50		0.01	0.00	0.00		0.07	0.07	0.01	
Crit Volume:	0						865			21				120		
Crit Moves:	****						****			****				****		

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #118 El Portal Dr/Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.362
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	0 1	0	0	0	0 0	0	0	2	0 1	1	0	2	0 0
Volume Module:																
Base Vol:	53	0	296		0	0	0		0	654	100		181	647	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:	53	0	296		0	0	0		0	654	100		181	647	0	
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:	53	0	296		0	0	0		0	654	100		181	647	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:	53	0	296		0	0	0		0	654	100		181	647	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	53	0	296		0	0	0		0	654	100		181	647	0	
RTOR Reduct:	0	0	181		0	0	0		0	0	53		0	0	0	
RTOR Vol:	53	0	115		0	0	0		0	654	47		181	647	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	
FinalVolume:	53	0	115		0	0	0		0	654	47		181	647	0	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.00	1.00		0.00	0.00	0.00		0.00	2.00	1.00		1.00	2.00	0.00	
Final Sat.:	1720	0	1720		0	0	0		0	3440	1720		1720	3440	0	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.00	0.07		0.00	0.00	0.00		0.00	0.19	0.03		0.11	0.19	0.00	
Crit Volume:			115		0					327			181			
Crit Moves:			****							****			****			

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #119 Church Ln/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.645
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 52 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				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	0 1	0	1	0	0 1	1	0	2	0 1	1	0	1	1 0
Volume Module:																
Base Vol:	148	128	311		52	244	162		80	756	214		287	659	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:	148	128	311		52	244	162		80	756	214		287	659	15	
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:	148	128	311		52	244	162		80	756	214		287	659	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:	148	128	311		52	244	162		80	756	214		287	659	15	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	148	128	311		52	244	162		80	756	214		287	659	15	
RTOR Reduct:	0	0	287		0	0	80		0	0	148		0	0	0	
RTOR Vol:	148	128	24		52	244	82		80	756	66		287	659	15	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	148	128	24		52	244	82		80	756	66		287	659	15	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		0.18	0.82	1.00		1.00	2.00	1.00		1.00	1.96	0.04	
Final Sat.:	1720	1720	1720		302	1418	1720		1720	3440	1720		1720	3363	77	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.07	0.01		0.17	0.17	0.05		0.05	0.22	0.04		0.17	0.20	0.20	
Crit Volume:	148					296				378			287			
Crit Moves:	****					****				****			****			

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #120 I-80 WB Off-ramp/El Portal Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.038
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
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:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0	0 0	1 0	0	0 1	0 0	1	0 0	0 0	1	0 0
Volume Module:												
Base Vol:	0	0	0	270	0	991	0	663	0	0	877	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	270	0	991	0	663	0	0	877	0
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:	0	0	0	270	0	991	0	663	0	0	877	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	0	0	270	0	991	0	663	0	0	877	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	270	0	991	0	663	0	0	877	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	270	0	991	0	663	0	0	877	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
FinalVolume:	0	0	0	270	0	991	0	663	0	0	877	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Final Sat.:	0	0	0	1800	0	1800	0	1800	0	0	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.00	0.55	0.00	0.37	0.00	0.00	0.49	0.00
Crit Volume:	0					991	0				877	
Crit Moves:						****	****				****	

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #121 I-80 EB ramp/El Portal Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.762
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	78	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			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 0	0	0 0	1 0	1	0 0	0 0	1	0 1
Volume Module:												
Base Vol:	455	6	86	0	0	0	398	523	0	0	398	191
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	455	6	86	0	0	0	398	523	0	0	398	191
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:	455	6	86	0	0	0	398	523	0	0	398	191
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:	455	6	86	0	0	0	398	523	0	0	398	191
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	455	6	86	0	0	0	398	523	0	0	398	191
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	455	6	86	0	0	0	398	523	0	0	398	191
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	455	6	86	0	0	0	398	523	0	0	398	191
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.99	0.01	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1629	21	1650	0	0	0	1650	1650	0	0	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.28	0.28	0.05	0.00	0.00	0.00	0.24	0.32	0.00	0.00	0.24	0.12
Crit Volume:	461			0			398				398	
Crit Moves:	****						****				****	

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #122 El Portal Dr/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.898
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 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				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	1	0	1!	0	0	1	0	1	1	0	1
Volume Module:																
Base Vol:	3	5	2		459	9	89		129	753	10		5	1615	464	
Growth Adj:	1.00	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	5	2		459	9	89		129	753	10		5	1615	464	
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:	3	5	2		459	9	89		129	753	10		5	1615	464	
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	5	2		459	9	89		129	753	10		5	1615	464	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	3	5	2		459	9	89		129	753	10		5	1615	464	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	3	5	2		459	9	89		129	753	10		5	1615	464	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	3	5	2		459	9	89		129	753	10		5	1615	464	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.71	0.29		1.65	0.03	0.32		1.00	1.97	0.03		1.00	1.55	0.45	
Final Sat.:	1650	1179	471		2472	53	527		1650	3257	43		1650	2563	737	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.19	0.17	0.17		0.08	0.23	0.23		0.00	0.63	0.63	
Crit Volume:			7		279				129					1040		
Crit Moves:			****		****				****					****		

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #123 I-80 EB ramps/San Pablo Dam Rd [N=Amador St; S=I-80 EB ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 1.033
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Split Phase				Split Phase				Split Phase				Split Phase			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0	1	1	0	1!	0	1	0	1	0	1	0	1
Volume Module:																
Base Vol:	73	327	227		376	0	688		191	345	403		0	1001	30	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	73	327	227		376	0	688		191	345	403		0	1001	30	
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:	73	327	227		376	0	688		191	345	403		0	1001	30	
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:	73	327	227		376	0	688		191	345	403		0	1001	30	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	73	327	227		376	0	688		191	345	403		0	1001	30	
RTOR Reduct:	0	0	0		0	0	191		0	0	0		0	0	0	
RTOR Vol:	73	327	227		376	0	497		191	345	403		0	1001	30	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	73	327	227		376	0	497		191	345	403		0	1001	30	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		0.91	1.00	0.91		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.18	0.82	1.00		1.29	0.00	1.71		0.41	0.73	0.86		0.00	1.94	0.06	
Final Sat.:	301	1349	1650		1938	0	2562		671	1212	1416		0	3204	96	
Capacity Analysis Module:																
Vol/Sat:	0.24	0.24	0.14		0.19	0.00	0.19		0.28	0.28	0.28		0.00	0.31	0.31	
Crit Volume:		400					291			470				516		
Crit Moves:		****					****			****				****		

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #124 I-80 WB Ramps/San Pablo Dam Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.844
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	119	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				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0 0	1	0	0	1 0	0	0	2	0 1	0	1	1	0 0
Volume Module:																
Base Vol:	0	0	0	156	1	735	0	461	287	716	421	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	156	1	735	0	461	287	716	421	0				
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:	0	0	0	156	1	735	0	461	287	716	421	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	0	0	156	1	735	0	461	287	716	421	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	156	1	735	0	461	287	716	421	0				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0				
RTOR Vol:	0	0	0	156	1	735	0	461	287	716	421	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	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				
FinalVolume:	0	0	0	156	1	735	0	461	287	1432	421	0				
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.01	0.99	0.00	2.00	1.00	1.00	1.00	0.00				
Final Sat.:	0	0	0	1720	2	1718	0	3440	1720	1720	1720	0				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.09	0.43	0.43	0.00	0.13	0.17	0.42	0.24	0.00				
Crit Volume:	0					736	0			716						
Crit Moves:						****	****			****						

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Scenario Report

Scenario:	2030Pref PM
Command:	2030Pref PM
Volume:	2030Pref PM
Geometry:	23rd St Diet
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #101 San Pablo Ave/Robert Miller Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.512
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	A

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			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	1! 0	0
Volume Module:												
Base Vol:	0	1055	534	59	1099	0	0	0	0	487	0	49
Growth Adj:	1.00	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	1055	534	59	1099	0	0	0	0	487	0	49
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:	0	1055	534	59	1099	0	0	0	0	487	0	49
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	1055	534	59	1099	0	0	0	0	487	0	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1055	534	59	1099	0	0	0	0	487	0	49
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1055	534	59	1099	0	0	0	0	487	0	49
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	0	1055	534	59	1099	0	0	0	0	487	0	49
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.82	0.00	0.18
Final Sat.:	0	3440	1720	1720	3440	0	0	0	0	2841	0	314
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.31	0.03	0.32	0.00	0.00	0.00	0.00	0.17	0.00	0.16
Crit Volume:		528		59				0		268		
Crit Moves:		****		****						****		

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #102 San Pablo Ave/Rivers St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.653
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2 0	1	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	47	1580	28	27	1516	79	115	5	61	36	6	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:	47	1580	28	27	1516	79	115	5	61	36	6	24
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:	47	1580	28	27	1516	79	115	5	61	36	6	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:	47	1580	28	27	1516	79	115	5	61	36	6	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	1580	28	27	1516	79	115	5	61	36	6	24
RTOR Reduct:	0	0	0	0	0	79	0	0	0	0	0	0
RTOR Vol:	47	1580	28	27	1516	0	115	5	61	36	6	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
FinalVolume:	47	1580	28	27	1516	0	115	5	61	36	6	24
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.97	0.03	1.00	2.00	1.00	0.63	0.03	0.34	0.55	0.09	0.36
Final Sat.:	1650	3243	57	1650	3300	1650	1048	46	556	900	150	600
Capacity Analysis Module:												
Vol/Sat:	0.03	0.49	0.49	0.02	0.46	0.00	0.11	0.11	0.11	0.04	0.04	0.04
Crit Volume:		804			27			181			66	
Crit Moves:		****			****			****			****	

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #103 San Pablo Ave//Rumrill Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.797
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	92	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			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2 0	1	1 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	958	20	100	955	490	750	57	17	77	95	157
Growth Adj:	1.00	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	958	20	100	955	490	750	57	17	77	95	157
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:	0	958	20	100	955	490	750	57	17	77	95	157
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	958	20	100	955	490	750	57	17	77	95	157
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	958	20	100	955	490	750	57	17	77	95	157
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	958	20	100	955	490	750	57	17	77	95	157
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	0	958	20	100	955	490	750	57	17	77	95	157
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.96	0.04	1.00	2.00	1.00	1.82	0.14	0.04	0.23	0.29	0.48
Final Sat.:	0	3370	70	1720	3440	1720	2846	238	71	403	497	821
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.28	0.06	0.28	0.28	0.26	0.24	0.24	0.19	0.19	0.19
Crit Volume:		489			100			412			329	
Crit Moves:		****			****			****			****	

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #104 San Pablo Ave//Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.768
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 98 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				Permitted				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	1	1	0	1	0	2	0	1
Volume Module:																				
Base Vol:	461	881	129		212	760	36		15	536	175		71	280	114	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	461	881	129		212	760	36		15	536	175		71	280	114	
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:	461	881	129		212	760	36		15	536	175		71	280	114	
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:	461	881	129		212	760	36		15	536	175		71	280	114	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	461	881	129		212	760	36		15	536	175		71	280	114	
RTOR Reduct:	0	0	71		0	0	15		0	0	0		0	0	114	
RTOR Vol:	461	881	58		212	760	21		15	536	175		71	280	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	
FinalVolume:	461	881	58		212	760	21		15	536	175		71	280	0	
Saturation Flow Module:																				
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	1.51	0.49		1.00	2.00	1.00	
Final Sat.:	1650	3300	1650		1650	3300	1650		1650	2488	812		1650	3300	1650	
Capacity Analysis Module:																				
Vol/Sat:	0.28	0.27	0.04		0.13	0.23	0.01		0.01	0.22	0.22		0.04	0.08	0.00	
Crit Volume:	461					380				356			71			
Crit Moves:	****					****				****			****			

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #105 Giant Rd/Parr Bl-Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.355
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Protected				Permitted				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	0	1	0	1	0	1	0	1	0	0	1	0	0	1!	0	0
Volume Module:																				
Base Vol:	98	222	53		117	94	77		98	88	50		39	52	82	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	98	222	53		117	94	77		98	88	50		39	52	82	
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:	98	222	53		117	94	77		98	88	50		39	52	82	
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:	98	222	53		117	94	77		98	88	50		39	52	82	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	98	222	53		117	94	77		98	88	50		39	52	82	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	0	
RTOR Vol:	98	222	53		117	94	77		98	88	50		39	52	82	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	98	222	53		117	94	77		98	88	50		39	52	82	
Saturation Flow Module:																				
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.81	0.19		0.82	0.65	0.53		1.00	0.64	0.36		0.23	0.30	0.47	
Final Sat.:	1650	1332	318		1341	1077	882		1650	1052	598		372	496	782	
Capacity Analysis Module:																				
Vol/Sat:	0.06	0.17	0.17		0.09	0.09	0.09		0.06	0.08	0.08		0.10	0.10	0.10	
Crit Volume:		275				144				138					173	
Crit Moves:		****								****					****	

