SAN BRUNO 2025: GENERAL PLAN
DRAFT ENVIRONMENTAL IMPACT REPORT

REVISED AFTER PUBLIC REVIEW

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SAN BRUNO 2025: GENERAL PLAN
DRAFT ENVIRONMENTAL IMPACT REPORT

prepared for

CITY OF SAN BRUNO

COMMUNITY DEVELOPMENT DEPARTMENT

by

DYETT & BHATIA

URBAN & REGIONAL PLANNERS

with assistance from

DKS ASSOCIATES

TRANSPORTATION PLANNERS

ENVIRONMENTAL SCIENCES ASSOCIATES

ENVIRONMENTAL CONSULTANTS

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Executive Summary

This Draft Environmental Impact Report (EIR) evaluates the potential adverse impacts of the Proposed General Plan, titled *Draft San Bruno General Plan 2025* (May 2006). The General Plan was prepared in coordination with the General Plan Update Committee (GPUC) and the San Bruno community. The GPUC, which included representatives from the City's various neighborhoods, the business community, and the Planning Commission, was appointed by the City Council. The GPUC was responsible for reviewing planning documents, providing input, and making recommendations to the full Planning Commission. During review and discussion of Alternative plans and General Plan policies in 2002 and 2003, community input was encouraged by noticing and opening all GPUC meetings to the public. In addition, two joint City Council, Planning Commission, and GPUC workshops were noticed and open to the public, and were held during major milestones in the General Plan process.

An EIR is intended to inform decision-makers and the general public of the potential significant environmental impacts of a project. The Draft EIR describes existing conditions within the Proposed General Plan area, analyzes the potential environmental impacts of implementing the Proposed General Plan, and identifies mitigation measures to minimize significant impacts. The Draft EIR also evaluates reasonable alternatives to the Proposed Project, including the "No Project" alternative, which discusses the result of not implementing the Proposed Project and continuing development under existing plans. The alternatives represent a range of reasonable alternative land use plans to the Proposed General Plan that would attain most of the basic objectives, but would avoid or substantially lessen one or more of the significant effects of the Proposed Project. Based on the alternatives analysis, an environmentally superior alternative is defined.

This Draft EIR is a program EIR that examines the potential wide-ranging effects resulting from implementation of General Plan policies. Any future development project will be subject to individual, site-specific environmental review, as required by State Law.

E.1 PROPOSED PROJECT

The Proposed General Plan is intended to replace the existing General Plan, which was last comprehensively updated in 1984. The General Plan is comprised of setting information, figures, and goals and policies that will guide future development within the City's boundaries.

San Bruno is located in northern San Mateo County just west of the San Francisco International Airport (SFO). The City stretches 3.5 miles from the relatively flat eastern areas along Highway 101 to the hilly western neighborhoods, which are located on the eastern facing slope of the Coast Range, gaining almost 1,200 feet in elevation. San Bruno's Planning Area includes over six square miles of land that encompass both the City corporate limits and its existing (2006) Sphere of Influence (SOI). San Bruno's SOI includes 347 acres of San Mateo County unincorporated land, 240 acres of San Francisco County Jail land, and approximately 105 acres of land adjacent to Highway 101 and SFO.

The Proposed General Plan includes six elements required by State Law: Land Use, Circulation, Conservation, Open Space, Noise, and Safety. The Proposed General Plan also includes two optional elements: Economic Development and Public Facilities and Services. San Bruno's Housing Element was adopted by the City Council and certified by the State Department of Housing and Community

Development, and is not proposed for change as part of this project. The Proposed General Plan is described in detail in Chapter 2, *Project Description* of this Draft EIR.

KEY FEATURES

One of the key features of the Proposed General Plan is the focus on Downtown as the cultural heart of the city by providing residents with a vital, pedestrian-friendly district for shopping, entertainment, and dining. In addition, the Proposed Project emphasizes reuse and intensification along major arterial corridors including El Camino Real, San Bruno Avenue West, and San Mateo Avenue. These corridors are proposed for redevelopment as mixed use boulevards, focusing on pedestrian scale, streetscape amenities, and a mix of retail, office, service, and residential uses. Finally, regional commercial and office uses are clustered along El Camino Real and adjacent to the San Bruno/Tanforan BART Station and San Bruno Avenue Caltrain Station. These regional centers provide employment, business services, retail, and restaurants for SFO clientele.

The following vision statements embody the focus and intent of the Proposed General Plan:

- Promotion of Downtown as the symbolic heart of the city, providing residents with a pleasant and economically vital commercial and entertainment destination, but also fostering creation of housing;
- Infill surrounding The Shops at Tanforan and Towne Center, creating a vibrant, walkable area around the BART station;
- Transit-oriented development in the San Bruno Avenue and El Camino Real corridors, emphasizing mixed-sue and residential development with connections to Downtown, Caltrain and BART stations, and The Shops at Tanforan;
- Provision of marketing resources and incentives for business retention and expansion, particularly with high technology and/or airport-related industry along Montgomery Avenue;
- Improvement and expansion of transit, pedestrian, and bicycle connections throughout the city, particularly to/from the BART and Caltrain stations;
- Efficient vehicular movement throughout the city, with preservation of natural features along scenic corridors;
- Provision of neighborhood parks, plazas, open spaces, and multi-use trails, providing connections and recreation for residents, workers, and visitors;
- Preservation of natural resources and habitat areas, particularly within the city's western neighborhoods;
- Minimization of threat to life and property from geological hazards, seismic events, flooding, hazardous materials spills, or excessive noise through careful siting of uses; and
- Provision of adequate public facilities and infrastructure, including water, wastewater, solid waste, police and fire, schools, and library.

Buildout of all vacant and underutilized land under the Proposed General Plan could result in approximately 682 new housing units and 4,882 new jobs. These projections are in addition to pending development projects, including on the former U.S. Navy Site and new residential subdivisions at Skyline College. Proposed General Plan buildout calculations project an increase of 2,649 residents for a total 2025 population of 44,864 residents, along with a 2025 employment base of 22,392 jobs. Table E.1-1 lists existing,

pending, and projected buildout under the Proposed General Plan. This Draft EIR analyzes the full environmental impacts of development, as it is projected to occur by year 2025.

Table E.1-1 Potential Citywide Buildout of Proposed General Plan

Buildout	*Housing Units*	*Population*	*Employed Residents*	*Building Sq. Ft.*	*Jobs*	*Jobs/Employed Residents Ratio*
Existing Development	15,776	42,215	19,150	n/a	16,910	0.88
Pending Development	878			202,500	600	
Additional Development under Proposed General Plan	682			1,654,400	4,882	-
Total with Existing, Pending, and Additional Development	**17,336**	**44,864**	**24,496**	**n/a**	**22,392**	**0.91**

Source: Dyett & Bhatia, 2006.

E.2 PROJECT IMPACTS AND MITIGATIONS

Table E.2-1 presents a summary of the environmental impacts identified in Chapter 3, *Environmental Setting, Impact Analysis & Mitigation* of this Draft EIR. The table also identifies the Proposed General Plan policies that reduce those impacts. Because many of the Plan's policies are designed to avoid or minimize impacts, the Plan is self-mitigating.

The significance of each impact after implementation of Proposed General Plan policies is also shown in Table E.2-1. The level of significance is determined by comparing the environmental impact to the significance criteria established in Chapter 3, *Environmental Setting, Impact Analysis & Mitigation*. Impacts are classified according to the following criteria:

- *Significant.* An adverse and substantial effect on the environment, where even with application of Proposed General Plan policies, it cannot be reduced to levels that are less than significant.
- *Significant, but Mitigable.* An adverse and potentially substantial impact, but one that can be reduced to levels that are less than significant with implementation of Proposed General Plan policies.
- *Less than Significant.* An adverse effect that is not considered substantial.
- *No Adverse.* A neutral effect, neither adverse nor beneficial.
- *Beneficial.* A positive effect as a result of the Proposed General Plan.

The only significant, unavoidable impact created by full implementation of the Proposed General Plan includes inconsistency with the transportation performance standard that links the rate of increase in vehicles miles traveled (VMT) with the rate of increase in population – the estimated rate of increase in VMT associated with future development in San Bruno would exceed the rate of increase in population.

Table E.2-1: Summary of Impacts and Mitigation, Proposed General Plan Draft EIR

Impact Number and Description		*Significance*	*General Plan Policies that Reduce the Impact*	*Mitigation*
3.1	**Land Use**			
A	Improvements and connections proposed by the General Plan will serve to physically unite San Bruno's established neighborhoods.	Beneficial	General Plan policies: LUD-4, LUD-9, LUD-16, LUD-27, LUD-28, LUD-30, LUD-40, LUD-58, T-70	None required.
B	New development under the Proposed General Plan may conflict with the San Mateo County Comprehensive Airport Land Use Plan.	Less than Significant	General Plan policies: LUD-55, LUD-60, HS-37, HS-47, HS-48	None required.
C	Changes in land uses proposed by the General Plan will require an update of the San Bruno Zoning Ordinance.	Less than Significant	General Plan policies: LUD-8, LUD-10, LUD-26, LUD-42, LUD-80, LUD-81	None required.
3.2	**Population**			
A	New development under the Proposed General Plan will induce population growth.	Less than Significant	General Plan policies: LUD-3, LUD-40, LUD-76, T-58, T-70, ERC-1, ERC-2, PFS-1, PFS-3	None required.
B	Reuse and intensification under the Proposed General Plan may result in the displacement of a minimal number of housing, businesses, and/or people.	Less than Significant	General Plan policies: LUD-5, LUD-6, ED-14	None required.
3.3	**Visual Resources**			
A	New development under the General Plan may have an adverse effect on scenic vistas and/or views of San Francisco Bay from the western hills.	Less than Significant	General Plan policies: LUD-69, LUD-70, T-26, T-27, T-28, T-33	None required.
B	Reuse and intensification under the General Plan may block existing views of ridgelines in and beyond the western hills.	Less than Significant	General Plan policies: *Listed under Impact 3.3-A*	None required.
C	Construction along San Bruno's scenic roadways may damage scenic resources, such as trees, outcroppings, and historic buildings.	Less than Significant	General Plan policies: T-25, T-26, T-27, T-28, T-29, T-30, T-34	None required.
D	New and redevelopment activities may potentially degrade the existing visual quality of the City, particularly adjacent to Downtown, through incompatibilities with existing development in scale and/or character.	Less than Significant	General Plan policies: LUD-3, LUD-15, LUD-17, LUD-19, LUD-24, LUD-25	None required.
E	New development under the General Plan may create new sources of light or glare that could adversely affect day or nighttime views in the area.	Less than Significant	General Plan policies: LUD-72, LUD-73	None required.
3.4	**Transportation**			
A	New development under the General Plan would cause increases in traffic volumes through key intersections and roadway segments in San Bruno.	Less than Significant	General Plan policies: T-6, T-7, T-8, T-10, T-17, T-20, T-21, T-22, T-23, T-24	None required.
B	Increases in traffic on CMP roadway segments due to Proposed General Plan land uses would not exceed the level of service standard established by San Mateo County's Congestion Management Program.	Less than Significant	General Plan policies: T-7	None required.
C	Project development may generate increased demands	Less than Significant	General Plan policies: T-35, T-36, T-37, T-38,	None required.

Table E.2-1: Summary of Impacts and Mitigation, Proposed General Plan Draft EIR

Impact Number and Description		*Significance*	*General Plan Policies that Reduce the Impact*	*Mitigation*
	for on- and off-street parking.		T-39, T-40, T-41, T-42, T-43	
3.5	**Air Quality**			
A	New development under the Proposed General Plan could increase population and VMT in the area at a rate greater than that assumed in regional air quality planning and therefore conflict with the implementation of the 2005 Bay Area Ozone Strategy.	Less than Significant	General Plan policies: ERC-25, ERC-27, ERC-28, ERC-29, ERC-30, T-1, T-3, T-4, T-5	None required.
B	The Proposed General Plan could be inconsistent with the Transportation Control Measures in the 2005 Ozone Strategy.	No Adverse Impact	General Plan policies: ERC-32, and those listed under Impact 3.5-A	None required.
C	Fugitive dust generated by construction and demolition activities under the Proposed General Plan could result in health and nuisance type impacts in the immediate vicinity of construction sites.	Less than Significant	General Plan policies: ERC-26, ERC-33	None required.
D	Reuse and intensification would expose existing and proposed residences to objectionable odors.	Less than Significant	General Plan policies: ERC-34	None required.
E	Implementation of the Proposed General Plan could prevent the reduction of statewide greenhouse gas emissions to 1990 levels by the year 2020, as required by the California Climate Solutions Act of 2006.	Less than Significant	General Plan policies: ERC-31, PFS-61 through PFS-70	None required.
3.6	**Parks**			
A	New and redevelopment activities may increase the use of existing parks or other recreational facilities, which could cause physical deterioration and could result in a reduced park acreage ratio.	Less than Significant	General Plan policies: OSR-1 through OSR-10, OSR-12 through OSR-15	None required.
B	Reuse and intensification of opportunity sites under the General Plan may lead to creation of new open spaces or public plazas near Downtown and transit nodes.	Beneficial Impact	General Plan policies: LUD-12, LUD-13, LUD-70, LUD-81, OSR-6	None required.
3.7	**Schools**			
A	Increases in housing and population proposed by the General Plan may result in increased school enrollment, which may require new or expanded school facilities.	Less than Significant	General Plan policies: PFS-3, PFS-6, PFS-51, PFS-52, PFS-53	None required.
B	New and redevelopment activities proposed by the General Plan may result in the need for new or expanded library facilities due to an increase in the number of cardholders at the San Bruno Public Library.	Less Than Significant	General Plan policies: PFS-55, PFS-56, PFS-57, PFS-58	None required.
3.8	**Emergency Services**			