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #106 San Pablo Ave/Rd 20/23rrd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.811
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	120	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				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	2	0 1	1	1	0	0 1	0	1	0	0 1
Volume Module:																
Base Vol:	164	973	176	36	873	592	695	174	140	48	201	33				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	164	973	176	36	873	592	695	174	140	48	201	33				
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:	164	973	176	36	873	592	695	174	140	48	201	33				
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:	164	973	176	36	873	592	695	174	140	48	201	33				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	164	973	176	36	873	592	695	174	140	48	201	33				
RTOR Reduct:	0	0	0	0	0	382	0	0	140	0	0	33				
RTOR Vol:	164	973	176	36	873	210	695	174	0	48	201	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				
FinalVolume:	164	973	176	36	873	210	695	174	0	48	201	0				
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00				
Lanes:	1.00	1.69	0.31	1.00	2.00	1.00	1.60	0.40	1.00	0.19	0.81	1.00				
Final Sat.:	1650	2795	505	1650	3300	1650	2399	661	1650	318	1332	1650				
Capacity Analysis Module:																
Vol/Sat:	0.10	0.35	0.35	0.02	0.26	0.13	0.29	0.26	0.00	0.15	0.15	0.00				
Crit Volume:		575			36			435			249					
Crit Moves:		****			****			****			****					

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #107 Church Ln/San Pablo Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.774
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	101	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:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	1	0 1	1	0	0	1 0
Volume Module:																
Base Vol:	340	1249	238	90	894	83	66	296	328	153	246	41				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	340	1249	238	90	894	83	66	296	328	153	246	41				
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:	340	1249	238	90	894	83	66	296	328	153	246	41				
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:	340	1249	238	90	894	83	66	296	328	153	246	41				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	340	1249	238	90	894	83	66	296	328	153	246	41				
RTOR Reduct:	0	0	0	0	0	0	0	0	328	0	0	0				
RTOR Vol:	340	1249	238	90	894	83	66	296	0	153	246	41				
PCE Adj:	1.00	1.00	1.00	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				
FinalVolume:	340	1249	238	90	894	83	66	296	0	153	246	41				
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	1.00	1.68	0.32	1.00	1.83	0.17	1.00	1.00	1.00	1.00	0.86	0.14				
Final Sat.:	1650	2772	528	1650	3020	280	1650	1650	1650	1650	1414	236				
Capacity Analysis Module:																
Vol/Sat:	0.21	0.45	0.45	0.05	0.30	0.30	0.04	0.18	0.00	0.09	0.17	0.17				
Crit Volume:	340					489		296		153						
Crit Moves:	****					****		****		****						

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #108 San Pablo Ave//Vale Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.730
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	85	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:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 1	0	0 1	1 0	0 1	0
Volume Module:												
Base Vol:	217	1482	79	14	1336	136	318	62	403	57	36	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	1482	79	14	1336	136	318	62	403	57	36	7
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:	217	1482	79	14	1336	136	318	62	403	57	36	7
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:	217	1482	79	14	1336	136	318	62	403	57	36	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	1482	79	14	1336	136	318	62	403	57	36	7
RTOR Reduct:	0	0	0	0	0	0	0	0	217	0	0	0
RTOR Vol:	217	1482	79	14	1336	136	318	62	186	57	36	7
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	217	1482	79	14	1336	136	318	62	186	57	36	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.82	0.18	1.67	0.33	1.00	1.00	0.84	0.16
Final Sat.:	1650	3133	167	1650	2995	305	2510	538	1650	1650	1381	269
Capacity Analysis Module:												
Vol/Sat:	0.13	0.47	0.47	0.01	0.45	0.45	0.13	0.12	0.11	0.03	0.03	0.03
Crit Volume:	217					736	190					43
Crit Moves:	****					****	****					****

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #109 San Pablo Ave/San Pablo Dam Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.032
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
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			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	0 1	1 0	1	1 0	0 1	0	1 0	1 1	0	1 0
Volume Module:												
Base Vol:	149	1299	560	733	883	9	11	26	8	541	38	112
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	1299	560	733	883	9	11	26	8	541	38	112
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:	149	1299	560	733	883	9	11	26	8	541	38	112
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:	149	1299	560	733	883	9	11	26	8	541	38	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	1299	560	733	883	9	11	26	8	541	38	112
RTOR Reduct:	0	0	298	0	0	0	0	0	0	0	0	0
RTOR Vol:	149	1299	262	733	883	9	11	26	8	541	38	112
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	149	1299	262	733	883	9	11	26	8	541	38	112
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.98	0.02	0.49	1.15	0.36	2.00	0.25	0.75
Final Sat.:	1650	3300	1650	1650	3267	33	807	1907	587	3000	418	1232
Capacity Analysis Module:												
Vol/Sat:	0.09	0.39	0.16	0.44	0.27	0.27	0.01	0.01	0.01	0.18	0.09	0.09
Crit Volume:		650		733				22		271		
Crit Moves:		****		****				****		****		

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #110 San Pablo Ave//Rheem Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.579
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 44 Level Of Service: A

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				WideBypass				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0	0	0	0	1	1	0	0	1	0	0	0	0
Volume Module:																
Base Vol:	122	1719	0		0	1251	202		183	9	91		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:	122	1719	0		0	1251	202		183	9	91		0	0	0	
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:	122	1719	0		0	1251	202		183	9	91		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:	122	1719	0		0	1251	202		183	9	91		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	122	1719	0		0	1251	202		183	9	91		0	0	0	
RTOR Reduct:	0	0	0		0	0	0		0	0	90		0	0	0	
RTOR Vol:	122	1719	0		0	1251	202		183	9	1		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	
FinalVolume:	122	1719	0		0	1251	202		183	9	1		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		0.00	1.72	0.28		1.00	0.99	0.01		0.00	0.00	0.00	
Final Sat.:	1800	3600	0		0	3100	500		1800	1781	19		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.48	0.00		0.00	0.40	0.40		0.10	0.01	0.05		0.00	0.00	0.00	
Crit Volume:		860				0			183					0		
Crit Moves:		****			****				****							

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #111 23rd St/Dover Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.506
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1	0	1	0	0	1	0	0	0	1!	0	0	0	0	1!	0	1
Volume Module:																
Base Vol:	50	634	33		33	461	45		49	45	44		33	73	33	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	50	634	33		33	461	45		49	45	44		33	73	33	
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:	50	634	33		33	461	45		49	45	44		33	73	33	
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:	50	634	33		33	461	45		49	45	44		33	73	33	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	50	634	33		33	461	45		49	45	44		33	73	33	
RTOR Reduct:	0	0	0		0	0	0		0	0	0		0	0	33	
RTOR Vol:	50	634	33		33	461	45		49	45	44		33	73	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	
FinalVolume:	50	634	33		33	461	45		49	45	44		33	73	0	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.91	
Lanes:	1.00	0.95	0.05		1.00	0.91	0.09		0.35	0.33	0.32		0.31	0.69	1.00	
Final Sat.:	1720	1635	85		1720	1567	153		611	561	548		535	1185	1563	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.39	0.39		0.02	0.29	0.29		0.08	0.08	0.08		0.06	0.06	0.00	
Crit Volume:			667		33						138		33			
Crit Moves:			****		****						****		****			

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #112 23rd St/Market Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.700
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 62 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			Permitted			Permitted		
Rights:	Include			Include			WideBypass			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	162	693	164	11	441	82	73	34	117	121	240	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	693	164	11	441	82	73	34	117	121	240	23
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:	162	693	164	11	441	82	73	34	117	121	240	23
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:	162	693	164	11	441	82	73	34	117	121	240	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	693	164	11	441	82	73	34	117	121	240	23
RTOR Reduct:	0	0	0	0	0	0	0	0	90	0	0	0
RTOR Vol:	162	693	164	11	441	82	73	34	27	121	240	23
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	162	693	164	11	441	82	73	34	27	121	240	23
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.81	0.19	1.00	0.84	0.16	1.00	0.56	0.44	1.00	0.91	0.09
Final Sat.:	1720	1391	329	1720	1450	270	1720	959	761	1720	1570	150
Capacity Analysis Module:												
Vol/Sat:	0.09	0.50	0.50	0.01	0.30	0.30	0.04	0.04	0.04	0.07	0.15	0.15
Crit Volume:			857	11			73					263
Crit Moves:			****	****			****					****

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #113 23rd St/Rheem Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.896
Loss Time (sec): 6 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 139 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:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	0	1 0	0 0	1!	0 0
Volume Module:												
Base Vol:	45	960	175	73	650	25	61	198	61	93	191	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	960	175	73	650	25	61	198	61	93	191	60
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:	45	960	175	73	650	25	61	198	61	93	191	60
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:	45	960	175	73	650	25	61	198	61	93	191	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	960	175	73	650	25	61	198	61	93	191	60
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	45	960	175	73	650	25	61	198	61	93	191	60
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	45	960	175	73	650	25	61	198	61	93	191	60
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.85	0.15	1.00	0.96	0.04	1.00	0.76	0.24	0.27	0.56	0.17
Final Sat.:	1800	1522	278	1800	1733	67	1800	1376	424	487	999	314
Capacity Analysis Module:												
Vol/Sat:	0.03	0.63	0.63	0.04	0.38	0.37	0.03	0.14	0.14	0.19	0.19	0.19
Crit Volume:		1135		73			61				344	
Crit Moves:		****		****			****				****	

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #114 Rumrilll Blvd/Broadway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.728
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 84 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			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	47	720	369	10	513	65	50	322	65	331	427	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	720	369	10	513	65	50	322	65	331	427	17
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:	47	720	369	10	513	65	50	322	65	331	427	17
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:	47	720	369	10	513	65	50	322	65	331	427	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	720	369	10	513	65	50	322	65	331	427	17
RTOR Reduct:	0	0	0	0	0	50	0	0	0	0	0	0
RTOR Vol:	47	720	369	10	513	15	50	322	65	331	427	17
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	47	720	369	10	513	15	50	322	65	331	427	17
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	0.83	0.17	1.00	0.96	0.04
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	1373	277	1650	1587	63
Capacity Analysis Module:												
Vol/Sat:	0.03	0.22	0.22	0.01	0.16	0.01	0.03	0.23	0.23	0.20	0.27	0.27
Crit Volume:		360			10				387		444	
Crit Moves:		****			****				****		****	

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #115 Rumrill Dr/Brookside Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.537
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	WideBypass			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	0 1	0 0	1	0 0	1! 0	0
Volume Module:												
Base Vol:	207	1028	5	19	948	36	78	42	174	65	40	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1028	5	19	948	36	78	42	174	65	40	41
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:	207	1028	5	19	948	36	78	42	174	65	40	41
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:	207	1028	5	19	948	36	78	42	174	65	40	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1028	5	19	948	36	78	42	174	65	40	41
RTOR Reduct:	0	0	5	0	0	0	0	0	174	0	0	0
RTOR Vol:	207	1028	0	19	948	36	78	42	0	65	40	41
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	207	1028	0	19	948	36	78	42	0	65	40	41
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	0.65	0.35	1.00	0.45	0.27	0.28
Final Sat.:	1720	3440	1720	1720	3314	126	1118	602	1720	766	471	483
Capacity Analysis Module:												
Vol/Sat:	0.12	0.30	0.00	0.01	0.29	0.29	0.07	0.07	0.00	0.08	0.08	0.08
Crit Volume:	207				492		78					146
Crit Moves:	****				****		****					****

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #116 Rumrill Blvd/Market Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.701
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	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				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	111	1058	233	115	869	69	111	132	74	240	156	103				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	111	1058	233	115	869	69	111	132	74	240	156	103				
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:	111	1058	233	115	869	69	111	132	74	240	156	103				
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:	111	1058	233	115	869	69	111	132	74	240	156	103				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	111	1058	233	115	869	69	111	132	74	240	156	103				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0				
RTOR Vol:	111	1058	233	115	869	69	111	132	74	240	156	103				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	111	1058	233	115	869	69	111	132	74	240	156	103				
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	1.00	1.64	0.36	1.00	1.85	0.15	1.00	0.64	0.36	1.00	0.60	0.40				
Final Sat.:	1720	2819	621	1720	3187	253	1720	1102	618	1720	1036	684				
Capacity Analysis Module:																
Vol/Sat:	0.06	0.38	0.38	0.07	0.27	0.27	0.06	0.12	0.12	0.14	0.15	0.15				
Crit Volume:			646	115				206		240						
Crit Moves:			****	****				****		****						