Table E.2-1: Summary of Impacts and Mitigation, Proposed General Plan Draft EIR

Impact Number and Description		*Significance*	*General Plan Policies that Reduce the Impact*	*Mitigation*
A	New and redevelopment activities could result in increased fire protection and emergency medical response calls, and therefore the need for new or expanded fire facilities.	Less than Significant	General Plan policies: PFS-3, PFS-5, PFS-26 through PFS-35, PFS-37 through PFS-39	None required.
B	New and redevelopment activities may result in increased police protection calls, and therefore the need for new or expanded police facilities.	Less than Significant	General Plan policies: *Listed under Impact 3.8-A*	None required.
C	New development and traffic generation may interfere with local or regional emergency response or evacuation plans.	Less than Significant	General Plan policies: PFS-40 through PFS-44, PFS-46, PFS-50, as well as policies listed under Impact 3.8-A	None required.
D	Reuse and intensification may expose people or structures to threat of wildfire, particularly adjacent to inaccessible canyon and grassland areas in the western hills.	Less than Significant	General Plan policies: HS-1, HS-2, PFS-45, as well as policies listed under Impact 3.8-A	None required.
3.9	**Water, Wastewater, and Solid Waste**			
A	Reuse and intensification may result in increased water demand, and therefore the need for new or expanded water supply or facilities.	Less than Significant	General Plan policies: ERC-4, PFS-1, PFS-3, PFS-6, PFS-8 through PFS-19	None required.
B	Increases in housing and population proposed by the General Plan may lead to deficits in groundwater aquifer volume from excessive pumping of San Bruno wells.	Less than Significant	General Plan policies: *Listed under Impact 3.9-A*	None required.
C	Reuse and intensification may result in increased sanitary sewer demands, and therefore the need for new or expanded wastewater facilities.	Less than Significant	General Plan policies: PFS-20, PFS-21, as well as those listed under Impact 3.9-A	None required.
D	Reuse and intensification may result in increased garbage disposal, and therefore the need for new or expanded solid waste disposal facilities.	Less than Significant	General Plan policies: PFS-22 through PFS-25, as well as those listed under Impact 3.9-A	None required.
3.10	**Biological Resources**			
A	New and redevelopment activities would impact special status plant and animal species in the short-term and long-term.	Less than Significant	General Plan policies: ERC-1, ERC-5, ERC-7, ERC-9, ERC-13, ERC-15, ERC-16, ERC-17, ERC-18	None required.
B	Construction activities would have effects on riparian habitat and wetlands in the short-term and long-term.	Less than Significant	General Plan policies:ERC-6, ERC-8, ERC-14, as well as those listed under Impact 3.10-A, and under impacts for 3.9 and 3.13.	None required.
C	Erosion-control planting or other slope stabilization plantings would have the potential to introduce invasive non-native plant species into native habitat areas within and surrounding San Bruno in the short-term and long-term.	No Adverse Impact	General Plan policies: ERC-10, ERC-11	None required.

Table E.2-1: Summary of Impacts and Mitigation, Proposed General Plan Draft EIR

Impact Number and Description		*Significance*	*General Plan Policies that Reduce the Impact*	*Mitigation*
D	New development under the General Plan would have the potential to result in removal of or damage to heritage or significant trees identified by San Mateo County in the short-term and long-term.	No Adverse Impact	General Plan policies: ERC-12	None required.
3.11	**Cultural Resources**			
A	New development under the Proposed General Plan may result in changes to or demolition of potential historic resources.	Less than Significant	General Plan policies: ERC-35 through ERC-43, PFS-47, ED-21	None required.
B	New and redevelopment activities may directly or indirectly destroy an archaeological or paleontological resource.	Less than Significant	General Plan policies: ERC-39	None required.
3.12	**Geology**			
A	In the event of a major earthquake in the San Bruno area, development under the Proposed General Plan could be exposed to damage and destruction resulting from surface fault rupture, groundshaking, localized liquefaction, and/or seismic-related landsliding.	Less than Significant	General Plan policies: HS-1 through HS-12, PFS-42, PFS-43	None required.
B	New development under the Proposed General Plan may be subject to geologic hazards, including landslides, expansive soils, differential settlement, and erosion.	Less than Significant	General Plan policies: HS-1, HS-3 through HS-6	None required.
3.13	**Hydrology and Water Quality**			
A	New development activities under the Proposed General Plan could result in increases in local storm runoff volumes and/or rates due to increased impervious surface area, thereby exceeding capacity of the local storm drainage system resulting in flooding and the need for new or expanded storm drainage facilities. This increase in impervious surface could also decrease groundwater recharge.	Less than Significant	General Plan policies: HS-13 through HS-20, ERC-23, ERC-24	None required.
B	New development activities may result in construction-related erosion or release of hazardous materials on construction sites, ultimately causing adverse impacts to water quality.	Less than Significant	General Plan policies: ERC-19, ERC-20, ERC-22, HS-1, HS-2, HS-4, HS-5, HS-17, HS-22, HS-23, HS-24	None required.
C	New development under the Proposed General Plan may result in increased non-point pollution in storm runoff entering the regional storm drain system and eventually San Francisco Bay.	Less than Significant	General Plan policies: ERC-21, ERC-27, HS-26, as well as those listed under Impacts 3.13 A and B.	None required.

Table E.2-1: Summary of Impacts and Mitigation, Proposed General Plan Draft EIR

Impact Number and Description		*Significance*	*General Plan Policies that Reduce the Impact*	*Mitigation*
D	Residential and mixed use development allowed by the Proposed General Plan may expose people or structures to flooding and to the 100-year flood hazard area.	Less than Significant	General Plan policies: *Listed under Impacts 3.13-A, B, C*	None required.
3.14	**Hazardous Materials and Airport Safety**			
A	New development under the Proposed General Plan could expose the public or the environment to hazardous materials.	Less than Significant	General Plan policies: HS-23 through HS-30	None required.
B	Land uses proposed by the General Plan could potentially result in the handling or accidental release of hazardous materials, substances, or waste within ¼ mile of an existing school.	Less than Significant	General Plan policies: ERC-19 through ERC-24	None required.
C	New development proposed by the General Plan could potentially result in the exposure of people living and working in San Bruno to safety hazards associated with operations at San Francisco International Airport.	Less than Significant	General Plan policies: HS-37, HS-39, HS-40, HS-47, HS-48, HS-49	None required.
3.15	**Noise**			
A	Increased vehicle traffic resulting from Proposed General Plan land uses will result in increased ambient noise levels on local roadways.	Less than Significant	General Plan policies: HS-32 through HS-36, HS-43, HS-44, HS-46	None required.
B	Transit-oriented development proposed by the General Plan may expose a substantial number of people to increased ambient noise levels and vibrations along the Caltrain and BART tracks.	Less than Significant	General Plan policies: HS-45, LUD-31, as well as those listed under Impact 3.15-A	None required.
C	New development under the General Plan may result in temporary noise impacts related to construction activities.	Less than Significant	General Plan policies: HS-38	None required.
D	Future operation of the San Francisco International Airport may continue to expose San Bruno residents and workers to excessive noise levels.	Less than Significant	General Plan policies: HS-37, HS-39, HS-41, HS-49, as well as those listed under Impacts 3.15-A. B, C	None required.
3.16	**Utilities**			
A	Reuse and intensification may result in increased demand for energy resources, with a potential for wasteful, inefficient, or unnecessary energy consumption.	Less than Significant	General Plan policies: PFS-61 through PFS-70, LUD-26, T-1, T-70	None required.
B	Reuse and intensification may result in the need for new or expanded PG&E service and related facilities.	Less than Significant	General Plan policies: PFS-3, PFS-71, PFS-72	None required.

Table E.2-1: Summary of Impacts and Mitigation, Proposed General Plan Draft EIR

Impact Number and Description		*Significance*	*General Plan Policies that Reduce the Impact*	*Mitigation*
C	Reuse and intensification may result in the need for new or expanded telecommunications infrastructure and facilities.	Less than Significant	General Plan policies:PFS-73	None required.

E.3 ALTERNATIVES

In considering adoption of the Proposed Project, CEQA requires development and analysis of feasible alternatives. Alternatives to the Proposed General Plan fully considered in Chapter 5, *Analysis of Alternatives* of this Draft EIR include:

- *No Project Alternative*. The No Project Alternative assumes continuation of land use development under the existing 1984 General Plan. This alternative provides a realistic projection of future development for comparison with the Proposed General Plan, using current market assumptions to project buildout of vacant parcels.
- *Residential Infill Alternative*. The Residential Infill Alternative focuses on providing increased housing development (compared to the Proposed General Plan), thereby strengthening San Bruno's role as a bedroom community for the San Francisco peninsula. Both single and multi-family residential uses are designated on potential reuse sites throughout the City.
- *Jobs/Housing Balance Alternative*. The Jobs/Housing Balance Alternative emphasizes new non-residential development so that at build-out, the total number of jobs and employed residents in the City will be balanced. It capitalizes on business opportunities within a short distance of the new BART and Caltrain station areas.

A comparison of population and job buildout projections under the Proposed General Plan and three alternatives is shown in Table E.3-1. The Residential Infill Alternative results in the greatest potential increases in housing development, while the Jobs/Housing Balance Alternative emphasizes job growth. Buildout of the No Project Alternative, continuation under the 1984 General Plan, supposes buildout of vacant parcels only and therefore results in very little projected development.

Table E.3-1: Comparison of Population, Housing, and Employment, Buildout 2025

	Housing Units	*Population*	*Employed Residents*	*Jobs*	*Jobs/Employed Residents Ratio*
San Bruno, Existing 2005	15,776	42,215	19,150	16,910	0.88
Proposed General Plan	**17,336**	**44,864**	**24,496**	**22,392**	**0.91**
No Project Alternative	16,652	43,095	23,530	18,892	0.80
Residential Infill Alternative	17,921	46,379	25,323	22,294	0.88
Jobs/Housing Balance Alternative	16,984	43,953	23,998	24,932	1.04

Source: Dyett & Bhatia, 2006.

The No Project Alternative is considered the environmentally superior alternative, because it avoids most of the impacts created by the Proposed General Plan. Lower population and employment growth assumptions result in lesser adverse impacts, including traffic congestion and demand for public services and facilities.

CEQA requires identification of another environmentally superior alternative if the No Project is initially identified as superior. Next to the No Project Alternative, the Proposed General Plan is the environmentally superior alternative. In addition to generating fewer adverse impacts than the other two alternatives, the Proposed General Plan is being recommended for adoption because it achieves the community's goals by more strongly emphasizing the following benefits:

- Moderate housing and population growth;
- Employment growth balanced with housing availability;
- Reuse and intensification of Downtown;
- Development of mixed uses and transit-oriented development;
- Improved pedestrian, bicycle, and transit linkages; and
- Protection of natural assets along canyon areas.

E.4 AREAS OF CONTROVERSY

This Draft EIR reflects comments made in response to the Notice of Preparation (February 3, 2005), as well as comments and concerns raised by the public over the course of General Plan and EIR preparation. There are several areas of concern and controversy with regard to potential environmental impacts of the Proposed General Plan.

HAZARDS

San Bruno's proximity to SFO Airport has raised some concerns regarding airport safety. However, the Federal Aviation Administration (FAA) has developed Federal Aviation Regulations (FAR) Part 77 to limit the location and height of structures both on and off airport property. These criteria are intended to prevent buildings and other objects from penetrating the airspace required for safe aircraft takeoffs and landings. In addition, San Bruno falls within the jurisdiction of the San Mateo County Airport Land Use Commission (ALUC), which, through its Comprehensive Airport Land Use Plan (CALUP), specifies how land near airports is to be used, develops height restrictions, and sets construction standards for buildings near airports, including soundproofing requirements. If the Proposed General Plan abides by the FAA's FAR Part 77 regulations and the ALUC's CALUP, hazards with regards to airport safety would be minimized. Section 3.14, *Hazardous Materials & Airport Safety*, discusses airport safety in the City in greater detail.

NOISE

Aircraft overflight noise is an important issue in San Bruno due to the City's proximity to SFO. In addition, areas in San Bruno are exposed to noise generated by traffic on 1-280, I-380, and U.S. 101. However, the Proposed General Plan will not increase impacts related to noise levels or exposure to noise. In fact, emphasis on transit-oriented development patterns may contribute to decreases in traffic congestion, noise, and air quality (on a per capita basis). Environmental noise is regulated by federal, State, and local agencies. Section 3.15, *Noise*, has a complete discussion of noise in San Bruno.

OPEN SPACE AND RECREATION

Preserving passive open spaces in western neighborhoods has been identified as a concern within the San Bruno community. However, because many of these areas are characterized by steep terrain and dense vegetation, they are inaccessible to the public and designated for preservation. These open spaces will not be altered or developed as part of the Proposed Project. Section 3.6, *Parks & Recreation*, discusses the recreational facilities within San Bruno.

TRANSPORTATION

Concerns about exacerbated traffic congestion at transit stations have been expressed; however, development under the Proposed General Plan will be responsible for only a small increment of future traffic volumes. Transportation alternatives, including transit service expansions, roadway improvements, and pedestrian and bicycle linkages, are provided in the Proposed General Plan to reduce traffic congestion resulting from daily and/or short-range trips. Traffic impacts are addressed in detail in Section 3.4, *Transportation* of this Draft EIR.

WATER QUALITY

Construction and development activities resulting from the Proposed General Plan may cause groundwater contamination due to discharges of sediments, chemicals, and wastes to storm drains or creeks. Soil erosion could result from grading, trenching, excavation, and other earth-moving construction-related activities. In addition, storm water quality is affected by a variety of land uses and pollutants generated by these activities even after construction is complete. By implementing a project-specific Strom Water Pollution Prevention Plan (SWPPP) and requiring a State General Construction, National Pollutant Discharge Elimination System Program (NPDE) permit, the effects on water quality would be minimized. The effects of the Proposed General Plan on water quality are addressed in Section 3.13, *Hydrology & Water Quality*.

1 Introduction

An Environmental Impact Report (EIR) is a document that informs decision-makers and the general public of the significant environmental impacts of a project. 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 EIR. The EIR also identifies mitigation measures to minimize significant impacts and evaluates reasonable alternatives to the proposed project. A required "no-project" alternative discusses the result of not implementing the project or reasonable alternatives. An environmentally superior alternative is identified as part of the process.

This Draft Environmental Impact Report (DEIR) evaluates the probable effects of policies in the San Bruno Proposed General Plan, which throughout this document, will be referred to as the "Proposed General Plan" or the "proposed project." Comments generated from public review of this document will be used to revise the DEIR and to prepare the Final EIR (FEIR).

1.1 PURPOSE AND USE OF THE EIR

The San Bruno Proposed General Plan consists of policies and proposals that guide the future growth of the City. The DEIR evaluates the potential environmental impacts of adoption of the Proposed General Plan. Moreover, the DEIR is intended to assist the City of San Bruno Planning Commission and the City Council in reviewing and acting on the Proposed General Plan. This EIR will also be used as reference for subsequent environmental review of specific plans; for infrastructure provision and individual development proposals; and for public facilities to serve new development.

USE OF THE DRAFT EIR

Public agencies and other entities expected to use the Draft EIR as an informational and/or reference tool include the following:

- City of San Bruno
- San Bruno Redevelopment Agency
- Adjacent cities - Millbrae, South San Francisco, and Pacifica
- San Mateo County
- City and County of San Francisco
- City/County Association of Governments (C/CAG)
- Airport Community Roundtable
- Airport Land Use Commission
- Peninsula Traffic Congestion Relief Alliance (Alliance)
- Association of Bay Area Governments (ABAG)
- Metropolitan Transportation Commission (MTC)
- Bay Area Rapid Transit District (BART)
- San Mateo County Transportation Agency (SamTrans)
- Joint Powers Board (Caltrain)

- California Department of Transportation (CalTrans)
- California Congestion Management Agency (CMA)
- California High Speed Rail Commission
- San Mateo County Flood Control District
- State of California, including Housing and Community Development

Private sector users of the Draft EIR may include the following:

- Homeowners associations, neighborhood organizations, block clubs, etc.
- Land developers
- Housing providers and housing advocates
- Social service providers
- Existing and potential residents, business and/or property owners
- Students, researchers, etc.

1.2 THE PROPOSED GENERAL PLAN PROCESS

As part of the Proposed General Plan process, the City Council appointed a General Plan Update Committee (GPUC) composed of representatives from the City's various neighborhoods, the business community, and the Planning Commission. The GPUC was responsible for reviewing planning documents, providing input on policy direction, and making recommendations to the full Planning Commission. The GPUC conducted approximately 14 meetings over the course of Proposed General Plan preparation, several of which served as joint meetings with the City Council, Planning Commission, and other committees (including the Bicycle and Pedestrian Advisory Committee, Traffic Safety and Parking Commission, and the Parks and Recreation Committee).

In March 2002, the City prepared an Existing Conditions and Planning Issues Report. This report represented the first major step in the process to update the Proposed General Plan by summarizing information on existing conditions in the City and highlighting preliminary planning issues to be addressed in the Proposed General Plan. Because nearly all of San Bruno's land has already been developed, growth will result from reuse and intensification of existing uses over the next 20 years. Consequently, the Existing Conditions and Planning Issues Report focused on particular sites and corridors within San Bruno that may experience change in use or intensity.

The Existing Conditions and Planning Issues Report served as the basis for preparing alternative land use plans. Under direction from the GPUC, two alternative plans were developed to consider different land uses on the particular sites and corridors identified as appropriate for potential reuse and intensification. An Alternatives Newsletter was prepared describing the plans and mailed to all households in San Bruno. A response card was enclosed within the Newsletter to encourage residents to provide their feedback on the potential land use choices. Nearly 700 responses were received, and the results were presented to the GPUC at a community workshop (October 29, 2002). Based on GPUC and public comment at that workshop, a Preferred Plan was developed and presented at a joint meeting of the GPUC, Planning Commission, and City Council (November 18, 2002). The Preferred Plan formed the basis of the Proposed General Plan document, along with public comments received at the joint meeting and subsequent GPUC meetings.

1.3 APPROACH

This EIR evaluates the environmental impacts of the Proposed General Plan. Because of the programmatic nature of the Proposed General Plan, this EIR has been prepared as a Program EIR. As described in §15168(a)(3) of the CEQA Guidelines, a Program EIR "may be prepared on a series of actions that can be characterized as one large project and are related…in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program."

As a Program EIR, this document focuses on the overall effects of the Proposed General Plan in the Planning Area; the analysis does not examine the effects of site-specific projects that may occur within the overall umbrella of this Plan in the future. The nature of general plans is such that many policies are intended to be general, with details to be worked out during implementation. Thus, many of the impacts and mitigation measures can only be described in general or qualitative terms.

In order to place many of the Proposed General Plan policies into effect, the City would adopt or approve specific actions—such as zoning regulations, specific plans, or capital improvement programs—that would be consistent with the policies and implementation measures of the Proposed General Plan. This Program EIR will not obviate the need for environmental review of specific plans and individual projects subsequent to the adoption of the Proposed General Plan. As specific plans and individual project plans and designs are prepared pursuant to the updated Proposed General Plan, project-specific environmental review with a finer level of detail will need to be conducted.

1.4 ASSUMPTIONS

The San Bruno Proposed General Plan Draft EIR is based on the following assumptions:

- *Program EIR.* This document is a program EIR, and evaluates environmental impacts resulting from implementation and buildout of the Proposed General Plan. While the EIR identifies potentially significant impacts with full Proposed General Plan buildout, it does not preclude and, indeed, it assumes that individual development project proposals submitted to the City of San Bruno will necessitate an independent environmental assessment in accordance with CEQA requirements. The EIR is intended, however, to be used for citywide and cumulative impact analysis of subsequent project proposals that are consistent with the Proposed General Plan as well as other implementation activities outlined in Section 1.1.
- *Full Implementation.* The Draft EIR assumes all policies in the Proposed General Plan will be fully implemented, and all development will be consistent with the Proposed General Plan Land Use Diagram. It is understood that development occurs in accordance with the Proposed General Plan will be incremental and timed in response to market conditions. However, interim phases—or development scenarios—are not evaluated herein, as they are not part of the Proposed General Plan and would be considered speculative. Full implementation of the Proposed General Plan to a buildout level defined as the mid- to high-range of densities and intensities permitted within the Proposed General Plan land use designations is considered a reasonable "worst case" scenario, suitable for EIR evaluation.
- *Sphere of Influence.* San Bruno's Sphere of Influence (SOI) includes property within San Mateo County and outside of the City's jurisdictional limits; the two areas where this occurs are – the San Francisco County Jail to the west, and the open space between the City limits and Highway 101 to

the east. The Proposed General Plan does not require or encourage that these properties be annexed to the City. The Proposed General Plan assumes those properties will remain outside of the City limits and their current use and intensity for the duration of the Proposed General Plan.

- *Cumulative Impacts*. Cumulative impacts are defined by §15355 of the State CEQA Guidelines as "…two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The Guidelines allow the use of projections from adopted planning documents (e.g. general plans) to define an area-wide set of conditions for use in the analysis. The San Bruno Proposed General Plan, by its very nature, is a planning document and, therefore, the San Bruno Planning Area will generally be used as the area for cumulative impact analysis. The environmental change of the proposed project would occur in the SOI where urban-intensity uses are planned (areas outside the SOI are planned for open space oriented uses). Cumulative impacts of the proposed project would also, therefore, occur in the SOI except for some resources such as air quality, which are air basin-wide. Cumulative and project-based impacts would be the same, therefore, for the following environmental issues: land use; noise; geology and seismicity; cultural resources; safety; water service; wastewater; police and fire protection; schools; parks and recreation; and telephone, cable, natural gas, and electricity. Cumulative impacts for air quality, hydrology, flooding, and water quality; water supply; and biological resources would, however, extend beyond the SOI boundaries and are, therefore, separately evaluated in Section 4 (under Cumulative Impacts) of this EIR. The cumulative analysis for the Proposed General Plan can be used for determination of cumulative impacts of subsequent project proposals.

1.5 ISSUES ADDRESSED IN THE EIR

Information gathered about the environmental setting was used to define relevant planning issues, determine thresholds of significance, and evaluate potential impacts. Based on the initial analysis of environmental settings, comments on the Notice of Preparation, and issues raised during public workshops, the City determined that the Proposed General Plan could result in potentially adverse impacts in the following areas:

- Land Use
- Population and Housing
- Visual Quality
- Transportation
- Parks and Recreation
- Public Schools
- Police and Fire Safety
- Historic and Cultural Resources
- Open Space and Agriculture
- Biological Resources
- Geology and Seismicity
- Hydrology and Flooding
- Water, Wastewater, and Solid Waste

- Air Quality and Greenhouse Gases
- Noise
- Energy
- Hazardous Materials

Each of these issues is fully evaluated in *Chapter 3: Environmental Setting, Impact Analysis, and Mitigation* of this Draft EIR.

1.6 ORGANIZATION OF THE DRAFT EIR

This Draft EIR has been organized into the following chapters:

- *Executive Summary*. The Executive Summary, which precedes this introduction, summarizes the Draft EIR by providing an overview of the project (Proposed General Plan), the environmental impacts that would result from the project, the mitigation measures identified to reduce or eliminate these impacts, and the alternatives to the project.
- *Introduction*. This chapter introduces assumptions critical to the environmental analysis; describes the public involvement process; summarizes the intended uses of this EIR; outlines the EIR contents; and reviews other City plans and programs currently being implemented.
- *Project Description*. This chapter discusses the project objectives; provides general information on the project location; and describes the project's characteristics.
- *Environmental Setting & Impact Analysis*. This chapter describes the City's existing setting, discusses the environmental impacts of the Proposed General Plan, and identifies mitigation measures for the significant environmental impacts. The primary issue areas addressed in the EIR are: population, employment, and housing; land use and applicable land use plans and policies; traffic, circulation, and parking; public facilities and services; parks, recreation, and open space; biology; hydrology, water quality, and flooding; geology, soils, and seismicity, seismic and fire emergency preparedness; airport safety; air quality; noise; urban design, visual quality and community character; and cultural resources.
- *Impact Overview*. This chapter summarizes discussions of cumulative impacts, unavoidable significant impacts, and impacts found to be less than significant.
- *Analysis of Alternatives*. This chapter presents a reasonable range of alternatives to the proposed project, provides discussion of the environmental impacts associated with each alternative, compares the relative impacts of each alternative to those of the proposed project and the other alternatives, and discusses the relationship of each alternative to the project objectives.
- *Report Preparation*. This chapter identifies persons and organizations consulted during report preparation, and lists persons who contributed to report preparation. This chapter includes the whole of the document's bibliography.

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2 Project Description

The proposed project analyzed in this Draft EIR is the *Draft San Bruno General Plan 2025*, dated May 2006. The primary components of the General Plan include land use diagram, land use classifications, guiding policies, and implementing policies. This chapter summarizes the provisions of the Proposed General Plan.

California Government Code §65300 et seq. mandates that all cities prepare a General Plan that establishes policies and standards for future development, housing affordability, and resource protection. State law encourages cities to keep general plans current through regular updates. Further, each city's general plan must include the following seven elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. Additional elements may be included in the General Plan, at the discretion of the City. San Bruno has two additional elements—Economic Development and Public Services and Facilities—in its General Plan.

2.1 ORGANIZATION

The Proposed General Plan contains background information, guiding policies, and implementing policies for each of its eight Elements (safety and noise have been combined into a single element). All of the topics required by California State law are addressed in the General Plan; Table 2.1-1 provides a clear description of the Plan's organization. Under a separate cover, the General Plan also includes a comprehensive revision of the Housing Element, which was certified by the California Department of Housing and Community Development (HCD) and adopted by the City Council in April 2003.