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #117 Rumrill Blvd/Rheem Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.508
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	0 0	0	1	0	0 1
Volume Module:																
Base Vol:	1	1100	126	140	999	9	5	0	0	111	5	179				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	1	1100	126	140	999	9	5	0	0	111	5	179				
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:	1	1100	126	140	999	9	5	0	0	111	5	179				
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:	1	1100	126	140	999	9	5	0	0	111	5	179				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	1	1100	126	140	999	9	5	0	0	111	5	179				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	140				
RTOR Vol:	1	1100	126	140	999	9	5	0	0	111	5	39				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	1	1100	126	140	999	9	5	0	0	111	5	39				
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	1.00	1.79	0.21	1.00	1.98	0.02	1.00	0.00	0.00	0.96	0.04	1.00				
Final Sat.:	1720	3086	354	1720	3409	31	1720	0	0	1646	74	1720				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.36	0.36	0.08	0.29	0.29	0.00	0.00	0.00	0.07	0.07	0.02				
Crit Volume:		613		140			5				116					
Crit Moves:		****		****			****				****					

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #118 El Portal Dr/Rd 20

Cycle (sec): 100 Critical Vol./Cap.(X): 0.340
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: A

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:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	0 1	0	0	0	0 0	0	0	2	0 1	1	0	2	0 0
Volume Module:																
Base Vol:	28	0	245		0	0	0		0	678	20		179	675	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:	28	0	245		0	0	0		0	678	20		179	675	0	
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:	28	0	245		0	0	0		0	678	20		179	675	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:	28	0	245		0	0	0		0	678	20		179	675	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	28	0	245		0	0	0		0	678	20		179	675	0	
RTOR Reduct:	0	0	179		0	0	0		0	0	20		0	0	0	
RTOR Vol:	28	0	66		0	0	0		0	678	0		179	675	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	
FinalVolume:	28	0	66		0	0	0		0	678	0		179	675	0	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.00	1.00		0.00	0.00	0.00		0.00	2.00	1.00		1.00	2.00	0.00	
Final Sat.:	1720	0	1720		0	0	0		0	3440	1720		1720	3440	0	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.00	0.04		0.00	0.00	0.00		0.00	0.20	0.00		0.10	0.20	0.00	
Crit Volume:			66		0					339			179			
Crit Moves:			****							****			****			

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #119 Church Ln/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.541
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	0 1	0	1	0	0 1	1	0	2	0 1	1	0	1	1 0
Volume Module:																
Base Vol:	129	281	383		26	138	74		161	682	107		283	641	44	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	129	281	383		26	138	74		161	682	107		283	641	44	
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:	129	281	383		26	138	74		161	682	107		283	641	44	
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:	129	281	383		26	138	74		161	682	107		283	641	44	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	129	281	383		26	138	74		161	682	107		283	641	44	
RTOR Reduct:	0	0	283		0	0	74		0	0	107		0	0	0	
RTOR Vol:	129	281	100		26	138	0		161	682	0		283	641	44	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	129	281	100		26	138	0		161	682	0		283	641	44	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		0.16	0.84	1.00		1.00	2.00	1.00		1.00	1.87	0.13	
Final Sat.:	1720	1720	1720		273	1447	1720		1720	3440	1720		1720	3219	221	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.16	0.06		0.10	0.10	0.00		0.09	0.20	0.00		0.16	0.20	0.20	
Crit Volume:		281			26					341			283			
Crit Moves:		****			****					****			****			

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #120 I-80 WB Off-ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 1.048
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0	0 0	1 0	0	0 1	0 0	1	0 0	0 0	1	0 0
Volume Module:												
Base Vol:	0	0	0	280	0	752	0	814	0	0	1135	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	280	0	752	0	814	0	0	1135	0
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:	0	0	0	280	0	752	0	814	0	0	1135	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	0	0	280	0	752	0	814	0	0	1135	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	280	0	752	0	814	0	0	1135	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	280	0	752	0	814	0	0	1135	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
FinalVolume:	0	0	0	280	0	752	0	814	0	0	1135	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Final Sat.:	0	0	0	1800	0	1800	0	1800	0	0	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.16	0.00	0.42	0.00	0.45	0.00	0.00	0.63	0.00
Crit Volume:	0					752	0				1135	
Crit Moves:						****	****				****	

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #121 I-80 EB ramp/El Portal Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.965
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 0	0	0 0	1 0	1	0 0	0 0	1	0 1
Volume Module:												
Base Vol:	598	5	185	0	0	0	528	645	0	0	409	461
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	598	5	185	0	0	0	528	645	0	0	409	461
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:	598	5	185	0	0	0	528	645	0	0	409	461
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:	598	5	185	0	0	0	528	645	0	0	409	461
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	598	5	185	0	0	0	528	645	0	0	409	461
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	598	5	185	0	0	0	528	645	0	0	409	461
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	598	5	185	0	0	0	528	645	0	0	409	461
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.99	0.01	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	1636	14	1650	0	0	0	1650	1650	0	0	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.37	0.37	0.11	0.00	0.00	0.00	0.32	0.39	0.00	0.00	0.25	0.28
Crit Volume:		603		0			528					461
Crit Moves:		****					****					****

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #122 El Portal Dr/San Pablo Dam Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.836
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 139 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			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	3	5	9	543	20	93	350	1275	11	5	810	499
Growth Adj:	1.00	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	5	9	543	20	93	350	1275	11	5	810	499
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:	3	5	9	543	20	93	350	1275	11	5	810	499
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	5	9	543	20	93	350	1275	11	5	810	499
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	5	9	543	20	93	350	1275	11	5	810	499
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	3	5	9	543	20	93	350	1275	11	5	810	499
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	3	5	9	543	20	93	350	1275	11	5	810	499
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.36	0.64	1.66	0.06	0.28	1.00	1.98	0.02	1.00	1.24	0.76
Final Sat.:	1650	589	1061	2483	101	468	1650	3272	28	1650	2042	1258
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.22	0.20	0.20	0.21	0.39	0.39	0.00	0.40	0.40
Crit Volume:		14		328			350					655
Crit Moves:		****		****			****					****

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #123 I-80 EB ramps/San Pablo Dam Rd [N=Amador St; S=I-80 EB ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.979
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
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:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 0	1	1 0	1! 0	1	0 1	0 1	0	0 1	0 1	0
Volume Module:												
Base Vol:	41	263	227	361	7	913	339	781	215	0	579	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:	41	263	227	361	7	913	339	781	215	0	579	18
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	263	227	361	7	913	339	781	215	0	579	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:	41	263	227	361	7	913	339	781	215	0	579	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	263	227	361	7	913	339	781	215	0	579	18
RTOR Reduct:	0	0	0	0	0	339	0	0	0	0	0	0
RTOR Vol:	41	263	227	361	7	574	339	781	215	0	579	18
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	41	263	227	361	7	574	339	781	215	0	579	18
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.87	1.00	1.15	0.02	1.83	0.51	1.17	0.32	0.00	1.94	0.06
Final Sat.:	223	1427	1650	1724	37	2742	838	1931	531	0	3201	99
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.14	0.21	0.19	0.21	0.40	0.40	0.40	0.00	0.18	0.18
Crit Volume:		304				314			668		299	
Crit Moves:		****				****			****		****	

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #124 I-80 WB Ramps/San Pablo Dam Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.534
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	96	Level Of Service:	A

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				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0 0	1	0	0	1 0	0	0	2	0 1	0	1	1	0 0
Volume Module:																
Base Vol:	0	0	0	110	1	323	0	1190	419	482	468	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	110	1	323	0	1190	419	482	468	0				
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:	0	0	0	110	1	323	0	1190	419	482	468	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	0	0	110	1	323	0	1190	419	482	468	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	110	1	323	0	1190	419	482	468	0				
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0				
RTOR Vol:	0	0	0	110	1	323	0	1190	419	482	468	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	6.00	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				
FinalVolume:	0	0	0	110	1	323	0	1190	419	2892	468	0				
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.01	0.99	0.00	2.00	1.00	1.00	1.00	0.00				
Final Sat.:	0	0	0	1720	5	1715	0	3440	1720	1720	1720	0				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.06	0.19	0.19	0.00	0.35	0.24	0.28	0.27	0.00				
Crit Volume:	0				324			595			468					
Crit Moves:					****			****								

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour
Mitigated

Scenario Report

Scenario:	2030Pref AM
Command:	2030Pref AM
Volume:	2030Pref AM
Geometry:	23rd St Diet
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

San Pablo General Plan Update
2030 Preferred Plan AM Peak Hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #109 San Pablo Ave/San Pablo Dam Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.684
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	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:	Split Phase				Split Phase				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 2	0	1	1	1 0	1	0	0	1 0	1	0	1	1 0	1	0
Volume Module:																
Base Vol:	7	410	317		360	726	4		7	13	10		932	27	177	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	7	410	317		360	726	4		7	13	10		932	27	177	
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:	7	410	317		360	726	4		7	13	10		932	27	177	
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:	7	410	317		360	726	4		7	13	10		932	27	177	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	7	410	317		360	726	4		7	13	10		932	27	177	
RTOR Reduct:	0	0	317		0	0	0		0	0	0		0	0	0	
RTOR Vol:	7	410	0		360	726	4		7	13	10		932	27	177	
PCE Adj:	1.00	1.00	1.00		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	
FinalVolume:	7	410	0		360	726	4		7	13	10		932	27	177	
Saturation Flow Module:																
Sat/Lane:	1650	1650	1650		1650	1650	1650		1650	1650	1650		1650	1650	1650	
Adjustment:	1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.99	0.01		0.47	0.87	0.66		2.00	0.13	0.87	
Final Sat.:	1650	3300	1650		1500	3282	18		770	1430	1100		3000	218	1432	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.12	0.00		0.24	0.22	0.22		0.01	0.01	0.01		0.31	0.12	0.12	
Crit Volume:		205			360					15			466			
Crit Moves:		****			****					****			****			

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour
Mitigated

Scenario Report

Scenario:	2030Pref PM
Command:	2030Pref PM
Volume:	2030Pref PM
Geometry:	23rd St Diet
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

San Pablo General Plan Update
2030 Preferred Plan PM Peak Hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Future Volume Alternative)

Intersection #109 San Pablo Ave/San Pablo Dam Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.950
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
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:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 1	0 1	0	0 1	0 1	0	1 1	0 1	0
Volume Module:												
Base Vol:	149	1299	560	733	883	9	11	26	8	541	38	112
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	1299	560	733	883	9	11	26	8	541	38	112
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:	149	1299	560	733	883	9	11	26	8	541	38	112
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:	149	1299	560	733	883	9	11	26	8	541	38	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	1299	560	733	883	9	11	26	8	541	38	112
RTOR Reduct:	0	0	298	0	0	0	0	0	0	0	0	0
RTOR Vol:	149	1299	262	733	883	9	11	26	8	541	38	112
PCE Adj:	1.00	1.00	1.00	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
FinalVolume:	149	1299	262	733	883	9	11	26	8	541	38	112
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.35	1.63	0.02	0.49	1.15	0.36	2.00	0.25	0.75
Final Sat.:	1650	3300	1650	2024	2696	28	807	1907	587	3000	418	1232
Capacity Analysis Module:												
Vol/Sat:	0.09	0.39	0.16	0.36	0.33	0.33	0.01	0.01	0.01	0.18	0.09	0.09
Crit Volume:		650		543				22		271		
Crit Moves:		****		****				****		****		

Appendix C: Special Status Species List

Special-Status Species Considered in the Evaluation of the Planning Area

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*	*Potential to Occur In the Planning Area*
Species Listed or Proposed for Listing			
Plants			
California sea-blite *Suaeda californica*	FE/--/1B.1	Coastal salt marshes and swamps, coastal dunes	**Low.** All naturally occurring San Francisco Bay area populations thought to have been extirpated. Has been reintroduced on San Francisco Peninsula. Suitable habitat occurs in San Pablo and Wildcat Creek marshes but not within Planning Area.
Pallid (Alameda) manzanita *Arctostaphylos pallida*	FE/CE/1B.1	Broadleaf upland forest, woodland, chaparral on siliceous shale	**Low.** The CNDDB shows 1 recorded occurrence approximately 2.7 miles west of the Planning Area. Potential habitat is limited in the Planning Area due to development and fragmentation.
Santa Cruz tarplant *Holocarpha macradenia*	FT/CE/1B.1	Grassland, coastal prairie; often with non-natives in light sandy or sandy clay soil; 30 to 850 feet.	**Low.** All naturally occurring San Francisco Bay area populations thought to have been extirpated.
Soft bird's beak *Cordylanthus mollis ssp. mollis*	FE/CR/1B.2	Seasonal wetlands in alkali sinks with valley sink scrub, alkali meadows, and alkali marsh communities.	**Low.** The CNDDB shows 2 records north of the Planning Area within marsh areas. Suitable habitat is absent from the Planning Area.
Animals			
Fish			
Coho salmon – Central California coast ESU *Oncorhynchus kisutch* Critical Habitat designated	FE/CE	Accessible Bay Area and coastal rivers and streams with cover, cool water and sufficient dissolved oxygen. Require beds of loose, silt-free gravel for spawning.	**Low.** Although within the historical range of the species, coho salmon are currently considered extinct in the San Francisco Bay/Sacramento – San Joaquin River system.
Central California coast steelhead *Oncorhynchus mykiss* Critical Habitat designated	FT/CSC	Spawns and rears in coastal streams between the Russian River and Aptos Creek, as well as drainages of the SF and San Pablo Bays, where gravelly substrate and shaded riparian habitat occurs.	**Moderate.** Migrates through bay waters downstream of Planning Area. May occasionally stray into Wildcat and San Pablo Creeks. Resident rainbow trout populations occur or have occurred in both creeks. Known historical steelhead run in San Pablo Creek thought to be extirpated or nearly so. No suitable spawning habitat within the Planning Area due to high levels of fine sediments in creek beds.
California Central Valley steelhead *Oncorhynchus mykiss* Critical Habitat designated	FT/CSC	Spawns and rears in the Sacramento/ San Joaquin River systems and tributaries where gravelly substrate and shaded riparian habitat occurs.	**Moderate.** Migrates through bay waters downstream of Planning Area. May occasionally stray into San Pablo or Wildcat Creeks. No suitable spawning habitat within the Planning Area due to high levels of fine sediments in creek beds.