Table 2.1-1: Organization of Proposed General Plan Elements

General Plan Element	*Topics Addressed by Element*	*Required by State Law*	*How General Plan Addresses Mandated Topics*
2: Land Use and Urban Design	This element includes proposed land use classifications, distribution of land uses via the General Plan diagram, buildout projections, Downtown development, key corridors, mixed-use centers, neighborhood design, and land use policies.	Land Use	Location of public facilities is addressed in Chapter 8: Public Facilities and Services, and areas subject to flooding hazards are defined in Chapter 7: Health and Safety. Timber production does not occur within San Bruno, and is therefore not addressed.
3: Economic Development	Economic and employment trends, redevelopment activities, and economic development strategies are presented in this element.	Optional Element	
4: Transportation	This element includes existing and proposed location of the roadway network, transit systems, bikeways and pedestrian paths, as well as scenic roadways.	Circulation	
5: Open Space and Recreation	This element includes analysis of open space, as well as parks and recreation.	Open Space	
6: Environmental Resources and Conservation	This element includes analysis of biological resources, air quality and greenhouse gases, water quality, and cultural resources.	Conservation	Stormwater flood control and water supply are discussed in Chapter 8: Public Facilities and Services. Policies requiring open space for health and

General Plan Element	Topics Addressed by Element	Required by State Law	How General Plan Addresses Mandated Topics
			safety are contained within Chapter 7: Health and Safety.
7: Health and Safety	Noise, geology and seismicity, flooding, hazardous materials, and wildfires are all addressed in this element. Geologic, seismic, and flooding hazards are mapped. Discussion of noise includes noise sources, projected noise contours, and mitigation policies.	Safety; Noise	Fire protection and water supply are addressed in Chapter 8: Public Facilities and Services.
8: Public Facilities and Services	Public schools, water supply and conservation, sewer collection, solid waste, and fire and police protection are all addressed in this element.	Optional Element	
Under Separate Cover: Housing	This element was prepared early during the update process to meet the State-mandated cycle. It consists of demographic trends, housing characteristics, housing costs, development potential, constraints, and special housing needs. The City's 1996 Housing Element policies are reviewed, and accomplishments noted. Housing opportunity sites are identified, in addition to a discussion of quantified objectives. Housing policies address rehabilitation, affordable housing, conversion, homeless shelters, and energy efficiency. The California Department of Housing and Community Development have certified the element.	Housing	

Source: Dyett & Bhatia, 2006.

2.2 REGIONAL LOCATION AND PLANNING BOUNDARIES

San Bruno is located in northern San Mateo County just west of the San Francisco International Airport (SFO). There is a gain in elevation across the City from the relatively flat eastern areas to the hilly western neighborhoods, which are located on the eastern facing slope of the Coast Range. Correspondingly, the eastern portion of the City is more urbanized and has a greater mix of land uses, while the western portion is primarily occupied by low-density residential development and open space. Major transportation corridors include Interstates 280 and 380, Highway 101, El Camino Real, the Caltrain rail line, and the Bay Area Rapid Transit (BART) District rail line. Figure 2.2-1 shows the City's regional location, and Figure 2.2-2 presents an overview of San Bruno's setting and topography.

San Bruno's Planning Area includes over six square miles of land that encompass both the City corporate limits and its Sphere of Influence (SOI). San Bruno's SOI includes 347 acres (less than 0.5 square mile) of unincorporated San Mateo County—approximately 240 acres of the San Francisco County Jail site to the west, and approximately 105 acres of land adjacent to Highway 101 and SFO to the east. These areas are included in the Planning Area because of their proximity to the City and consequent influence on land uses within City boundaries. The Planning Area boundaries coincide with the municipal boundaries of Pacifica, South San Francisco, Millbrae, and San Mateo County.

Figure 2.2-1

Regional Location of San Bruno California

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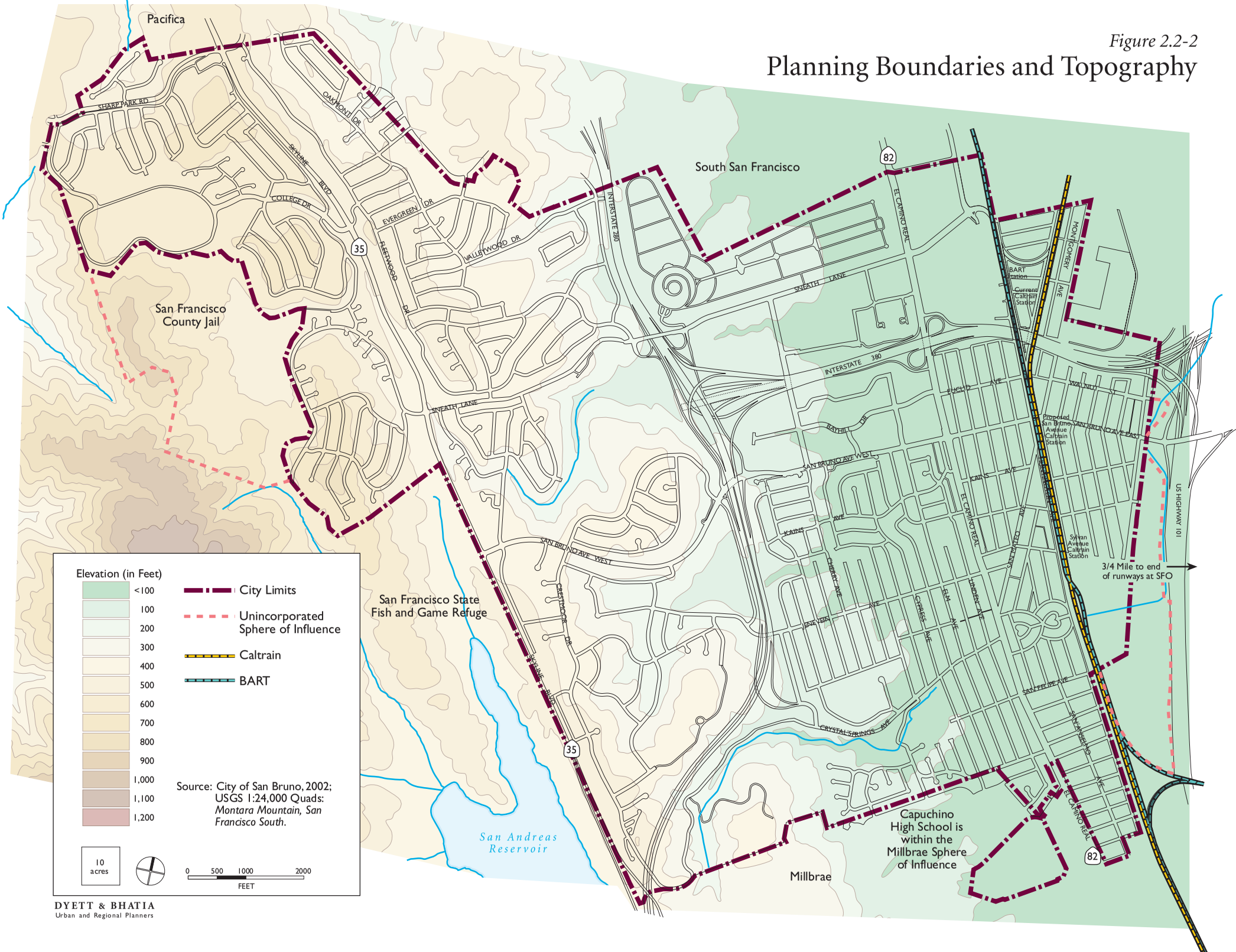
Figure 2.2-2

Planning Boundaries and Topography



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2.3 OBJECTIVES OF THE PROPOSED GENERAL PLAN

The City of San Bruno's current General Plan was last updated in 1984. Although many of its policies are still relevant, much has changed since its adoption over 20 years ago. The City's population has increased by nearly 7,000 people since 1980, a Redevelopment Agency has been created to address adverse physical and economic conditions in the City's oldest neighborhoods and along its commercial corridors, and the new BART station now provides regional rail service to SFO and other Bay Area destinations not already served by the longstanding Caltrain line. Significant land use changes have occurred as well – the Bayhill Office Park has expanded to include a new GAP, Inc. headquarters, and the 20-acre former U.S. Navy Site is being redeveloped with new multifamily and senior housing, hotel, retail, and office space.

The Proposed General Plan will serve as a guide for development over the coming 20 years (2005-2025). Key objectives of the Proposed General Plan process include:

- Preparing a General Plan that responds to the City's current planning context and its vision for the future;
- Ensuring that the Plan supports the City's objectives for economic and community development, and outlining strategies for revitalizing downtown and other infill areas, providing affordable housing, and meeting neighborhood needs;
- Effectively utilizing regional transit investments as well as opportunities for improved bicycle and pedestrian connections between residences, activity centers, and transit stations;
- Ensuring that Plan policies are mutually supportive, internally consistent and in accordance with California State law; and
- Preparing a General Plan that is easily used and understood, attractively designed, and that can be efficiently revised to incorporate future amendments and updates.

2.4 GENERAL PLAN REQUIREMENTS

California Government Code §65300 defines a General Plan as "a comprehensive, long-term plan for the physical development of the county or city, and any land outside its boundaries which in the planning agency's judgment bears relation to its planning." State requirements call for general plans that "comprise an integrated, internally consistent and compatible statement of policies for the adopting agency."

A city's general plan has been described as its constitution for development – the framework within which decisions on how to grow, provide public services and facilities, and protect and enhance the environment must be made. California's tradition of allowing local authority over land use decisions means that the cities have considerable flexibility in preparing their general plans.

While they allow flexibility, state planning laws do establish some requirements for the issues that general plans must address. The California Government Code establishes both the content of general plans and rules for their adoption and subsequent amendment. Together, state law and judicial decisions establish three overall guidelines for general plans.

- *The General Plan Must Be Comprehensive*. This requirement has two aspects. First, the general plan must be geographically comprehensive. That is, it must apply throughout the entire incorporated area and should include other areas that the City determines are relevant to its planning. Second, the general plan must address the full range of issues that affects the city's physical development.
- *The General Plan Must Be Internally Consistent*. The general plan must fully integrate its separate parts and relate them to each other without conflict. "Horizontal" consistency applies as much to figures and diagrams as to the general plan text. It also applies to data and analysis as well as policies. All adopted portions of the general plan, whether required by State law or not, have equal legal weight. None may supersede another, so the general plan must resolve conflicts among the provisions of each element.
- *The General Plan Must Be Long-Range*. Because anticipated development will affect the city and the people who live or work there for years to come, State law requires every general plan to take a long-term perspective.

2.5 CHARACTERISTICS OF THE PROPOSED GENERAL PLAN

The following sections outline the technical, economic, and environmental characteristics of the San Bruno General Plan 2025. Each section describes the key characteristics of each of the City's eight General Plan elements.

LAND USE AND URBAN DESIGN ELEMENT

The Proposed Land Use and Urban Design Element focuses on protection of existing neighborhoods, promotion of Downtown as the symbolic heart of the city, revitalization of aging commercial uses stretching along principal traffic spines in the eastern parts of the city, and fostering transit-oriented development around the new BART station and the planned new Caltrain station. All uses within 1/3-mile walking distance of the San Bruno/Tanforan BART station, current Sylvan Avenue Caltrain station, and planned San Bruno Avenue Caltrain station are oriented toward pedestrian, bicycle, and transit movement.

The planned San Bruno Avenue Caltrain station will provide Downtown with a strong new northern anchor, while new uses at intersection of El Camino Real and San Mateo Avenue will announce downtown from El Camino Real and provide the southern anchor. The expanded district surrounding The Shops at Tanforan and Towne Center will continue serving as the city's principal commercial center, featuring larger-scale retail, service, movie theaters, and office uses that have a regional draw.

El Camino Real is envisioned as a sequence of uses—mixed use in the northern portion, embraced by Downtown and the Civic Center in the central portions, and mixed uses with a residential focus in the southern third of the corridor. Unified streetscape improvements will provide a strong identity and create safer pedestrian conditions. North of I-380, the development pattern is established, with recent improvements to the Tanforan Mall and implementation of new uses in accordance with the Crossings Specific Plan, with a large full service hotel expected in the near future.

In order to strengthen the city's role as an employment center for Bay Area industries and foster transit-supportive uses, Bayhill Office Park is expanded with new professional offices and corporate headquarters, while a mix of commercial and residential (where not otherwise constrained by airport noise) uses is envisioned along San Bruno and Montgomery avenues.

General Plan Diagram

The General Plan Diagram (Figure 2.5-1) designates the proposed general location, distribution, and extent of land uses. As required by State law, land use classifications, shown as color/graphic patterns, letter designations, or labels on the Diagram, specify a range for housing density and building intensity for each type of designated land use. These density/intensity standards allow circulation and public facility needs to be determined; they also reflect the environmental carrying-capacity limitations established by other elements of the General Plan. The Diagram is a graphic representation of policies contained in the General Plan; it is to be used and interpreted only in conjunction with the text and other figures contained in the General Plan.

Proposed Density/Intensity Standards

The General Plan establishes density/intensity standards for each land use classification (Table 2.5-1). Residential density is expressed as housing units per acre of site area. The State of California mandates a range of possible density bonuses, beginning at 20 percent and rising on a sliding scale up to 35 percent, for qualifying residential developments; this density bonus shall be in addition to the maximum density otherwise permitted for that land use classification. For projects with a mix of residential and commercial uses, density bonus shall be calculated on the residential portion of the project.

Non-residential and mixed use intensities are expressed as a maximum permitted ratio of gross floor area to site area (FAR). FAR is a broad measure of building bulk that controls both visual prominence and traffic generation, and is calculated inclusive of area devoted to parking. In addition to density/intensity standards, some land use classifications stipulate allowable building types (such as single-family residential) as well.

The density/intensity standards do not imply that development projects will be approved at the maximum density or intensity specified for each use. Zoning regulations consistent with General Plan policies and/or site conditions may reduce development potential within the stated ranges. Additionally, it must be noted that Ordinance 1284, adopted in June 1977, limits building heights to 50 feet or three stories, unless otherwise approved by a majority of the City's voters at a regular or special election. Ordinance 1284 also restricts the construction of multi-story parking structures and limits development along local scenic corridors. Furthermore, Ordinance 1284 restricts the increase of residential densities in areas that were zoned residential in 1974.

Land Use Classifications

Described below are the land use classifications in the Proposed General Plan. They are meant to be broad enough to give the City flexibility in implementing City policy, but clear enough to provide sufficient direction to carry out the General Plan. The City's Zoning Ordinance contains more detailed provisions and standards. More than one zoning district may be consistent with a single General Plan land use classification.

Density and intensity standards for these Land Use Classifications are shown in Table 2.5-1. The distribution of land uses according to the General Plan Diagram is illustrated in Chart 2.5-1.

Very Low Density Residential

This category allows up to 2.0 units per acre, with lower density for sites on steep slopes or other considerations as defined in the Zoning Ordinance. Single-family detached housing is permitted. Innovation in development patterns such as flexible setbacks, preservation of natural features, pedestrian paths, and other amenities are encouraged.

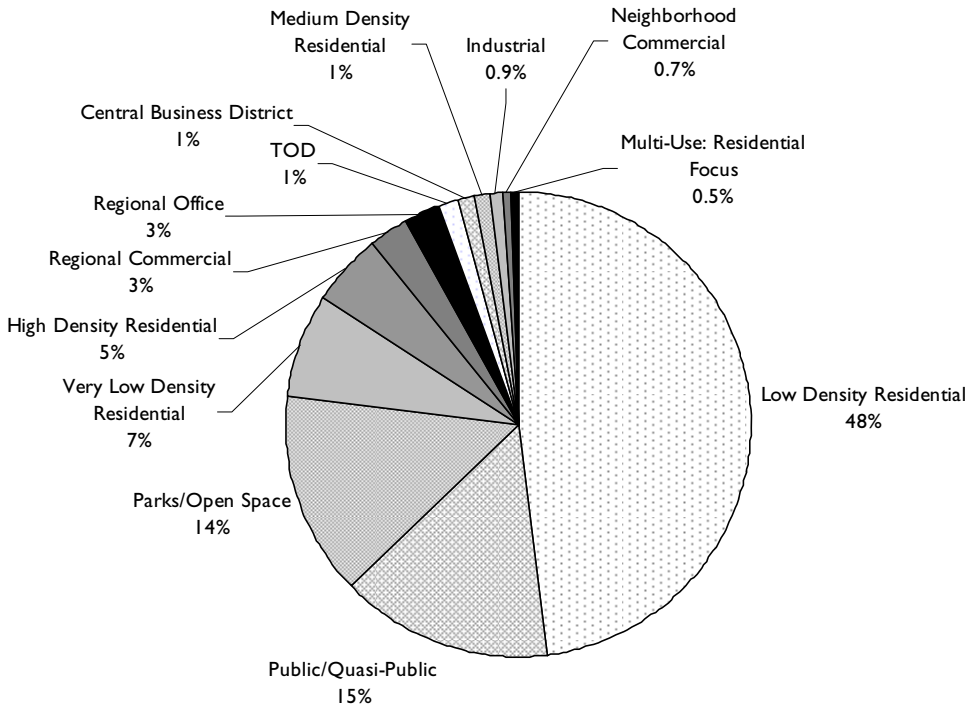
Table 2.5-1: Density and Intensity Standards for the General Plan 2025

	Residential Density (hu/acre)	*Floor Area Ratio (FAR; combined for all uses, including residential)*	*Discretionary Off-Site Improvements and Design Amenities FAR/Density Bonus*[1]
Very Low Residential	0.1 – 2.0	--	--
Low Residential	2.1 – 8.0	--	--
Medium Residential	8.1 – 24.0	--	--
High Residential	20.1 – 40.0	--	--
Transit-Oriented Development	--	2.0 (3.0 for lots 20,000 s.f. or larger)	0.5 FAR
Multi Use - Residential Focus	--	2.0 (3.0 for lots 20,000 s.f. or larger)	8.0 hu/acre
Downtown Mixed Use	--	2.0 (3.0 for lots 15,000 s.f. or larger)	
Neighborhood Commercial	--	1.2	
Regional Commercial	--	1.2	
Regional Office	--	1.5	
Industrial	--	1.5	

[1] Density bonus for income-restricted housing shall be in accordance with State law, and shall be in addition to the Density or FAR (without inclusion of discretionary bonus). For mixed-use developments, bonus shall be in the form of FAR, and based on residential component of the project.

Source: Dyett & Bhatia, March 2006.

Chart 2.5-1: Land Use Distribution per General Plan 2025



Source: Dyett & Bhatia, March 2006.

Low Density Residential

This Low Density classification allows 2.1–8.0 units per acre. Single-family detached housing is permitted. Single-family attached housing (i.e., duplexes and townhomes) may be permitted in instances where clustering results in useful open space, provided that each dwelling has ground-floor living area and private open space.

Medium Density Residential

This category allows 8.1–24.0 units per acre. Single-family detached and attached housing, including small-lot and zero-lot line housing, as well as duplexes are permitted.

High Density Residential

This classification allows 24.1–40.0 units per acre. Single-family attached and multifamily housing are permitted. Ancillary uses, such as rooming and boarding houses, sanitariums, and rest homes, are also permitted subject to a use permit.

Transit-Oriented Development

The Transit-Oriented district allows a 2.0 base maximum FAR combined for residential and/or non-residential, a 3.0 maximum for parcels of 20,000 square feet or larger, and a potential additional 0.5 FAR bonus for off-street improvements and urban design amenities, as outlined in the Zoning Ordinance. In addition to FAR maximums, residential density shall not exceed 40 units per acre at base FAR, and 50 units per acre with all incentives. This classification permits a variety of uses, either individually or in mix with other permitted uses, including: retail sales; eating and drinking establishments; personal and business services; professional and medical offices; financial, insurance, and real estate offices; hotels and motels; educational and social services; government offices; and residential. This designation is generally applied in key corridors such as San Bruno Avenue and El Camino Real in areas with proximity to BART and Caltrain stations.

Multi Use - Residential Focus

The Multi Use-Residential Focus designation allows 2.0 base maximum FAR combined for residential and/or non-residential, 3.0 maximum for parcels of 20,000 square feet or larger, with non-residential use not exceeding 0.6 FAR. In addition to FAR limitations, residential density shall not exceed 30.0 units per acre (before State mandated affordable housing density bonus). Additionally, the City may grant a discretionary bonus of up to 8.0 units per acre, for projects that undertake public right-of-way streetscape improvements in accordance with criteria established by the City.

Multi Use–Residential Focus extends south along El Camino Real from Crystal Springs Road, placing emphasis on multifamily housing in new development projects. It permits one or more of a variety of uses, including: multifamily and attached single family housing; eating and drinking establishments; personal and business services; hotels and motels; and financial, insurance, and real estate offices. New retail uses are only conditionally allowed to ensure that such activities are concentrated in existing retail districts.

Central Business District (Downtown Mixed Use)

This category allows 3.0 base maximum FAR combined for all uses (residential and non-residential), with no separate residential density limitation. Downtown Mixed Use permits one or more of a variety of uses, including: retail sales; hotels; eating and drinking establishments; personal and business services; professional and medical offices; financial, insurance, and real estate offices; theaters and entertainment uses; educational and social services; and government offices. Active uses are required at the ground level, and residential use is

permitted use on second and upper floors only. Wholesale trade, drive-through facilities, and auto-related uses are prohibited.

Neighborhood Commercial

The Neighborhood Commercial classification allows a 1.2 maximum FAR. Neighborhood Commercial permits convenience and retail commercial uses including: grocery and drug stores; eating and drinking establishments; apparel and accessory stores; personal and business services; professional and medical offices; financial, insurance, and real estate offices; and auto repair and services. Residential is conditionally permitted on upper floors as part of mixed development with commercial use, subject to combined maximum FAR limits.

Regional Commercial

The Regional Commercial designation allows a 1.2 maximum FAR. Regional Commercial permits a variety of commercial uses intended to serve a regional market area, including: retail sales; eating and drinking establishments; personal and business services; professional and medical offices; financial, insurances, and real estate offices; theaters and entertainment uses; educational and social services; auto repair and services; furniture and appliance stores; home improvement stores; and hotels. Development is located in an area easily accessible to automobiles (Highway 101, I-380, and El Camino Real) and transit (BART station, Caltrain station, SamTrans corridor).

Regional Office

The Regional Office district allows a 1.5 base maximum FAR, with potential additional discretionary 0.5 FAR incentive for projects that provide transportation demand measures and urban design amenities as specified in the Zoning Ordinance. Regional Office permits administrative, professional, and medical offices located in a campus-style setting (Bayhill Office Park). Offices that provide professional services for SFO airport clientele are encouraged. Shuttle services are provided for convenient travel between the airport, BART, Caltrain, and hotel facilities. Small convenience retail uses, personal services, and eating and drinking establishments are permitted as ancillary uses.

Industrial

This category allows a 1.5 maximum FAR. Industrial permits a variety of business and industrial uses, including: research and development facilities; high-technology offices; light manufacturing and fabrication; industrial processing; general service; warehousing, storage and distribution; auto mechanics and body repair; parking facilities; biotechnology; and service commercial uses. Development may be clustered in a campus setting. All development will be subject to high design and landscape standards.

Public/Quasi-Public

This designation permits a variety of public and quasi-public uses, including: government offices; fire and police facilities; schools; transit stations; airports; and cemeteries. Religious facilities are not called out separately on the General Plan Diagram, but are instead shown with designations on adjoining sites.

Parks/Open Space

The Parks/Open Space district provides parks, recreation facilities, and open space areas for the general community. Both public and private lands designated for open space are included.

The land use designations "Multi-Use" and "Visitor Services" come from the *Navy Site and its Environs Specific Plan* from 2001. For a description of these land uses please refer to the specific plan document.

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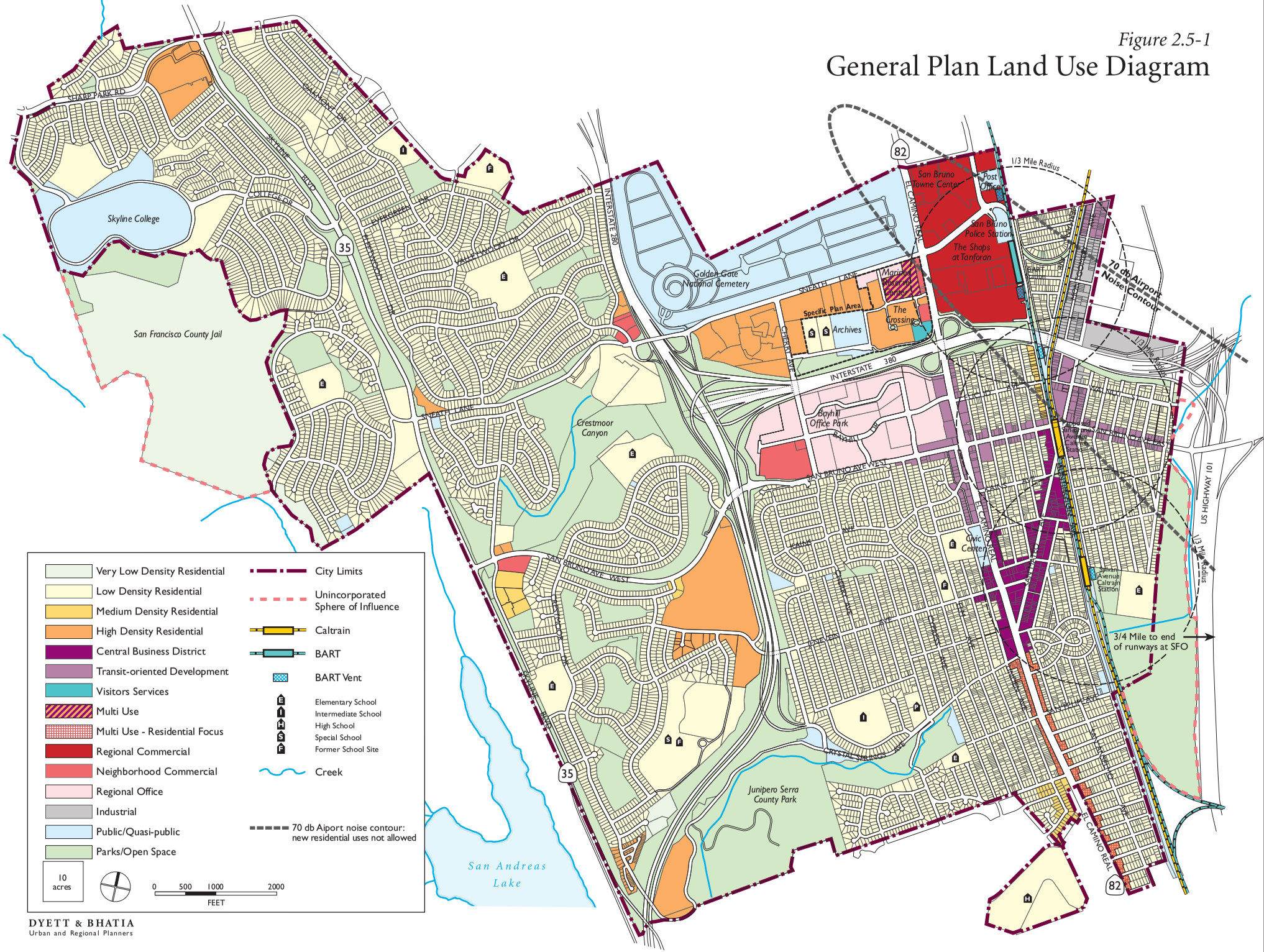
Figure 2.5-1

General Plan Land Use Diagram



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ECONOMIC DEVELOPMENT ELEMENT

The Economic Development Element, which is an optional General Plan element, focuses on provision of resources and incentives for business retention and expansion, primarily in retail and professional offices, and revitalization of sites with industrial and commercial uses in decline due to economic changes. Policies in this element promote San Bruno as an ideal location for business, and hotel and visitor-service uses conveniently accessed by the regional BART and Caltrain systems. To stimulate economic development, the City will also engage in enhancement of the City's appearance and image through cultural amenities and special events. Finally, San Bruno will place emphasis on the educational and professional programs available through Skyline College to enhance the city's local economy and regional market share.