Special-Status Species Considered in the Evaluation of the Planning Area

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*	*Potential to Occur In the Planning Area*
Sacramento winter-run Chinook salmon *Oncorhynchus tshawytscha* Critical Habitat designated	FE/CE	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.	**Low.** Migrates through bay waters downstream of Planning Area. Not known to occur in either the San Pablo or Wildcat Creek Watersheds. Populations are at all time low numbers, highly unlikely to occur in project area creeks.
Central Valley spring-run Chinook salmon *Oncorhynchus tshawytscha* Critical Habitat designated	FT/CT	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.	**Low.** Migrates through bay waters downstream of Planning Area. Not known to occur in either the San Pablo or Wildcat Creek Watersheds. Populations are at all time low numbers, highly unlikely to occur in project area creeks.
Amphibians			
California red-legged frog *Rana draytonii*	FT/CSC	Breed in stock ponds, pools, and slow-moving streams	**Low to Moderate.** Potentially suitable aquatic habitat is present in San Pablo and Wildcat Creeks. The CNDDB shows 3 records within 5 miles of the Planning Area all of which are greater than 4 miles away. One of the records is along San Pablo Creek and there is potential for movement downstream into Planning Area exists.
Birds			
California black rail *Laterallus jamaicensis coturniculus*	--/CT	Salt marshes along large bays, also freshwater marshes	**Low.** Documented in marshes along the bay. However, the potential for occurrence within the Planning Area is low due to lack of suitable habitat. Marsh habitat is absent from the Planning Area.
California clapper rail *Rallus longirostrus obsoletus*	FE/CE	Salt-water and brackish marshes with tidal sloughs.	**Low.** Documented in marshes along the bay. However, suitable habitat is not present within the Planning Area because marsh habitat is absent from the Planning Area.
Mammals			
Salt marsh harvest mouse *Reithrodontomys raviventris*	FE/CE	Saline emergent wetlands of San Francisco Bay and tributaries.	**Low.** Documented in marshes along the bay. However, suitable habitat is not present in Planning Area because marsh habitat is absent from the Planning Area.
Other Special-status Species			
Plants			
Alkalil milk vetch *Astragalus tener var. tener*	--/--/1B.2	Adobe clay soils in valley and foothill grassland.	**Low.** The CNDDB shows 1 record approximately 1.6 miles south of the Planning Area. Adobe clay soils not present on Planning Area. All upland habitat on Planning Area has been disturbed in the past, no suitable habitat remains for this species.

Special-Status Species Considered in the Evaluation of the Planning Area

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*	*Potential to Occur In the Planning Area*
Bent-flowered fiddleneck *Amsinckia lunaris*	--/--/1B.2	Coastal bluff scrub, valley and foothill grassland.	**Low.** The CNDDB shows 3 recorded occurrences to the east with the closest one being approximately 3.1 miles away from the Planning Area. Upland habitat on Planning Area has been disturbed in the past, no suitable habitat remains for this species.
Diablo helianthella *Helianthella castanea*	--/--/1B.2	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland.	**Low.** The CNDDB does shows 3 recorded occurrences to the east with the closest one being approximately 2.8 miles away. Suitable habitat does not occur in the Planning Area; Azonal soils are not mapped within the area and areas with similar vegetation associations are limited.
Fragrant fritillary *Fritillaria liliacea*	FSC/--/1B.2	Coastal prairie and scrub, grasslands, often on serpentine soils; 10 to 1350 feet.	**Low.** The CNDDB shows 3 recorded occurrences to the east of the Planning Area with the closest one being along the San Pablo Reservoir. Suitable habitat is limited in the Planning Area due to the developed environment.
Loma Prieta hoita *Hoita strobilina*	--/--/1B.2	Mesic areas, usually on serpentinite, riparian or cismontane woodland, chaparral	**Low to Moderate.** No serpentine soils present. Only marginally suitable habitat, dominated by non-native species is available within the Planning Area.
Most beautiful jewel-flower *Streptanthus albidus ssp. peramoenus*	FSC/--/1B.2	Ridges and slopes with chaparral, valley and foothill grassland, and woodland; on serpentine outcrops	**Low.** No serpentine soils or outcrops within the Planning Area. Only marginally suitable habitat, dominated by non-native species is available within the Planning Area.
Oregon meconella *Meconella oregana*	FSC/--/1B.1	Coastal scrub and prairie	**Low.** Only marginally suitable habitat, dominated by non-native species is available within the Planning Area.
Pacific false bindweed *Calystegia purpurata ssp. saxicola*	--/--/1B.2	Coastal dunes, coastal scrub, coniferous forest	**Low.** All upland habitat on Planning Area has been disturbed in the past, no suitable habitat remains for this species.
Robust monardella *Monardella villosa ssp. globosa*	FSLC/--/1B.2	In clay or sandy soils of coastal prairie and scrub, and valley and foothill grassland	**Low.** Only marginally suitable habitat, dominated by non-native species is available within the Planning Area.
Suisun marsh aster *Symphyotrichum lentum (=Aster lentus)*	--/--/1B.2	Marshes and swamps (brackish and freshwater).	**Low.** The CNDDB shows 1 recorded approximately 3 miles west of the Planning Area. Habitat is limited within the Planning Area due to the level of development and fragmentation.
Western leatherwood *Dirca occidentalis*	--/--/1B.2	Occurs in mesic situations in a variety of habitats, including riparian woodland and forest, chaparral, broadleafed upland forest, and cismontane woodland.	**Low.** The CNDDB shows 3 records southwest of the Planning Area, the closest of which is approximately 1.3 miles away along Wildcat Creek. Riparian woodland understory within the Planning Area is highly disturbed and suitable habitat is limited.

Special-Status Species Considered in the Evaluation of the Planning Area

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*	*Potential to Occur In the Planning Area*
Animals			
Invertebrates			
Bridges coast range shoulderband *Helminthoglypta neckliniana bridgesi*	FSC/--	Inhabits tall grasses and weeds in the hillsides and riparian areas of Contra Costa County	**Low to Moderate.** Riparian areas within the Planning Area provide habitat. The CNDDB shows 3 records within 5 miles of the Planning Area, one of which is approximately 1 mile to the east along San Pablo Creek. There is potential for this species to occur within the Planning Area.
Monarch butterfly *Danaus plexippus*	--/* Wintering sites only	Winter roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	**Low to Moderate.** Mature eucalyptus within the Planning Area provide potential winter roosting habitat. The nearest recorded occurrence is 1.2 miles north of the Planning Area.
Fish			
Central Valley fall/late fall-run Chinook salmon *Oncorhynchus tshawytscha*	FSC/CSC	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.	**Low.** Migrates through waters of San Pablo Bay to spawning grounds. May occasionally stray into San Pablo and Wildcat Creeks within the Planning Area.
Sacramento perch *Archoplites interruptus*	--/CSC	Tidal waters, freshwater lower-elevation pools in slow moving streams, and floodplain lakes, often with emergent vegetation.	**Low.** Species was introduced to and documented from Jewel Lake and Lake Anza (manmade lakes on upper Wildcat Creek) in Tilden Regional Park from the 1980's. Since thought to be extirpated from Lake Anza and to persist in small numbers in Jewel Lake. Species is thought to be extinct throughout most of its native range. The CNDDB only shows one record and it is approximately 4 miles from the Planning Area
Reptiles			
Western pond turtle *Actinemys marmorata*	FSC/CSC	Freshwater ponds and slow streams edged with sandy soils for laying eggs.	**Low to Moderate.** The CNDDB shows 3 records all southwest of the Planning Area with the closest recorded occurrence within approximately 3.3 miles. Western pond turtles need basking sites and grassy or sandy banks for egg-laying. Habitat for this species is limited within the Planning Area although aquatic habitat may be available in Wildcat Creek within Planning Area.
Birds			
Cooper's hawk *Accipiter cooperii*	--/* 3503.5	Nests in conifers or deciduous stands near riparian areas	**Moderate.** Suitable nesting habitat present in larger trees along the San Pablo and Wildcat Creek riparian corridors.
Sharp-shinned hawk *Accipiter striatus*	--/CSC 3503.5	Nests in mountainous woodlands and forests in either coniferous or deciduous trees	**Low.** Do not generally breed in the region. May winter in the area.

Special-Status Species Considered in the Evaluation of the Planning Area

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*	*Potential to Occur In the Planning Area*
Golden eagle *Aquila chrysaetos*	--/* 3503.5	Nests in large trees, snags, and cliffs, winters on lakes and reservoirs.	**Low.** Suitable nesting habitat absent, may forage over San Pablo and wildcat Creek marshes. Would only be present as transient over Planning Area.
Great egret *Ardea alba*	--/* Rookeries only	Nest colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**Low.** Likely forage in marsh areas along the bay. Grassland habitats within the Planning Area are limited and no rookeries are recorded in the immediate vicinity.
Alameda song sparrow *Melospiza melodia pusillula*	--/CSC	Endemic to central San Francisco Bay. Found in pickleweed marshes, nests in low shrubs and pickleweed above high tide levels	**Low.** The CNDDB shows 4 recorded occurrences for this species; the closest of which is 2.2 miles south of the Planning Area. Limited suitable nesting or foraging habitat occurs within the Planning Area because instream habitats with dense cattails and tules are limited.
Allen's hummingbird *Selasphorus sasin*	FSC/* (AWLY)	Inhabits coastal scrub and a variety of woodlands and riparian habitat, as well as gardens in the urban-wildland interface.	**Moderate to High.** Suitable nesting and foraging habitat is present in landscaped areas, coyote brush, and riparian woodlands.
American kestrel *Falco sparverius*	--/3503.5	Nests in cavities in large trees near open areas.	**Moderate.** Likely forages over Planning Area. May nest in cavities of mature eucalyptus and riparian corridor trees within the Planning Area.
Black-crowned night heron *Nycticorax nycticorax*	--/* Rookeries only	Various wetland habitats, including salt, brackish, and freshwater marshes, swamps, streams, lakes, and agricultural fields. Nest in large trees, often with other herons or egrets.	**Low.** May forage along San Pablo and Wildcat Creeks near the bay. However, although suitable nesting trees, such as large eucalyptus occur within the project area, the relatively high levels of disturbance likely preclude nesting. No rookeries documented nearby.
Burrowing owl *Athene cunicularia*	--/CSC	Nests and forages in low-growing grasslands that support burrowing mammals	**Low.** The CNDDB does not show any recorded occurrences for this species within 5 miles of the Planning Area. Limited and only marginally suitable grassland habitat is present. Tall herbaceous layer and lack of suitable burrows combine to preclude use of grasslands by this species.
Great blue heron *Ardea herodias*	--/* Rookeries only	Nest colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**Low.** Likely forage along San Pablo and Wildcat Creeks. Grassland habitats within the Planning Area are limited and no rookeries are recorded in the immediate vicinity.
Great horned owl *Bubo virginianus*	--/3503.5	Often uses abandoned nests of corvids or squirrels; nests in large oaks, conifers, eucalyptus	**High.** Suitable nesting habitat present in larger trees along the San Pablo and Wildcat Creek riparian corridors. Although there are no recorded occurrences of this species within 5 miles of the Planning Area.