TRANSPORTATION ELEMENT

The Transportation Element places emphasis on El Camino Real as the primary automobile and transit corridor within San Bruno, with special linkages to the San Bruno/Tanforan BART station and planned San Bruno Avenue Caltrain station. The City focuses on integration of the various transportation modes, with safe, efficient, and convenient routes provided for transit users, bicyclists, and pedestrians.

Provision of a roadway network that supports efficient vehicular movement within and through the community is a key priority, while the City keeps traffic congestion and related impacts away from residential neighborhoods. The policies in this element also preserve the unique and scenic features along Sneath Lane, Skyline Boulevard, and Crystal Springs Road. Improved connections to the San Bruno/Tanforan BART station and planned San Bruno Avenue Caltrain station include expansion of the SamTrans bus routes and new shuttle services. A comprehensive network of bicycle routes and pedestrian paths is planned, leading to local activity centers–Downtown, Tanforan District, the BART and Caltrain stations, Bayhill Office Park, schools, and park facilities, as well as connections to the regional system (Bay Trail, Sawyer Camp Trail, Sweeney Ridge, etc.) Additionally, connections to adjacent regional multi-use trails are provided, including the Bay Trail, Sweeney Ridge Trail, and Sawyer Camp Trail.

OPEN SPACE AND RECREATION ELEMENT

The Open Space and Recreation Element focuses on provision of neighborhood parks, plazas, and open spaces within walking distance of all San Bruno residents and workers. San Bruno recognizes the importance of open spaces to both resident's quality of life and the City's overall image, and seeks to provide accessible, safe, and well-maintained areas. One key factor in the expansion of the City's recreational facilities is the preservation of the Crestmoor Canyon open space, with enhanced accessibility, multi-use trails, staging areas, and other amenities. Additionally, coordination with surrounding agencies will enable the City to provide connections to the Golden Gate National Recreation Area, San Francisco International Airport (SFO) wetlands, Peninsula Watershed lands, and Junipero Serra County Park.

ENVIRONMENTAL RESOURCES AND CONSERVATION ELEMENT

The Environmental Resources and Conservation Element ensures preservation of the natural canyons and open spaces within the western neighborhoods as habitat areas for grasslands species, as well as preservation of the wetlands areas along the San Francisco Bay margins as habitat areas for aquatic species. San Bruno also states its commitment to the reduction of water pollutants collected in surface runoff, and the reduction in air pollutants and greenhouse gases emitted by vehicles and the built environment. Finally, the City provides a framework for preservation of historical resources, and placement of signage to identify California and local historical landmarks.

HEALTH AND SAFETY ELEMENT

The Health and Safety Element addresses preservation of life and property through the following key principles: prevention of potential geologic or seismic hazrds through appropriate geotechnical analysis, and mitigation during project planning and development; reduction of flooding hazards through stormwater system improvements and appropriate project design in high-risk areas; and prevention of potential human contact with hazardous materials through safety in the use, transport, and disposal of hazardous materials. The element also seeks to reduce of potential noise and safety impacts along transportation corridors, including highways, railroads, and the San Francisco International Airport (SFO).

PUBLIC FACILITIES AND SERVICES ELEMENT

The Public Facilities and Services Element, an optional General Plan element, ensures provision of adequate water supply, wastewater collection, and solid waste disposal for all residents and businesses. The City also states its commitment to convenient and effective access to City administration, decision-makers, and committees. Through efficient fire protection and police services, coordinated response to natural and man-made disasters is a key feature of the City's public services. Additionally, San Bruno provides a diverse range of educational programs and materials, through both the local public school districts and the public library system. Policies affirm the City's commitment to waste diversion and recycling, as well as water conservation, green design, and energy efficiency.

GENERAL PLAN BUILDOUT

Given the emphasis on residential development along the City's transit corridors—including El Camino Real and San Mateo Avenue—additional development projected by the General Plan 2025 totals 682 new housing units. Given incentives for infill on surface parking lots at The Shops at Tanforan, Towne Center, and Bayhill Office Park, buildout of commercial and industrial lands under the General Plan 2025 results in approximately 4,882 new jobs. Table 2.5-2 provides a summary of total housing and jobs at General Plan buildout, including existing development, pending projects, and additional development potential under the General Plan 2025. Pending development projects include the U.S. Navy Site (The Crossing), The Shops at Tanforan, and residential subdivisions at Skyline College. With buildout of vacant and underutilized parcels, total population would reach 44,864 residents and total jobs would increase to 22,392. The City's jobs/employed residents balance would increase to 0.91.

Table 2.5-2: Potential Citywide Buildout of Proposed General Plan

Buildout	*Housing Units*	*Population*	*Employed Residents*	*Building Sq. Ft.*	*Jobs*	*Jobs/Employed Residents Ratio*
Existing Development	15,776	42,215	19,150	n/a	16,910	0.88
Pending Development	878			202,500	600	-
Additional Development under Proposed General Plan	682			1,654,400	4,882	-
Total with Existing, Pending, and Additional Development	**17,336**	**44,864**	**24,496**	**n/a**	**22,392**	**0.91**

Source: Dyett & Bhatia, 2006.

2.6 OTHER CURRENT CITY PLANS

Current plans provide a basis for future land use policies and actions in San Bruno. The Redevelopment Plan (1999) and the U.S. Navy Site and Its Environs Specific Plan (2001) guides land use decisions for the approximately 20-acre former West Div site at the northern edge of the city. The Redevelopment Plan (1999) guides redevelopment administration for central portions of the city. As required by State law, both of these plans are consistent with the General Plan. Additionally, the Downtown Design Guidelines (1987) provide architectural guidance for new and existing structures in the city's Central Business District that stretches along San Mateo Avenue, as well as an overall urban design strategy for the area.

REDEVELOPMENT PLAN

The Redevelopment Plan was created for the approximately 717-acre Redevelopment Project Area, comprising most of the San Bruno Park, Belle Air Park, and Lomita Park subareas, as well as The Shops at Tanforan and the U.S. Navy Site (see Figure 2.6-1). Included in the Redevelopment Project Area are the City's main commercial corridors along El Camino Real, San Mateo Avenue, and San Bruno Avenue. The Skycrest Shopping Center and adjacent properties along San Bruno Avenue are also included.

The Redevelopment Plan established a program designed to alleviate adverse physical and economic conditions in the Project Area and to promote economic development, residential neighborhood conservation, and area wide public improvements. Seven Residential Conservation Areas (RCAs) were established, whose boundaries are illustrated in Figure 2.6-1. The RCAs are intended to preserve, protect, and enhance established residential districts. Eminent domain will not be used in these areas, and the Redevelopment Agency has no plans to destroy or remove any residential units. The Redevelopment Plan includes programs and policies to preserve and enhance the quality of life in the RCAs by:

- Providing incentives for housing rehabilitation and improvement;
- Mitigating airport noise impacts;
- Improving public open space, infrastructure, and facilities that serve the Redevelopment Project Area residents;
- Reducing traffic intrusion in residential neighborhoods;
- Improving parks and recreational opportunities for youth;
- Improving streets and storm drainage; and
- Providing easier and safer access to major thoroughfares.

U.S. NAVY SITE AND ITS ENVIRONS SPECIFIC PLAN

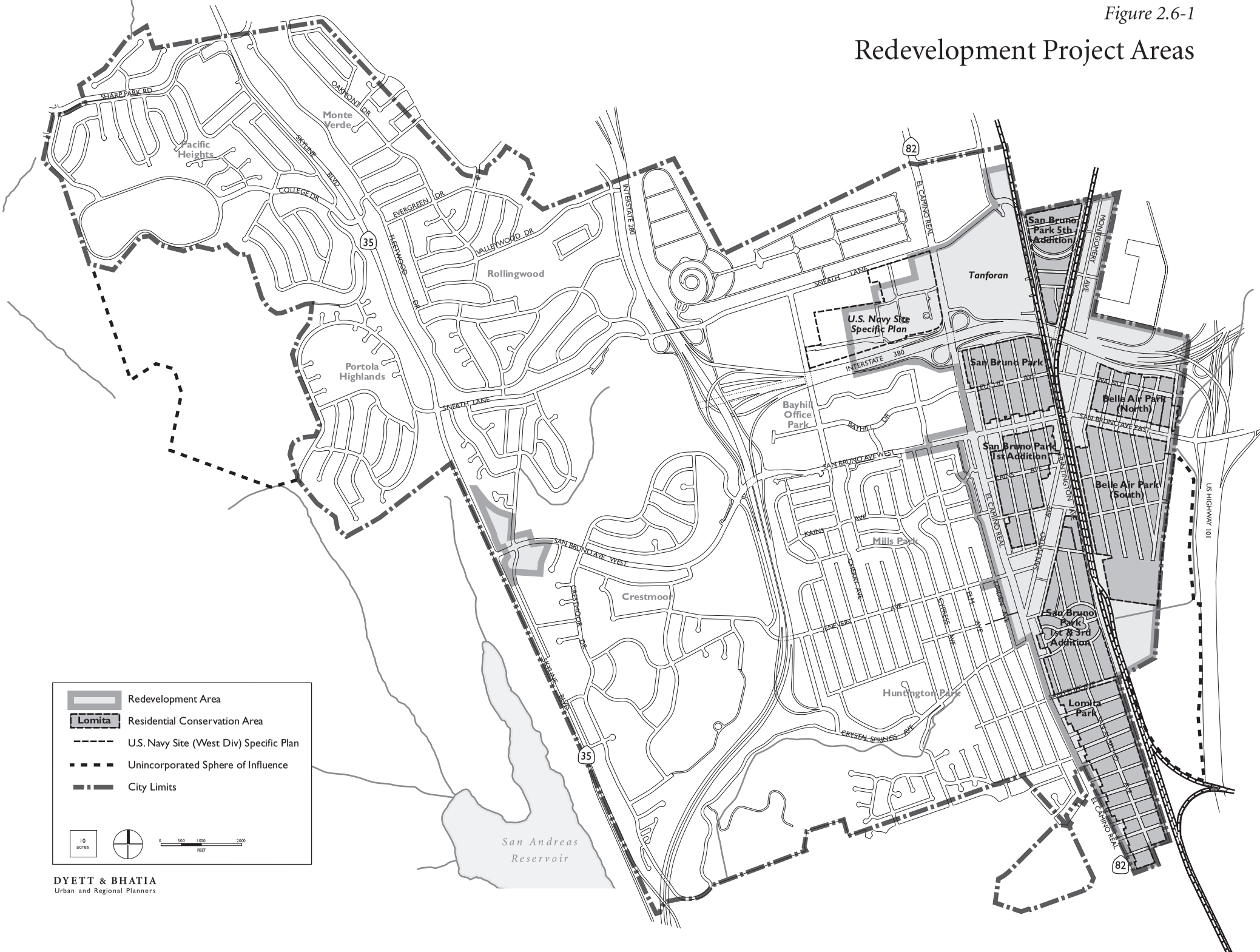
In response to the U.S. Navy's announcement that a significant portion of the Navy Engineering Field Activity West site (U.S. Navy Site) would be disposed of as surplus property, the City developed a *U.S. Navy Site and Its Environs Specific Plan* for the site and its surrounding area in order to guide its reuse. The Specific Plan boundaries are illustrated in Figure 2.6-1. The Specific Plan envisions the area as a vital, mixed use transit-oriented development directly adjacent to major SamTrans bus lines and within walking distance (1/3 mile) of the new San Bruno/Tanforan BART Station. Over 1,000 residential units have been constructed or approved.

DOWNTOWN IMPROVEMENT PLAN

This plan for the City's Downtown, or Central Business District, covers a four-block stretch of San Mateo Avenue, from El Camino Real to San Bruno Avenue. The plan addresses the overall design and appearance of the Downtown. It has specific recommendations regarding potential zoning changes, traffic and parking, pedestrian facilities, and infrastructure improvements.

Figure 2.6-1

Redevelopment Project Areas



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3 Environmental Setting, Impact Analysis & Mitigation

This chapter provides information on the existing environmental setting within San Bruno, as well as an analysis of potential environmental impacts that could occur with implementation of the Proposed General Plan. Thresholds of significance are established for each environmental issue analyzed, beyond which impacts are considered to be significant. The thresholds of significance are based on normally accepted standards for environmental review, pursuant to CEQA Guidelines. While the criteria for determining significant impacts are unique to each issue area, the classification of the impacts is uniformly applied in accordance with the following definitions:

- *Significant*. An adverse and substantial effect on the environment, where even with application of Proposed General Plan policies, it cannot be reduced to levels that are less than significant.
- *Significant, but Mitigable*. An adverse and potentially substantial impact, but one that can be reduced to levels that are less than significant with implementation of Proposed General Plan policies.
- *Less than Significant*. An adverse effect that is not considered substantial.
- *No Adverse*. A neutral effect, neither adverse nor beneficial.
- *Beneficial*. A positive effect as a result of the Proposed General Plan.

Many policies in the General Plan (as summarized in Chapter 3, *Environmental Setting, Impact Analysis & Mitigation*) are designed to reduce environmental impacts. Within each impact section contained in Chapter 3, potential impacts are identified in *italicized, underlined* type. Following the discussion of each stated impact, feasible measures that could avoid or alleviate the severity of identified impacts are identified. Since General Plan policies are part of the proposed project, the General Plan is self-mitigating. This obviates the need for an additional monitoring program. The impact analysis assumes implementation of the Proposed General Plan through 2025, and does not analyze interim development phases.

3.1 LAND USE

San Bruno's existing land use distribution is presented in this section. Type and intensity of existing land uses are discussed, and potential land use impacts of proposed additional development are considered.

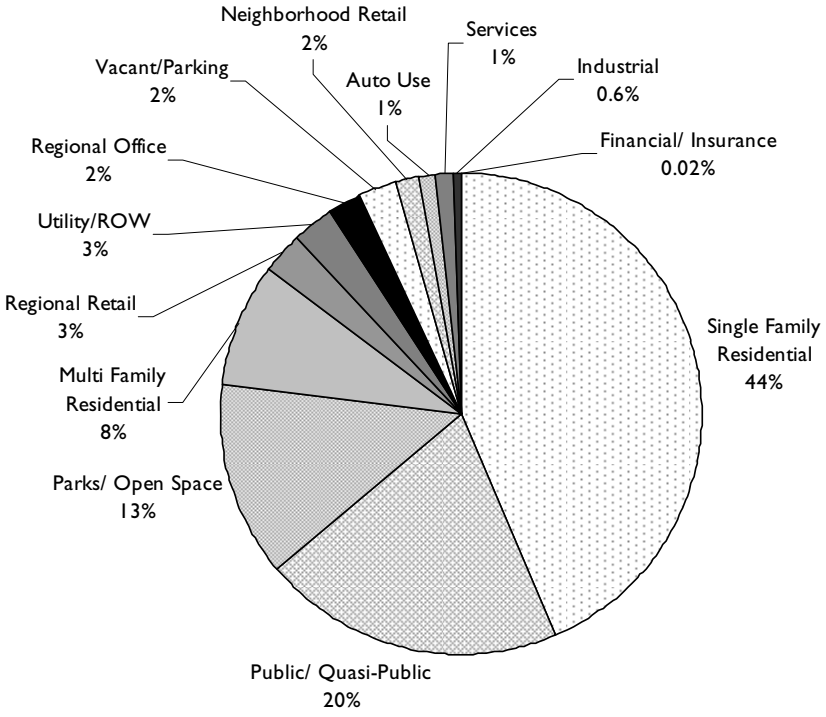
ENVIRONMENTAL SETTING

Existing land uses were identified from aerial photographs, field work, and information from the City and San Mateo County. Recent calculations using Geographic Information System (GIS) software suggests that San Bruno's gross acreage (all land uses including streets and roads) is approximately 3,600 acres. This figure is less than that reported in the 1984 General Plan; however, any difference in land acreages are due to differences in data sources and aggregation methods and are not a result of changes in municipal boundaries. Chart 3.1-1 illustrates the existing proportion of land devoted to various uses in San Bruno.

LAND USE PATTERN

The evolution of San Bruno's urban form is illustrated in Figure 3.1-1. Transportation infrastructure has played a significant role in the City's development, from the construction of El Camino Real in the late 18th century and the railroad in the late 19th century, to the development of the San Francisco International Airport (SFO) and an extensive freeway system in the latter half of the 20th century. Current land use patterns reflect this evolution.

Chart 3.1-1: Existing Land Uses in San Bruno



Source: City of San Bruno Community Development Department, San Mateo County, Dyett & Bhatia, 2003.

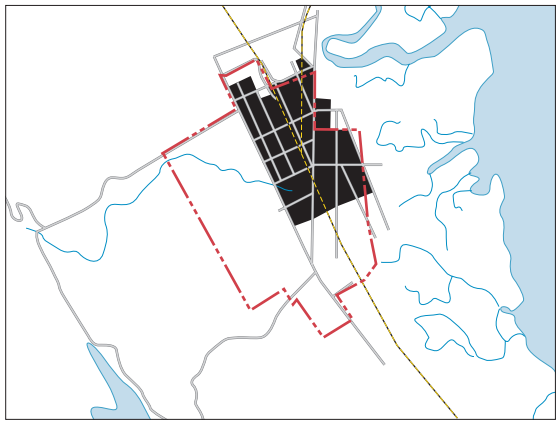
Land uses in San Bruno are largely segregated. Commercial uses are concentrated along El Camino Real, San Mateo Avenue, and San Bruno Avenue, and in several regional and neighborhood shopping centers. The city's older, eastern half contains the greatest diversity of land uses and residential types. Streets in this relatively flat area are organized in a grid-iron pattern that reflects their early 20th century roots. San Bruno's newer, western half is comprised of single-family subdivisions and several large multiple family condominium and apartment complexes. The curvilinear street pattern in this area, commonly used in post-1950 residential subdivisions, is adapted to the steep, hilly terrain.

Interstate 280 divides the City into its eastern and western halves, and is traversed by Sneath Lane, San Bruno Avenue, Crystal Springs Road, and Jenevein Avenue/Whitman Way. Interstate 380 crosses through San Bruno's northeastern corner and connects Interstate 280 with Highway 101. El Camino Real and Skyline Boulevard are the major north-south arterials in the eastern and western halves of San Bruno, respectively. Figure 3.1-2 illustrates San Bruno's existing land use pattern and road network in more detail.

Residential

The majority (approximately 52 percent) of San Bruno's net land area (excluding streets and roads) is devoted to residential uses. A total of 1,390 acres citywide are used for single and multiple family residences. Of these, land used for single family homes makes up the great majority (44 percent of total). As a result, residential neighborhoods are the city's most prominent feature. San Bruno's western half is home to several large, single family neighborhoods, some of which also contain relatively large multi-family apartment and condominium complexes. Older, eastern neighborhoods contain more diversity of housing size, number of units, and age.

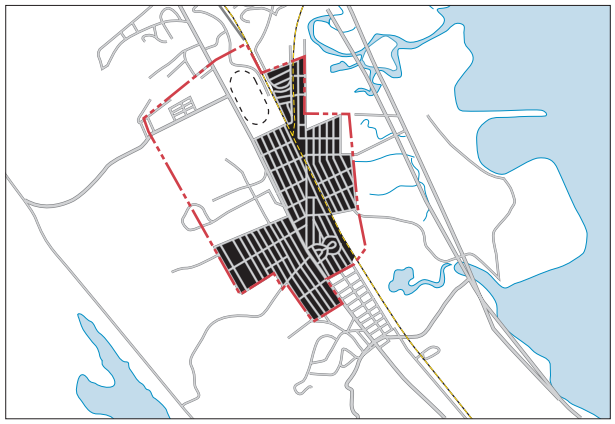
Citywide, average single-family residential densities are between seven and eight units per net acre. In the eastern portion of the city (San Bruno Park, Belle Air Park, and Lomita Park neighborhoods), however, single-



Source: *USGS, 1915; Sanborne Map Company, 1913; San Bruno General Plan, 1984.*

1915

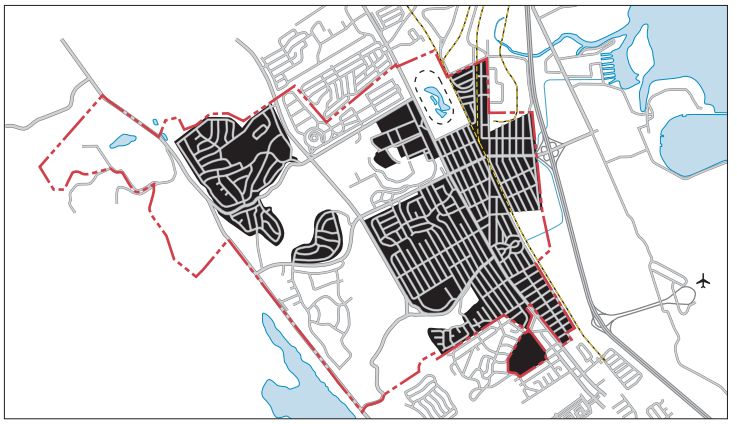
Originally part of a large Mexican land grant that included most of what is now northern San Mateo County, San Bruno remained ranch and farmland until after the 1906 San Francisco earthquake and fire which forced many San Franciscans to relocate. At that time, the San Bruno Park Addition was developed into housing, and several other new neighborhoods were built. Early development was in close proximity to the rail line, originally built in the 1860s, which provided passenger and freight service between San Francisco and San Jose. El Camino Real was built in the late 18th century to connect the Spanish Missions, and provided an additional major north-south transportation route. San Bruno became an official municipality in 1914 with approximately 1,400 residents.



Source: *USGS, 1939; Sanborne Map Company, 1925; San Bruno General Plan, 1984.*

1939

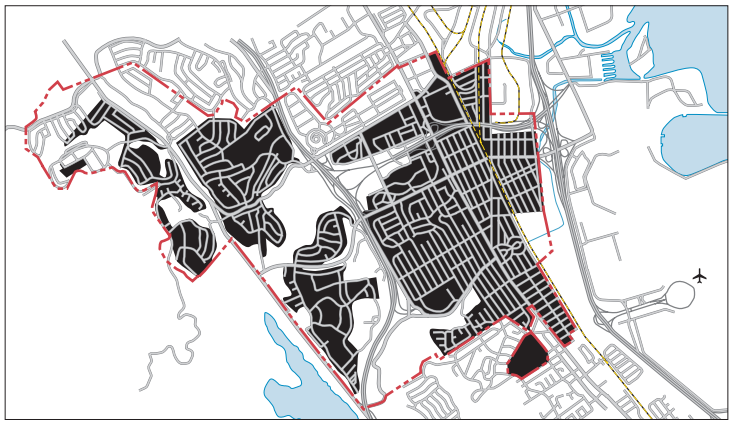
San Bruno remained a small, rural town until it was dramatically changed by World War II military operations and the post-war population boom. During the War, the Tanforan horse racing track was used for the internment of Japanese Americans before their relocation to detention camps, and other Army and Navy operations were established. At this time, San Francisco International Airport (SFO) was a small Naval air field (Mills Field). It was not until 1945 that money was raised for its improvement and expansion. The Bayshore Highway between San Jose and San Francisco, which was built to relieve congestion on El Camino Real, was completed in 1929.



Source: *USGS, 1956.*

1956

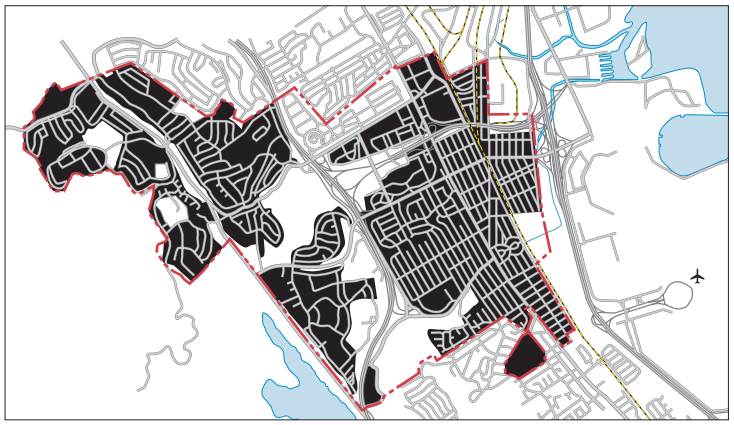
Much of the City's vacant land was purchased by housing developer George Williams in the 1940s who, in the late 1940s and early 1950s, built hundreds of new homes in response to the post-war demand for housing. The City's population increased from about 6,500 in 1940 to over 35,000 in the 1960s. The Bayshore Highway was upgraded to a freeway (U.S. 101) in the late 1940s, and an interchange was built at San Bruno Avenue.



Source: *USGS, 1980.*

1980

New housing development in the western half of the City continued through the 1960s and 1970s, including the construction of several large multifamily complexes. Construction of the Bayhill Office Park and Tanforan Park Shopping Center began in the 1970s. New freeways were also built between 1960 and 1980 – I-280, with interchanges at San Bruno Avenue and Sneath Lane, was constructed parallel to U.S. 101, and I-380 was built as an east-west connection between I-280 and U.S. 101.



Source: *USGS, 1980 ; City of San Bruno.*

2001

San Bruno is almost entirely built out – only a few parcels of vacant land appropriate for development still exist within the City. Future development will occur on various infill and redevelopment sites, such as excess property owned by Sklyine College and the former U.S. Navy Western Division site. A new BART station will open in 2002, providing improved transit access to San Francisco, the East Bay and SFO. Future improvements to CalTrain service as well as high-speed rail service between the Bay Area, Sacramento, Los Angeles, and San Diego have also been proposed.