Special-Status Species Considered in the Evaluation of the Planning Area

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*	*Potential to Occur In the Planning Area*
Northern harrier *Circus cyaneus*	--/CSC	Mostly nests in emergent vegetation, wet meadows or near rivers and lakes, but may nest in grasslands away from water.	**Low.** The CNDDB shows 1 recorded occurrence approximately 1.2 miles west of the Planning Area along marsh land. Suitable habitat does not exist within the Planning Area.
Red-shouldered hawk *Buteo lineatus*	--/3503.5	Usually nests in large trees, often in woodland or riparian deciduous habitats. Forages over open grasslands and woodlands	**High.** Suitable nesting habitat present in larger trees along the San Pablo and Wildcat Creek riparian corridors. Although there are no recorded occurrences of this species within 5 miles of the Planning Area.
Red-tailed hawk *Buteo jamaicensis*	--/3503.5	Usually nests in large trees, often in woodland or riparian deciduous habitats	**High.** Suitable nesting habitat present in larger trees along the San Pablo and Wildcat Creek riparian corridors. Although there are no recorded occurrences of this species within 5 miles of the Planning Area
Salt-marsh common yellowthroat *Geothlypis trichas sinuosa*	FSC/CSC	Emergent wetlands	**Low to Moderate.** Resident of S.F. Bay region salt and fresh water marshes. Habitat is limited within the Planning Area; however, species may use riparian woodlands associated with Wildcat and San Pablo Creeks.
San Pablo song sparrow *Melospiza melodia samuelis*	--/CSC	Salt marshes along northern S.F. and San Pablo Bays.	**Moderate.** The CNDDB shows 5 recorded occurrences for this species; 2 of which are found within the Planning Area. Although ideal nesting habitat occurs outside of the Planning Area, Wildcat and San Pablo Creeks could provide suitable nesting and foraging habitat but it is not possible to distinguish subspecies. Cannot rule out potential for presence.
Snowy egret *Egretta thula*	--/* Rookeries only	Nest colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**Low.** Likely forage along San Pablo and Wildcat Creeks near their outlet to the bay. While suitable nesting habitat is available in within the Planning no rookeries are recorded in the immediate vicinity.
White-tailedkite *Elanus leucurus*	FSC/Fully Protected	Nests in trees adjacent to grasslands, forages over grasslands and agricultural lands	**Low.** The CNDDB shows 2 recorded occurrences for this species, the nearest of which is located 1.2 miles to the west along Wildcat Creek near its conjunction with San Francisco Bay. Habitat is limited within the Planning Area.
Short-eared owl *Asio flammeus*	--/CSC	Fresh water and salt marshes and swamps, lowland meadows, irrigated fields	**Low.** The CNDDB shows 1 recorded occurrence for this species approximately 1 mile west of the Planning Area in marshland along the bay. Not likely to breed in low quality, degraded habitat in the Planning Area, with presence of higher quality habitat nearby.

Special-Status Species Considered in the Evaluation of the Planning Area

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*	*Potential to Occur In the Planning Area*
Mammals			
Big free-tailed bat *Nyctinomops macrotis*	--/CSC	Known from isolated populations throughout southwestern U.S., into Mexico. Lives in rocky areas of desert scrub or coniferous forests. Roosts by day in crevices on cliff faces. Feeds on insects. Forms colonies and bear one young each year, in the early summer.	**Low.** Rare and not known to breed in California. One known record (a suspected vagrant) documented locally (from Alameda County). Suitable maternity colony habitat not present within Planning Area. May migrate through area and be present occasionally on a transient basis.
Fringed myotis *Myotis thysanodes*	FSC/--	Inhabits a variety of woodland habitats, roosts in crevices or caves, and forages over water and open habitats	**Low to Moderate.** Roosting habitat may be available in riparian woodlands in the Planning Area; however, habitat is limited because the Planning Area is highly developed.
Hoary bat *Lasiurus cinereus*	--/*	A relatively common, solitary species that occurs throughout California, wintering along the coast and in southern California, and breeding in areas inland and north of the winter range. Prefers open habitats or habitat mosaics, with trees for cover and open areas or habitat edges for feeding. Prefers to roost in dense foliage of medium to large trees.	**Low.** Potential roosting habitat is available in eucalyptus and other large trees in the riparian corridor within the Planning Area; however, this species is not expected to breed in the area but may migrate through area and may potentially winter there as well.
Long-eared myotis *Myotis evotis*	FSC/--	Inhabits woodlands and forests up to approximately 8,200 feet in elevation; roosts in crevices and snags	**Low to Moderate.** Suitable foraging habitat is limited in the Planning Area. Roosting habitat available in eucalyptus and riparian woodlands in the project area.
Silver-haired bat *Lasionycteris noctivagans*	--/*	Silver-haired bats are commonly associated with old growth forests. Maternity colonies found in tree cavities or small hollows. Typical hibernation roosts include small tree hollows, beneath exfoliating bark, in wood piles, in cliff faces, and in cave entrances. Although highly dependent upon old growth forests they feed predominantly in disturbed areas, often in small clearings and along roadways or water courses.	**Low.** Although most common in old growth forests, may occur on a transient basis within the Planning Area during spring and fall migration.
Yuma myotis *Myotis yumanensis*	FSC/CSC	Open forests and woodlands below 8,000 feet in close association with water bodies	**Moderate.** Vacant or underutilized structures on the Planning Area may provide roosting habitat. Suitable foraging habitat is limited but is available in undeveloped portions of the Planning Area.
Pallid bat *Antrozous pallidus*	FSC/CSC	Habitats include grasslands, scrubs, woodlands, mixed conifer forests, but it is most common in open,	**Low.** The CNDDB shows 3 records within 5 miles of the Planning Area. The closest record is 1.4 miles to the north east along the San

Special-Status Species Considered in the Evaluation of the Planning Area

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*	*Potential to Occur In the Planning Area*
		dry habitats with rocky areas for roosting. Day roosts include hollow trees, buildings, caves, crevices, and mines.	Francisco Bay. Potential roosting habitat may be available in trees on or within the vicinity of the Planning Area. However there is a general lack of suitable habitat in the Planning Area.
Salt marsh wandering shrew *Sorex vagrans halicoetes*	FSC/CSC	Salt marsh habitat 6-8 feet above sea level, with abundant pickleweed and driftwood.	**Low.** Recorded in salt marshes along the bay. However, suitable habitat does not occur within the Planning Area.
San Pablo vole *Microtus californicus sanpabloensis*	--/CSC	Salt marshes of San Pablo Creek, San Pablo Bay.	**Low to Moderate.** Recorded in 1986 from riparian corridors of both San Pablo and Wildcat creeks immediately upstream of San Pablo Bay marshland, 0.5 miles from the Planning Area. The Planning Area does not provide suitable habitat because salt marshes are not present in the Planning Area.

STATUS CODES:

FEDERAL: (U.S. Fish and Wildlife Service)
FE = Listed as Endangered (in danger of extinction) by the Federal Government.
FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.
FP = Proposed for Listing as Endangered or Threatened.
FC = Candidate to become a proposed species.
FSC = Former FWS Species of Concern. The USFWS office in Sacramento, which is responsible for the central portion of the state, including the project area, no longer lists Species of Concern but recommends that species considered to be at potential risk by a number of organizations and agencies be addressed during project environmental review. Also may be NMFS Species of Concern, which are still listed.
MMPA = Marine Mammal Protection Act

STATE: (California Department of Fish and Game)
CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
CR = Listed as Rare by the State of California (plants only)
CSC = California Species of Special Concern
3503.5=Protection for nesting species of Falconiformes (hawks) and Strigiformes (owls)
*Special animal—listed on CDFG's Special Animals List
California Native Plant Society
List 1A=Plants presumed extinct in California
List 1B=Plants rare, Threatened, or Endangered in California and elsewhere
List 2= Plants rare, Threatened, or Endangered in California but more common elsewhere
List 3= Plants about which more information is needed
List 4= Plants of limited distribution

An extension reflecting the level of threat to each species is appended to each rarity category as follows:

.1 – Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

Source: CNDDB, 2010; CNPS, 2010; USFWS, 2010

Appendix D: List of Historical and Archaeological Sites

CALIFORNIA
HISTORICAL
RESOURCES
INFORMATION
SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
1303 Maurice Avenue
Rohnert Park, California 94928-3609
Tel: 707.664.0880 • Fax: 707.664.0890
E-mail: leigh.jordan@sonoma.edu
http://www.sonoma.edu/nwic

July 23, 2008

NWIC File No.: 08-0034

Stan Lai
Dyett & Bhatia
755 Sansome Street
Suite 400
San Francisco, CA 94111

Re: Record search results for the proposed San Pablo General Plan and EIR update.

Dear Mr. Lai:

Per your request received by our office on 10 July 2008, a records search was conducted for the above referenced project by reviewing pertinent Northwest Information Center (NWIC) data maps, historic-period maps, and literature for Contra Costa County on file at this office. Review of this information indicates that the proposed project area contains seven (7) recorded Native American cultural resources: P-07-000074 (CA-CCO-132), P-07-000128 (CA-CCO-247), P-07-000150 (CA-CCO-271), P-07-000151 (CA-CCO-272), P-07-000466 (CA-CCO-357), P-07-000471 (CA-CCO-374), and P-07-000672 (CA-CCO-246). All of these resources represent Native American habitation sites and three of the seven have recorded burials. The proposed project area also includes seven (7) historic-period cultural resources: P-07-000467 (CA-CCO-358H), P-07-000866, P-07-002678, P-07-002679, P-07-002680, P-07-002681, and P-07-002753. All of these resources represent historic-era buildings that are still (as of the original recording) standing. This office has record of forty-seven (47) cultural resource studies, covering approximately 25% of the San Pablo area. Please see the attached bibliography for the citation for each of these studies.

The Office of Historic Preservation's (OHP) Historic Property Directory (HPD) has 58 listings in the San Pablo area. Please refer to the attached pages from the OHP HPD that show the details for these listings *(also included is CA OHP Technical Assistance Bulletin #8 which explains how to use these listings)*. The OHP HPD also includes a section on the determinations of eligibility for archaeological resources *(this section was not copied)*. P-07-000150 (CA-CCO-271), the Batha Site, is a Native American archaeological site that is part of the Lower San Pablo Creek Archaeological District. P-07-000150 (CA-CCO-271) has an eligibility status code of 2D2, meaning it is a contributor to a district determined eligible for the National Register by consensus through the Section 106 process and it is listed in the California Register.

The CA Inventory of Historic Resources (1976) has two listings in the San Pablo area: the Alvarado Adobe (State Historic Landmark #512) and the Gutierrez Adobe.

The Contra Costa Historic Resources Inventory lists fourteen (14) resources for the San Pablo area: the Bouquet Chateau, St. Paul's Catholic Church and Graveyard, the Tewksbury Home, Depot Business Area, the Stanley Alter Home, the Rumrill-Helms House, the Earthquake Refugee Camp, the Alvarado Adobe, the Blume House, the Texiera Home, the Pullman Street Rectory, the Andrata House, the Mello residence, and Indian Mounds.

The Caltrans Bridge Inventory lists eight bridges/culverts that have been inventoried within the San Pablo area. All of these have been either determined categorically ineligible (the culverts) or do not meet the significance criteria.

At the time of Euroamerican contact the Native Americans that lived in the area were the *Huchiun,* speakers of the Costanoan/Ohlone language, part of the Utian language family (Levy 1978:485). Although the San Pablo area appears to encompass portions of the principal area for the *Huchiun,* there are no Native American resources in or adjacent to the proposed project area referenced in the ethnographic literature.

Based on an evaluation of the environmental setting and features associated with known sites, Native American cultural resources in this part of Contra Costa County have been found near sources of water including perennial and intermittent streams and springs, on midslope terraces and elevated knolls above the floodplain, and near ecotones and other productive environments. The City of San Pablo contains two principal streams, Wildcat and San Pablo Creeks, along with several intermittent streams and wetlands, midslope terraces and numerous ecotones, including the transition from the bay margin to the adjacent uplands. Given the similarity of these environmental factors, coupled with the number of record habitation sites there is a high likelihood that unrecorded Native American cultural resources exist in the City of San Pablo.

Review of historical literature and maps indicate the City of San Pablo has seen a long development history dating back to the early part of the 19th-century, through the Mexican period, and into the American period. Numerous buildings survive from these time periods and provide a link to the historic-era development of San Pablo. Archaeological deposits associated with the occupants of the buildings most likely survive in specific locations. With this in mind, there is a high possibility of identifying historic-period archaeological resources in the City of San Pablo.

RECOMMENDATIONS:

1) As per Senate Bill 18 (Chapter 905, Statutes of 2004), local governments are required to consult with California Native American tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to adoption and amendment of general plans (defined in Government Code §65300 et seq.). Each time a local government considers a proposal to adopt or amend the general plan, they are required to contact the appropriate tribes identified by the Native American Heritage Commission.

2) There are 14 recorded cultural resources in the proposed project area. It is recommended that a professional archaeologist or architectural historian assess these resources prior to any project specific development and provide recommendations.

3) There is a high possibility of identifying Native American sites and a high possibility of identifying historic-period archaeological resources in the project area. We recommend a qualified archaeologist conduct further archival and field study to identify cultural resources during project specific planning. Field study may include, but is not limited to, pedestrian survey, auguring, shovel testing, or geoarchaeological testing as well as other common methods used to identify the presence of archaeological resources.

4) Review for possible historic structures has included only those sources listed in the attached bibliography and should not be considered comprehensive. The Office of Historic Preservation has determined that buildings, structures, and objects 45 years or older may be of historical value. ***The City of San Pablo contains numerous buildings listed in the OHP HPD, CA Inventory of Historic Resources, and/or the Contra Costa County Historic Resource Inventory. In addition, numerous un-identified buildings meeting OHP's age threshold are located within the City of San Pablo limits. Therefore, it is recommended that they be assessed by an architectural historian before commencement of project activities.***

5) If cultural resources are encountered **during the project,** avoid altering the materials and their context until a cultural resource consultant has evaluated the situation. Project personnel should not collect cultural resources. Prehistoric resources include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic-period resources include stone or adobe foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

6) It is recommended that any identified cultural resources be recorded on DPR 523 historic resource recordation forms, available online from the Office of Historic Preservation's website: http://ohp.parks.ca.gov/default.asp?page_id=1069.

Thank you for using our services. Please contact this office if you have any questions, (707) 664-0880.

Sincerely,

Bryan Much
Researcher I

LITERATURE REVIEWED

In addition to archaeological maps and site records on file at the Northwest Information Center of the Historical Resources Information System, the following literature was reviewed:

Bowman, J.N.
1951 *Adobe Houses in the San Francisco Bay Region.* Geologic Guidebook of the San Francisco Bay Counties, Bulletin 154. California Division of Mines, Ferry Building, San Francisco.

Contra Costa County Planning Department
1976 Preliminary Historic Resources Inventory, Contra Costa County, California. Prepared by Contra Costa County Planning Department, n.p.

Cook, S.F.
1957 *The Aboriginal Population of Alameda and Contra Costa Counties.* University of California Anthropological Records 16(4):131-156. Berkeley and Los Angeles.

Fickewirth, Alvin A.
1992 *California Railroads.* Golden West Books, San Marino, CA.

Gudde, Erwin G.
1969 *California Place Names: The Origin and Etymology of Current Geographical Names.* Third Edition. University of California Press, Berkeley and Los Angeles.

Hart, James D.
1987 *A Companion to California.* University of California Press, Berkeley and Los Angeles.

Heizer, Robert F., editor
1974 *Local History Studies*, Vol. 18., "The Costanoan Indians." California History Center, DeAnza College, Cupertino, CA.

Helley, E.J., K.R. Lajoie, W.E. Spangle, and M.L. Blair
1979 *Flatland Deposits of the San Francisco Bay Region - Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning.* Geological Survey Professional Paper 943. United States Geological Survey and Department of Housing and Urban Development.

Hoover, Mildred Brooke, Hero Eugene Rensch, and Ethel Rensch, revised by William N. Abeloe
1966 *Historic Spots in California.* Third Edition. Stanford University Press, Stanford.

Hoover, Mildred Brooke, Hero Eugene Rensch, and Ethel Rensch, William N. Abeloe, revised by Douglas E. Kyle
1990 *Historic Spots in California.* Fourth Edition. Stanford University Press, Stanford.

Kroeber, A.L.
1925 *Handbook of the Indians of California.* Bureau of American Ethnology, Bulletin 78, Smithsonian Institution, Washington, D.C. (Reprint by Dover Publications, Inc., New York, 1976)

Levy, Richard
1978 Costanoan. In *California*, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Milliken, Randall
1995 *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810.* Ballena Press Anthropological Papers No. 43, Menlo Park.

Myers, William A. (editor)
1977 *Historic Civil Engineering Landmarks of San Francisco and Northern California.* Prepared by The History and Heritage Committee, San Francisco Section, American Society of Civil Engineers. Pacific Gas and Electric Company, San Francisco.

Nelson, N.C.
1909 *Shellmounds of the San Francisco Bay Region.* University of California Publications in American Archaeology and Ethnology 7(4):309-356. Berkeley. (Reprint by Kraus Reprint Corporation, New York, 1964)

Nichols, Donald R., and Nancy A. Wright
1971 Preliminary Map of Historic Margins of Marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map. U.S. Department of the Interior, Geological Survey in cooperation with the U.S. Department of Housing and Urban Development, Washington, D.C.

Roberts, George, and Jan Roberts
1988 *Discover Historic California.* Gem Guides Book Co., Pico Rivera, California.

State of California Department of Parks and Recreation
1976 *California Inventory of Historic Resources.* State of California Department of Parks and Recreation, Sacramento.

State of California Department of Parks and Recreation and Office of Historic Preservation
1988 *Five Views: An Ethnic Sites Survey for California.* State of California Department of Parks and Recreation and Office of Historic Preservation, Sacramento.

State of California Office of Historic Preservation **
2008 *Historic Properties Directory.* Listing by City (through March 2008). State of California Office of Historic Preservation, Sacramento.

Welch, Lawrence E.
1977 *Soils Survey of Contra Costa County, California.* United States Department of Agriculture, Soil Conservation Service, in cooperation with the University of California Agricultural Experiment Station. n.p.

Williams, James C.
1997 *Energy and the Making of Modern California.* The University of Akron Press, Akron OH.

Woodbridge, Sally B.
1988 *California Architecture: Historic American Buildings Survey*. Chronicle Books, San Francisco.

Works Progress Administration
1984 *The WPA Guide to California*. Reprint by Pantheon Books, New York. (Originally published as California: A Guide to the Golden State in 1939 by Books, Inc., distributed by Hastings House Publishers, New York.)

**Note that the Office of Historic Preservation's *Historic Properties Directory* Includes National Register, State Registered Landmarks, and Historic Points of Interest.

CULTURAL RESOURCES STUDIES CONDUCTED WITHIN CITY OF SAN PABLO

Peter Banks and David A. Fredrickson
1977 *Cultural Resource Survey of the Wildcat and San Pablo Creeks Water Resources Project, Contra Costa County, California.*
NWIC Report S-000871

Benjamin F. Ananian
1977 *An Archaeological Field Survey, San Pablo Avenue Widening, San Pablo, California*
NWIC Report S-001248

E. Breck Parkman
1978 *Archaeological Assessment of the Senior Citizen's Center and Sear's Building Site, San Pablo, California.*
NWIC Report S-001254

Benjamin F. Ananian, Joseph S. Eisenlauer, and George R. Miller
1978 *Archeological Testing for the Proposed San Pablo Avenue Widening Project, San Pablo, California*
NWIC Report S-001295

Peter Banks
1979 *An Archaeological Investigation of the El Rancho Drive-In Property, San Pablo, Contra Costa County, California Contra Costa County, California*
NWIC Report S-001535

Peter M. Banks (California Archaeological Consultants, Inc.)
1979 *An Archaeological Investigation of a Parcel on El Portal Drive, San Pablo, Contra Costa County, California.*
NWIC Report S-001610

Peter M. Banks (California Archaeological Consultants)
1979 *An Archaeological Investigation of the Sheffield Redevelopment Project, San Pablo, Contra Costa County, California.*
NWIC Report S-001611

Peter M. Banks (California Archaeological Consultants)
1979 *An Archaeological Investigation of the Rumrill Bridge Widening Project and the Giant Highway Bridge Replacement Project, San Pablo, Contra Costa County, California*
NWIC Report S-001716

Peter M. Banks (California Archaeological Consultants, Inc.)
1979 *An Archaeological Investigation of the Baaba Project, San Pablo, Contra Costa County, California.*
NWIC Report S-001718

Peter Banks (California Archaeological Consultants, Inc.)
1979 *An Archaeological Investigation of the Central Addition to El Portal Redevelopment Project, San Pablo, Contra Costa County, California.*
NWIC Report S-001719

Peter M. Banks and Robert I. Orlins (California Archaeological Consultants, Inc.)
1979 *Final Report of the Testing of Cultural Resources within the Wildcat and San Pablo Creeks Flood Control and Water Resources Project, Contra Costa County, California*
NWIC Report S-001768

Peter M. Banks
1979 *An Archaeological Investigation of a Prehistoric Cultural Resource at the Welgmann and Rose Property (Parcel No. 408-070-001), Giant Highway, Richmond, Welgmann and Rose Property (Parcel No. 408-070-001), Giant Highway, Richmond,*
NWIC Report S-001929

David A. Fredrickson (Department of Anthropology, Sonoma State University)
1980 *Preliminary Archaeological Impact Evaluation of Contra Costa County's West County Agency Co-Disposal/Energy Recovery Project.*
NWIC Report S-002269

David Chavez (David Chavez & Associates)
1980 *Archaeological Impact Evaluation for the Tank Farm Hill General Plan Amendment*
NWIC Report S-002373

Joseph Morris and Peter Banks
1981 *An Examination of the Potential Impacts to Prehistoric Sites, CA-CCO-269 and -270, San Pablo Creek, Contra Costa County, California.*
NWIC Report S-002700

Margaret Buss (Caltrans)
1982 *Archaeological Survey Report for Proposed High Occupancy Vehicle Lanes from the Bay Bridge to Carquinez Bridge, 04-ALA/CC-80 2.0/8.0, 0.0/14.1 04209-400211*
NWIC Report S-004950

Randy S. Wiberg (Holman & Associates)
1982 *An archaeological evaluation of Subdivision 6190, City of San Pablo (letter report)*
NWIC Report S-005661

Miley Paul Holman (Holman & Associates)
1982 *Further archaeological auger boring inside the area of Subdivision 6190 (letter report)*
NWIC Report S-005662

Peter M. Banks and Gary F. Wirth (California Archaeological Consultants, Inc.)
1984 *A Cultural Resource Investigation and Historic Property Survey Report for the Marin Bridge Replacement Project, San Pablo, Contra Costa County, California.*
NWIC Report S-006377

Peter Banks
1984 *Subsurface Archaeological Investigations at Subdivision 6367, Road 20, SanPablo, Contra Costa County, California. Pablo, Contra Costa County, California.*
NWIC Report S-006614

California Archaeological Consultants (California Archaeological Consultants)
1985 *A Cultural Resource Investigation and Historic Property Survey Report for the North Richmond Bypass Project.*
NWIC Report S-007130

Robert Cartier (Archaeological Resource Management)
1985 *Cultural Resource Evaluation of the El Portal Shopping Center/Road 20 Improvement Project in the City of San Pablo, County of Contra Costa.*
NWIC Report S-007286

Matthew R. Clark (Holman & Associates)
1985 *Marin Bridge Replacement Project/PO 811850 (letter report)*
NWIC Report S-007350

Matthew R. Clark (Holman & Associates)
1986 *Additional Archaeological Testing in the Vicinity of the Marin Avenue Bridge Replacement Project for the City of San Pablo, Contra Costa County, California*
NWIC Report S-008037

David W. Mayfield (San Francisco State University)
1978 *Ecology of the Pre-Spanish San Francisco Bay Area*
NWIC Report S-009583

Alice F. Wood
1988 *The Archaeological Monitoring of Trench Excavations in the Vicinity of CCO-374, at 17th Street, San Pablo, Contra Costa County, California*
NWIC Report S-010229

Rene Peron
1989 *An Archaeological Investigation of the E.A.H. Church Lane Senior Housing, 1924-1928 Church Lane, San Pablo, Ca.*
NWIC Report S-011056

Thomas Martin (Anthropological Studies Center, Sonoma State University)
1992 *An Archaeological Study of the Port Development and Construction/Lao Family Community Development Property (AP# 409-030-020) Located along Rumrill Blvd., in San Pablo, Contra Costa County, California*
NWIC Report S-014347

Randy S. Wiberg (Holman & Associates)
1993 *Report of Archaeological Auger Testing for the Wildcat Creek Stream Restoration Project, Alvarado Park, San Pablo, California*
NWIC Report S-015029

Miley Paul Holman (Holman & Associates)
1994 *Mechanical Subsurface Testing for Cultural Resources at the Proposed Church Lane Apartment Project Area, San Pablo, Contra Costa County, California (letter report)*
NWIC Report S-018038

Seana L. S. Gause (Anthropological Studies Center, Sonoma State University)
1997 *An Archaeological Survey Report for the Bridge Widening on Rumrill Boulevard, San Pablo, Contra Costa County, California*
NWIC Report S-019741

Colin I. Busby (Basin Research Associates, Inc.)
1997 *Cultural Resources Review-Marin Avenue Trail Bridge Project, Wildcat Creek Regional Park, City of San Pablo, Contra Costa County, California (letter report)*
NWIC Report S-021174

Colin I. Busby (Basin Research Associates, Inc.)
1998 *Archaeological Monitoring Closure Report- Marin Avenue Trail Project, Wildcat Creek Regional Park, City of San Pablo, Contra Costa County, California*
NWIC Report S-021587

Colin I. Busby (Basin Research Associates, Inc.)
1998 *Archaeological Monitoring Closure Report- Marin Avenue Bridge Pipeline Replcement Project, City of San Pablo, Contra Costa County, California (letter report)*
NWIC Report S-021588

Shelly Davis-King
1999 *Historic Properties Survey Report for the Lytton Band of Pomo Indians (Negative) Conveyance of Fee Land to Trust Status and Proposed Gaming Facility Acquisition, Sonoma and Contra Costa Counties, California*
NWIC Report S-022295

Carolyn Losee
2001 *Survey for Sprint Spectrum's Personal Communication Services (PCS) Wireless "Pt. Pinole" Site (Ref# SF54XC006E): Positive Results (letter report)*
NWIC Report S-024266

Carolyn Losee
2001 *Site Recording and Analysis for Sprint PCS "Pt. Pinole" Site (Ref#SF54XC006E) (letter report)*
NWIC Report S-024455

Sandro Amaglio
2001 *Riverside Elementary School Classroom Building Relocation Project, West Contra Costa Unified School District, FEMA-1155-DR-CA, DSR #06602 (letter report)*
NWIC Report S-024464

Kevin M. Bartoy
2004 *Archaeological Survey and Record Search for 2832 Giant Road, San Pablo, Contra Costa County, California (Letter Report)*
NWIC Report S-027940

Kevin M. Bartoy, Ellie Reese, Katy Killackey, John Holson, and Trish Fernandez
2004 *Extended Survey and Historic Architectural Evaluation for the EBALDC Giant Road Project, San Pablo, Contra Costa County*
NWIC Report S-028222

Lorna Billat (Earth Touch)
Nextel Communications Wireless Telecommunications Service Facility - Contra Costa County (letter report)
NWIC Report S-029368

John Kelley and Benjamin Matzen (LSA Associates, Inc.)
2004 *A Cultural and Paleontological Resources Study for the Circle S Housing Development Project, San Pablo, Contra Costa County, California.*
NWIC Report S-029696

Carolyn Losee (Archaeological Resources Technology)
2005 *Collocation ("CO") Submission Packet FCC Form 621, 1015 Chesley Avenue, Richmond, Contra Costa County, California.*
NWIC Report S-030736

Scott Billat (Earth Touch Inc)
2005 *Collocation ("CO") Submission Packet FCC Form 621, El Portal, CA-4056B, 2600 Mission Bell Dr., San Pablo, Contra Costa County, California.*
NWIC Report S-031068

Carolyn Losee (Archaeological Resources Technology)
2006 *Records search results for Cingular Audits Project #SNFCCA0009: 200 Vale Road, San Pablo, CA (letter report)*
NWIC Report S-032588

Miley Paul Holman (Holman & Associates)
2006 *Cultural Resources Study of the Brentz Lane Park Project, San Pablo, Contra Costa County, California (letter report)*
NWIC Report S-033237

Miley Paul Holman (Holman & Associates)
2007 *Cultural Resources Study of the Wanlass Park Project, San Pablo, Contra Costa County, California (letter report)*
NWIC Report S-034157

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
076270	07-001616	421 WASHINGTON AVE		RICHMOND	P	0	HIST.SURV.	4802-0003-0247	11/05/79	1D	C
073760	07-001334	422 WASHINGTON AVE		RICHMOND	P	0	HIST.SURV.	4802-0003-0287	11/05/79	1D	C
075948	07-001501	427 WASHINGTON AVE		RICHMOND	P	0	HIST.SURV.	4802-0003-0092	11/05/79	1D	A
075854	07-001453	428 WASHINGTON AVE		RICHMOND	P	0	HIST.SURV.	4802-0003-0044	11/05/79	1D	A
076164	07-001558	432 WASHINGTON AVE		RICHMOND	P	0	HIST.SURV.	4802-0003-0149	11/05/79	1D	C
012799	07-001174	WESTERN DR	CHINESE FISH CAMP	RICHMOND	M	1880	HIST.SURV.	4802-0016-0000		5S2	
012800	07-001175	WESTERN DR	U.S. WHALING STATION, INDEPENDENT	RICHMOND	M		HIST.SURV.	4802-0017-0000		5S2	
012783	07-001160	WESTERN DR	WINEHAVEN/POINT MOLATE	RICHMOND	F	1908	HIST.RES.	NPS-78000658-0000	10/02/78	1S	
							HIST.SURV.	4802-0001-0000	10/02/78	1S	
							PROJ.REVW.		10/28/77	2S	
129137	07-002519	53 WILLARD AVE		RICHMOND	P	1945	HIST.RES.	DOE-07-01-0022-0000	12/03/01	6Y	
							PROJ.REVW.	HUD011127G	12/03/01	6Y	
070107	07-001301	210 WILLARD AVE		RICHMOND	U	1928	PROJ.REVW.	HUD910222J	03/18/91	6Y	
070106	07-001300	223 WILLARD AVE		RICHMOND	U	1937	PROJ.REVW.	HUD910222I	03/18/91	6Y	
131199		335 WILLARD AVE		RICHMOND	P	1930	HIST.RES.	DOE-07-02-0008-0000	03/28/02	6Y	
							PROJ.REVW.	HUD020214H	03/28/02	6Y	
146640		5848 YALE AVE		RICHMOND	P	1942	HIST.RES.	DOE-07-04-0004-0000	05/06/04	6Y	
							PROJ.REVW.	HUD040416B	05/06/04	6Y	
106755	07-001917		CUMMINGS SKYWAY, BRIDGE #28-0213	RODEO			HIST.RES.	DOE-07-97-0002-0000	01/17/97	6Y	
							PROJ.REVW.	FHWA961211A	01/17/97	6Y	
106757	07-001918		CHRISTIE ROAD UNDERPASS BRIDGE, BR	RODEO			HIST.RES.	DOE-07-97-0004-0000	01/17/97	6Y	
							PROJ.REVW.	FHWA961211A	01/17/97	6Y	
155394		534 1ST ST		RODEO	P	1928	PROJ.REVW.	HUD050822B	09/21/05	6Y	
096095	07-001827	326 3RD ST	RODEO FIRE STATION	RODEO	M	1927	HIST.RES.	DSA-07-SPS-3284	03/16/95	6J	C
106576	07-001915	100 CLAEYS LANE	CLAEYS RANCH	RODEO	P	1900	HIST.RES.	DOE-07-97-0001-0000	01/17/97	6Y	
							PROJ.REVW.	FHWA961211A	01/17/97	6Y	
095488	07-001824	239 LAKE AVE		RODEO	P	1925	PROJ.REVW.	HUD950215A	04/11/95	6Y	
079992	07-001740	154 LAKE ST		RODEO	U	1922	PROJ.REVW.	HUD930106M	02/03/93	6Y	
140020		532 NAPA AVE		RODEO	P	1948	HIST.RES.	DOE-07-03-0027-0000	05/23/03	6Y	
							PROJ.REVW.	HUD030516A	05/23/03	6Y	
162949		224 PACIFIC AVE		RODEO	P	1949	PROJ.REVW.	HUD060822G	08/28/06	6Y	
010624	07-001131	PARKER AVE	SELBY SMELTER SITE	RODEO	U	1885	HIST.SURV.	4572-0001-0000		7R	
160477		208 PARKER AVE		RODEO	P	1947	PROJ.REVW.	HUD060207F	02/09/06	6Y	
072948	07-001315	470 PARKER AVE	LEFTY GOMEZ FIELD	RODEO	U		HIST.RES.	SPHI-CCO-009	05/08/91	7L	
							ST.HS.LDMK	07-0011	05/03/91	7L	
							ST.PT.INT.	07-0013	05/03/91	7L	
155420		550 SAN PABLO AVE		RODEO	P	1947	PROJ.REVW.	HUD050822C	09/26/05	6Y	
106577	07-001916	3801 SR 4	BARRY RANCH	RODEO	P	1923	HIST.RES.	DOE-07-97-0003-0000	01/17/97	6Y	
							PROJ.REVW.	FHWA961211A	01/17/97	6Y	
106758	07-001919		RODEO CREEK BRIDGE, BRIDGE #28-003	(VIC) RODEO			HIST.RES.	DOE-07-97-0005-0000	01/17/97	6Y	
							PROJ.REVW.	FHWA961211A	01/17/97	6Y	
010625	07-001132	SR 80	OLEUM	(VIC) RODEO	P	1895	HIST.SURV.	4572-0002-0000		7R	
1 129337	07-002539	3200 11TH ST		SAN PABLO	P	1949	HIST.RES.	DOE-07-02-0003-0000	01/14/02	6Y	
							PROJ.REVW.	HUD020110N	01/14/02	6Y	
2 147279		3409 11TH ST		SAN PABLO	P	1954	HIST.RES.	DOE-07-04-0010-0000	01/23/04	6Y	
							PROJ.REVW.	HUD031231D	01/23/04	6Y	
3 146036		1816 14TH ST		SAN PABLO	P	1924	HIST.RES.	DOE-07-04-0002-0000	02/03/04	6Y	
							PROJ.REVW.	HUD040130C	02/03/04	6Y	
4 141058		1614 15TH ST		SAN PABLO	P	1935	HIST.RES.	DOE-07-03-0028-0000	07/03/03	6Y	
							PROJ.REVW.	HUD030606A	07/03/03	6Y	
5 135837		1875 15TH ST		SAN PABLO	P	1952	HIST.RES.	DOE-07-02-0075-0000	12/16/02	6Y	
							PROJ.REVW.	HUD021203B	12/16/02	6Y	

	PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
6	169781		2759 15TH ST		SAN PABLO	P	1951	PROJ.REVW.	HUD071213L	01/08/08	6Y	
7	129257	07-002534	1740 16TH ST		SAN PABLO	P	1934	HIST.RES.	DOE-107-01-0037-0000	12/31/01	6Y	
								PROJ.REVW.	HUD011226J	12/31/01	6Y	
8	132825		1881 16TH ST		SAN PABLO	P	1953	HIST.RES.	DOE-07-02-0061-0000	08/05/02	6Y	
								PROJ.REVW.	HUD020729C	08/05/02	6Y	
9	138782		1958 16TH ST		SAN PABLO	P	1946	HIST.RES.	DOE-07-03-0021-0000	04/15/03	6Y	
								PROJ.REVW.	HUD030411A	04/15/03	6Y	
10	131423		2721 18TH ST		SAN PABLO	P		HIST.RES.	DOE-07-02-0017-0000	06/06/02	6Y	
								PROJ.REVW.	HUD020522K	06/06/02	6Y	
11	161654		2972 19TH ST		SAN PABLO	P	1953	PROJ.REVW.	HUD060317A	03/21/06	6Y	
12	136783		2024 20TH ST		SAN PABLO	P	1948	HIST.RES.	DOE-07-03-0014-0000	02/03/03	6Y	
								PROJ.REVW.	HUD030128J	02/03/03	6Y	
13	166216		2996 20TH ST		SAN PABLO	P	1954	PROJ.REVW.	HUD070529E	06/04/07	6Y	
14	132819		2331 22ND ST		SAN PABLO	P	1929	HIST.RES.	DOE-07-02-0060-0000	08/05/02	6Y	
								PROJ.REVW.	HUD020729D	08/05/02	6Y	
15	012818	07-001191	ALVARADO SQUARE	BLUME HOUSE	SAN PABLO	P	1905	HIST.SURV.	4806-0011-0000		7R	
16	012808	07-001181	ALVARADO SQUARE	TEXIERA HOME	SAN PABLO	M	1890	HIST.SURV.	4806-0001-0000		7R	
17	132457		2900 ARUNDEL WY		SAN PABLO	P	1943	HIST.RES.	DOE-07-02-0001-0000	07/19/02	6Y	
								PROJ.REVW.	HUD020705Q	07/19/02	6Y	
18	136070		2445 BANCROFT LANE		SAN PABLO	P	1943	HIST.RES.	DOE-07-02-0006-0000	01/06/03	6Y	
								PROJ.REVW.	HUD021216M	01/06/03	6Y	
[illegible]	132190		6211 BAYVIEW AVE NOT IN SPPA		SAN PABLO	P	1951	HIST.RES.	DOE-07-02-0024-0000	07/10/02	6Y	
								PROJ.REVW.	HUD020702D	07/10/02	6Y	
[illegible]	161955		150 BONNIE DR NOT IN SPPA		SAN PABLO	P	1954	PROJ.REVW.	HUD060428A	05/03/06	6Y	
	166244		321 BONNIE DR NOT IN SPPA		SAN PABLO	P	1954	PROJ.REVW.	HUD070702S	07/06/07	6Y	
19	146035		1300 BROOKSIDE AVE		SAN PABLO	P	1949	HIST.RES.	DOE-07-04-0001-0000	02/03/04	6Y	
								PROJ.REVW.	HUD040120B	02/03/04	6Y	
20	134262		1811 BUSH AVE		SAN PABLO	P	1940	HIST.RES.	DOE-07-02-0067-0000	10/01/02	6Y	
								PROJ.REVW.	HUD020926I	10/01/02	6Y	
21	012809	07-001182	1825 CHURCH LANE	ST PAULS CATHOLIC CHURCH & GRAVEYA	SAN PABLO	P	1863	HIST.SURV.	4806-0002-0000		7N	
22	012819	07-001192	1901 CHURCH LANE	OLD RECTORY	SAN PABLO	P	1875	HIST.RES.	DOE-07-97-0011-0000	07/17/97	2S2	C
								PROJ.REVW.	HUD950522F	07/17/97	2S2	C
								HIST.SURV.	4806-0012-0000		7N	
23	131422		1501 COLIN ST		SAN PABLO	P		HIST.RES.	DOE-07-02-0016-0000	06/06/02	6Y	
								PROJ.REVW.	HUD020522E	06/06/02	6Y	
24	012814	07-001187	930 CR 20	RUMRILL HELMS HOUSE	SAN PABLO	P	1884	HIST.SURV.	4806-0007-0000		3S	
25	147278		2009 CR 20		SAN PABLO	P	1951	HIST.RES.	DOE-07-04-0009-0000	01/23/04	6Y	
								PROJ.REVW.	HUD031231B	01/23/04	6Y	
26	012815	07-001188	2022 CR 20	STANLEY ALTER HOME	SAN PABLO	P		HIST.SURV.	4806-0008-0000		7R	
27	169728		1401 DOVER AVE		SAN PABLO	P	1948	PROJ.REVW.	HUD071213K	01/07/08	6Y	
28	134260		2418 DOVER AVE		SAN PABLO	P	1943	HIST.RES.	DOE-07-02-0066-0000	10/01/02	6Y	
								PROJ.REVW.	HUD020926J	10/01/02	6Y	
29	129336	07-002538	1514 EMERIC AVE		SAN PABLO	P	1941	HIST.RES.	DOE-07-02-0002-0000	01/14/02	6Y	
								PROJ.REVW.	HUD020110M	01/14/02	6Y	
30	138783		1807 EMERIC AVE		SAN PABLO	P	1935	HIST.RES.	DOE-07-03-0022-0000	04/15/03	6Y	
								PROJ.REVW.	HUD030411B	04/15/03	6Y	
31	136544		2201 EMERIC AVE		SAN PABLO	P	1930	HIST.RES.	DOE-07-03-0013-0000	01/27/03	6Y	
								PROJ.REVW.	HUD030115A	01/27/03	6Y	
32	136071		1108 JOHN AVE		SAN PABLO	P	1942	HIST.RES.	DOE-07-03-0007-0000	01/06/03	6Y	
								PROJ.REVW.	HUD021210B	01/06/03	6Y	
	158312		1439 KAREN RD NOT IN SPPA		SAN PABLO	P	1954	PROJ.REVW.	HUD051216M	12/30/05	6Y	
	144729		240 LINDA DR NOT IN SPPA		SAN PABLO	P	1953	HIST.RES.	DOE-07-03-0037-0000	10/20/03	6Y	
								PROJ.REVW.	HUD031003B	10/20/03	6Y	
33	137730		1601 MANOR DR		SAN PABLO	P	1943	HIST.RES.	DOE-07-03-0017-0000	03/07/03	6Y	
								PROJ.REVW.	HUD030303E	03/07/03	6Y	

	PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
34	012810	07-001183	2650 MARKET AVE	1906 EARTHQUAKE CAMP SITE	SAN PABLO	P	1906	HIST.SURV.	4806-0003-0000		7N	
35	138784		1830 MASON ST		SAN PABLO	P	1951	HIST.RES.	DOE-07-03-0023-0000	04/15/03	6Y	
								PROJ.REVW.	HUD030411C	04/15/03	6Y	
36	012811	07-001184	5739 MCBRYDE AVE	BOUQUET CHATEAU	SAN PABLO	P	1911	HIST.SURV.	4806-0004-0000		7R	
	132191		24 MONTALVIN DR	NOT IN SPPA	SAN PABLO	P	1950	HIST.RES.	DOE-07-02-0025-0000	07/10/02	6Y	
								PROJ.REVW.	HUD020702I	07/10/02	6Y	
	136069		2584 O'HARTE RD	NOT IN SPPA	SAN PABLO	P	1952	HIST.RES.	DOE-07-03-0005-0000	01/06/03	6Y	
								PROJ.REVW.	HUD021216E	01/06/03	6Y	
	137729		2596 O'HARTE RD	NOT IN SPPA	SAN PABLO	P	1952	HIST.RES.	DOE-07-03-0016-0000	03/07/03	6Y	
								PROJ.REVW.	HUD030303F	03/07/03	6Y	
37	161880		2634 OHARE AVE		SAN PABLO	P	1943	PROJ.REVW.	HUD060403C	04/05/06	6Y	
38	147571		1919 PINE AVE		SAN PABLO	P	1951	HIST.RES.	DOE-07-04-0013-0000	02/23/04	6Y	
								PROJ.REVW.	HUD040213B	02/23/04	6Y	
39	012812	07-001185	1841 PULLMAN ST	PULLMAN STREET RECTORY	SAN PABLO	P	1875	HIST.SURV.	4806-0005-0000		3S	
40	012813	07-001186	918 RANDY LANE	ANDRATA HOUSE	SAN PABLO	P	1900	HIST.SURV.	4806-0006-0000		3S	
41	150832		2009 ROAD 20		SAN PABLO	P	1950	HIST.RES.	DOE-07-04-0022-0000	07/29/04	6Y	
								PROJ.REVW.	HUD040712B	07/29/04	6Y	
42	150539		2778 ROLLINGWOOD DR		SAN PABLO	P	1943	HIST.RES.	DOE-07-04-0020-0000	07/12/04	6Y	
								PROJ.REVW.	HUD040301C	07/12/04	6Y	
43	136068		2797 ROLLINGWOOD DR		SAN PABLO	P	1943	HIST.RES.	DOE-07-03-0004-0000	01/06/03	6Y	
								PROJ.REVW.	HUD021216I	01/06/03	6Y	
44	164754		2807 ROLLINGWOOD DR		SAN PABLO	P	1943	PROJ.REVW.	HUD070126A	01/30/07	6Y	
45	012816	07-001189	SAN PABLO AVE	ALVARADO ADOBE	SAN PABLO	M	1826	HIST.SURV.	4806-0009-0000		7N	
								HIST.RES.	SHL-0512-0000	11/06/53	7L	
46	012817	07-001190	14006 SAN PABLO AVE	MELLO RESIDENCE	SAN PABLO	P	1875	HIST.SURV.	4806-0010-0000		7R	
47	129138	07-002520	1230 SANFORD AVE		SAN PABLO	P	1950	HIST.RES.	DOE-07-01-0023-0000	12/03/01	6Y	
								PROJ.REVW.	HUD011127H	12/03/01	6Y	
48	160410		1914 SANFORD AVE		SAN PABLO	P	1940	PROJ.REVW.	HUD060201DD	02/02/06	6Y	
49	163418		1748 SUTTER AVE		SAN PABLO	P	1944	PROJ.REVW.	HUD061027B	10/27/06	6Y	
	129335	07-002537	1845 TRUMAN ST	NOT IN SPPA	SAN PABLO	P	1950	HIST.RES.	DOE-07-02-0001-0000	01/14/02	6Y	
								PROJ.REVW.	HUD020110L	01/14/02	6Y	
	010667	07-001135	CROW CANYON RD	WILLIAM LYNCH HOME	SAN RAMON	P		HIST.SURV.	4583-0003-0000		7R	
	010668	07-001136	FINLEY RD	TASSAJARA SCHOOL	SAN RAMON	M	1888	HIST.SURV.	4583-0004-0000		7R	
	010669	07-001137	3686 NORRIS CANYON RD	CHRISTIAN WIEDEMANN RANCH	SAN RAMON	P	1860	HIST.SURV.	4583-0005-0000		7R	
	010666	07-001134	19251 SAN RAMON BLVD	EL NIDO, THE NES	SAN RAMON	P	1852	HIST.SURV.	4583-0002-0000		3S	
	010665	07-001133	19600 SAN RAMON VALLEY BLVD	DAVID GLASS HOME	SAN RAMON	P	1859	HIST.RES.	NPS-02000677-0020	06/28/02	1D	AC
								HIST.SURV.	4583-0001-0000	06/28/02	7R	
	132546		19953 SAN RAMON VALLEY BLVD	MACHINE STORAGE SHED	SAN RAMON	M		HIST.RES.	NPS-02000677-0013	06/28/02	1D	AC
	132545		19953 SAN RAMON VALLEY BLVD	FUEL SHED	SAN RAMON	M		HIST.RES.	NPS-02000677-0011	06/28/02	1D	AC
	132544		19953 SAN RAMON VALLEY BLVD	MACHINE SHOP	SAN RAMON	M		HIST.RES.	NPS-02000677-0009	06/28/02	1D	AC
	132543		19953 SAN RAMON VALLEY BLVD	GRANARY	SAN RAMON	M		HIST.RES.	NPS-02000677-0010	06/28/02	1D	AC
	132542		19953 SAN RAMON VALLEY BLVD	BARN	SAN RAMON	M		HIST.RES.	NPS-02000677-0012	06/28/02	1D	AC
	132541		19953 SAN RAMON VALLEY BLVD	HORSE BARN	SAN RAMON	M		HIST.RES.	NPS-02000677-0008	06/28/02	1D	AC
	132540		19953 SAN RAMON VALLEY BLVD	WALNUT PROCESSING SHED #3	SAN RAMON	M		HIST.RES.	NPS-02000677-0016	06/28/02	1D	AC
	132539		19953 SAN RAMON VALLEY BLVD	WALNUT PROCESSING SHED #2	SAN RAMON	M		HIST.RES.	NPS-02000677-0015	06/28/02	1D	AC
	132538		19953 SAN RAMON VALLEY BLVD	WALNUT PROCESSING SHED #1	SAN RAMON	M		HIST.RES.	NPS-02000677-0014	06/28/02	1D	AC
	132536		19953 SAN RAMON VALLEY BLVD	CARPORT	SAN RAMON	M		HIST.RES.	NPS-02000677-0005	06/28/02	6X	
	132535		19953 SAN RAMON VALLEY BLVD	GLASS TANK HOUSE	SAN RAMON	M		HIST.RES.	NPS-02000677-0021	06/28/02	1D	AC
	132534		19953 SAN RAMON VALLEY BLVD	MEAT LOCKER	SAN RAMON	M		HIST.RES.	NPS-02000677-0006	06/28/02	1D	AC
	132532		19953 SAN RAMON VALLEY BLVD	GROTTO	SAN RAMON	M		HIST.RES.	NPS-02000677-0003	06/28/02	1D	AC
	132531		19953 SAN RAMON VALLEY BLVD	PERGOLA	SAN RAMON	M	1938	HIST.RES.	NPS-02000677-0002	06/28/02	1D	AC
	132530		19953 SAN RAMON VALLEY BLVD		SAN RAMON	M		HIST.RES.	NPS-02000677-0007	06/28/02	1D	AC
	132529		19953 SAN RAMON VALLEY BLVD	BOONE HOUSE	SAN RAMON	M	1900	HIST.RES.	NPS-02000677-0001	06/28/02	1D	AC