Figure 3.1-1

Evolution of San Bruno's Form

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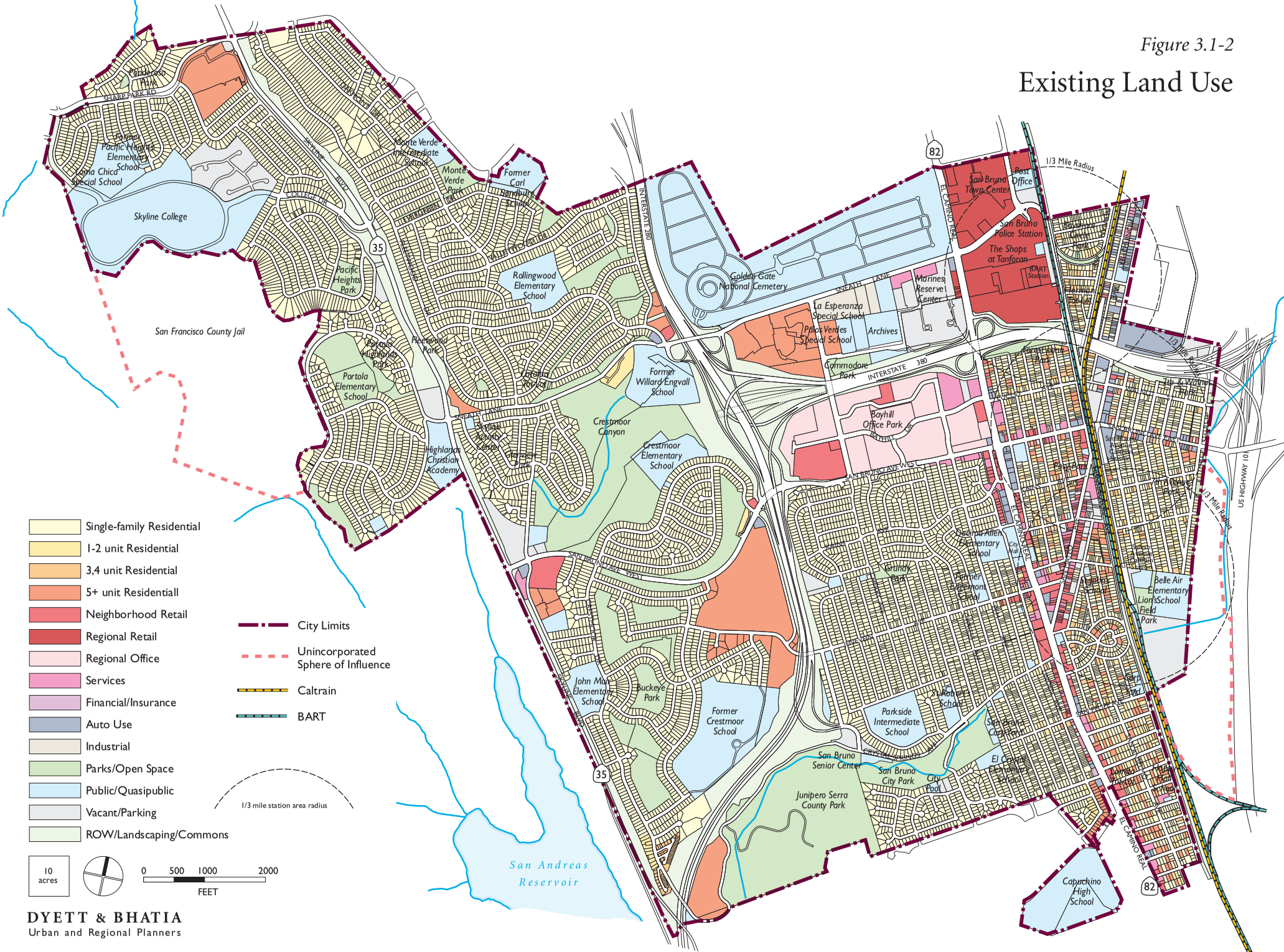
Figure 3.1-2

Existing Land Use



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family residential densities are between 10 and 12 units per net acre. Large, multiple family complexes in San Bruno average between 20 to 35 units per net acre.

Commercial

Commercial and industrial/auto-related land uses make up approximately 8-percent and 2-percent of San Bruno's net land area, respectively. Commercial uses include neighborhood and regional retail, office, finance/insurance, hotels and motels, and other services. Of these, regional retail uses occupy the greatest amount of commercial land area. The Shops at Tanforan and Towne Center are San Bruno's two regional shopping centers. Other retail establishments are located along El Camino Real, San Mateo Avenue (south of I-380), and San Bruno Avenue (west of Cherry Avenue). While there are a diversity of retail stores in San Bruno, residents have a strong preference for an additional department store, new restaurants, and a full line of Gap stores at Tanforan.

The portion of San Mateo Avenue between El Camino Real and San Bruno Avenue is the Central Business District, or Downtown. This area contains a mixture of ethnically diverse stores and restaurants and is the most unique commercial area in the city. Hotels and motels are located along El Camino Real and San Bruno Avenue. The Bayhill Office Park is the city's largest employment center and is home to the corporate campus of the GAP, Inc., San Bruno's largest employer.

Industrial and Auto-Related

Industrial, warehousing, distribution and auto-related uses are located in the area between the Caltrain tracks, I-380, and San Mateo Avenue; along San Mateo Avenue south to its intersection with Hunington Avenue; and along San Bruno Avenue between San Mateo Avenue and Highway 101. Additional light industrial uses are located at the Airport Trade Center on Sneath Lane and Cherry Avenue. Several auto dealerships and repair shops are also located along El Camino Real.

Public Uses

Public and quasi-public land uses, such as schools, government buildings, and churches, make up approximately 20-percent of the city's net land area. About 13-percent of the city's net land area is occupied by parks and open space. There are only 60 acres of vacant land and surface parking lots in San Bruno, or 2-percent of the city's net land area.

PROPOSED GENERAL PLAN BUILDOUT

Given the emphasis by the proposed project on residential development along the city's key corridors—including El Camino Real and San Mateo Avenue—additional development projected by the Proposed General Plan 2025 totals 682 new housing units. Given infill on surface parking lots at The Shops at Tanforan, Towne Center, and Bayhill Office Park, buildout of the Proposed General Plan 2025 would result in approximately 4,882 new jobs.

Table 3.1-2 describes potential Proposed General Plan buildout by land use classification. Table 3.1-3 provides a summary of total housing and jobs at Proposed General Plan buildout, including existing development, pending projects, and additional development potential under the Proposed General Plan 2025. Pending development projects include the U.S. Navy Site (The Crossing), The Shops at Tanforan, and residential subdivisions at Skyline College. With buildout of vacant and underutilized (surface parking) parcels, total population would reach 44,864 residents and total jobs would increase to 22,392. The city's jobs/employed residents balance would increase 0.88 to 0.9.

Table 3.1-2: Potential Buildout of Vacant and Underutilized Land (Surface Parking) under Proposed General Plan 2025

	Potential Units	*Potential Population*[1]	*Potential Employed Residents*[2]	*Potential Sq. Ft.*	*Potential Jobs*[3]
Very Low Residential	-	-	-	-	-
Low Residential	160	412	225	-	-
Medium Residential	-	-	-	-	-
High Residential	127	327	179	-	-
Transit Oriented Development	126	324	177	164,400	493
Multi Use - Residential Focus	103	265	145	39,900	120
Downtown Mixed Use	166	427	233	192,900	579
Neighborhood Commercial	-	-	-	36,800	110
Regional Commercial	-	-	-	429,100	1,103
Regional Office	-	-	-	683,200	2,050
Industrial	-	-	-	108,100	195
Construction and Transportation				-	232
Total	**682**	**1,755**	**959**	**1,654,400**	**4,882**

[1] 5% vacancy rate, 2.71 persons per single family household

[2] Potential Employed Residents: 0.546 of total population. (Based on ABAG Projections for year 2025)

[3] 10% vacancy rate; 300 sq ft/employee TOD/Multi Use-Residential Focus/Downtown Mixed Use, 300 sq ft/employee Neighborhood Comm, 350 sq ft/employee Regional Comm, 300 sq ft/employee Regional Office, 500 sq ft/employee Industrial.

Source, Dyett & Bhatia, March 2006.

Table 3.1-3: Potential Citywide Buildout of Proposed General Plan

	Housing Units	*Population*	*Employed Residents*	*Jobs*	*Jobs/ Employed Residents' Ratio*
Existing Development[1]	15,776	42,215	19,150	16,910	0.88
Recent Development					
U.S. Navy Site Specific Plan[2]	*763*	1964	1073	*600*	
Housing at Skyline College	*115*	296	162	0	
Additional Development under General Plan (see Table 3.1-2)	682	1756	959	4,882	
Pending Development (Crossing, Skycrest, Merrimont)[3]	444	1143	624	0	
Total with Existing, Pending, and Additional Development	17,780	47,374	21,967	22,392	1.02
Change 2005 to 2025	1,126	2,899	1,583	5,482	

[1] Housing Units & Population: CA DOF, Report E-5, 2005. Employed Residents & Jobs: ABAG Projections 2005 (with adjustment of +3,000 for jobs at Tanforan).

[2] Residential development includes 185 units in apartment building and 228 senior units under construction, and 350 units in future phase. Non-residential development includes full service 350-400 room hotel, plus ancillary commercial uses.

[3] Pending development includes 350 condo units at the Crossing, 70 units at the former Carl Sandburg School site and 24 units at Skycrest.

Assumptions:

Buildout of Surface Parking Lots = 40%; Buildout of Vacant Sites = 100%; Buildout of Reuse Areas = 20%.
Population Calculation Assumptions: HH size=2.71 (ABAG projections for San Bruno for 20025), vacancy rate=5%, group quarters population=0.52% of total (same as in 2005)
Potential Employed Residents: 0.546 of total population (ABAG projections for San Bruno in 2025)

SIGNIFICANCE CRITERIA

The Proposed General Plan would result in significant land use impacts if it would:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the Proposed General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

IMPACT ANALYSIS

3.1-A Improvements and connections proposed by the General Plan will serve to physically unite San Bruno's established neighborhoods. (Beneficial Impact)

Design of new development under the Proposed General Plan is intended to physically unite the City through better connections across arterial roadways, bicycle and pedestrian paths to and through key destinations, and efficient traffic movement on local streets. Emphasis on transit-oriented development and pedestrian amenities, particularly along El Camino Real, will provide linkages between the eastern and western portions of the City. While construction of proposed improvements could temporarily disrupt circulation within the City, completed improvements will contribute to smoother, more efficient flow of all modes. In addition, the local identity, business economy, and neighborhood cohesiveness are expected to improve with completion of Proposed General Plan development.

Implementation of the following Proposed General Plan policies will improve connections between San Bruno's established neighborhoods and commercial centers. These policies serve as a *Beneficial* impact.

Applicable General Plan Policies:

LUD-4 Strengthen residential integrity in viable neighborhoods within the City's Redevelopment Area by eliminating incompatible uses and by facilitating upgrading of deteriorated structures.

LUD-9 Provide safe and comfortable pedestrian routes through residential areas by requiring sidewalks on both sides of streets, planting street trees adjacent to the curb, allowing on-street parking, and minimizing curb cuts.

LUD-16 Promote new housing and mixed-use development within Downtown to provide a larger market base for neighborhood retail shops. Establish pedestrian connections between retail fronting San Mateo Avenue and housing on the back half of blocks

LUD-27 Create clear pedestrian connections from the BART and Caltrain stations to neighboring commercial nodes, as follows:

- Install pedestrian connections between the San Bruno/Tanforan BART station, The Shops at Tanforan, and Towne Center. Coordinate these connections with infill development and the new internal street network.
- Install pedestrian connections between the planned San Bruno Avenue Caltrain stations and Downtown. Coordinate these connections with infill housing construction.

LUD-28 Consider installation of a pedestrian connection between the Crossing and the Shops at Tanforan to facilitate a safe pedestrian across El Camino Real.

LUD-30 Develop a shuttle route to connect the BART and Caltrain stations, regional shopping centers, Downtown, Civic Center, Bayhill Office Park, The Crossings, and high density residential clusters.

LUD-40 Promote high-intensity multi use development along El Camino Real. Limit retail development to those sites north of Crystal Springs Road reinforcing existing retail activity in Downtown and/or The Shops at Tanforan/Towne Center.

LUD-58 Undertake a program to improve streetscape and sidewalks along Scott Avenue, to foster better connections to the BART station.

T-69 Continue to work toward dedication and/or installation of bicycle lanes throughout the city in accordance with Figure 4-4, to enhance recreational opportunities and make bicycling a more viable transportation alternative. Implement bicycle route improvements including signing, striping, paving, and provision of bicycle facilities at employment sites, shopping centers, schools, and public facilities.

Mitigation

None required.

3.1-B New development under the Proposed General Plan may conflict with the San Mateo County Comprehensive Airport Land Use Plan. (Less than Significant Impact)

SFO is the fifth busiest airport in the United States, with nearly 40 major passenger airlines, 13 cargo airlines, and four commuter airlines. Because the northeastern portion of San Bruno is located less than one mile from an SFO Airport runway, development is constrained by the provisions of the San Mateo County Comprehensive Airport Land Use Plan (CALUP). The CALUP requires that the San Mateo County Airport Land Use Commission (ALUC) determine the consistency of any proposed local agency action with the CALUP. The ALUC must therefore review the Proposed General Plan for consistency with the CALUP, vis-à-vis residential densities, types of non-residential land uses, open space uses, height limits, architectural features, materials, sound insulation requirements, exposure to aircraft noise and overflight, and potential impact on airspace protection. In addition, possible conflicts between airport uses and other land uses exist with regards to noise exposure, particularly with residential uses, and building height regulations. As such, the Proposed General Plan and Draft EIR has been forwarded to the ALUC for review.

Additionally, San Bruno participates in the Federal Aviation Administration (FAA) and the ALUC's joint program for noise insulation, which provides noise insulation to noise-sensitive land uses, including residences, churches, and schools. The goal was to insulate every eligible housing unit to an interior noise level of 45 dB CNEL.

Implementation of the following Proposed General Plan policies will reduce potential conflicts with the San Mateo County Comprehensive Airport Land Use Plan.

Applicable General Plan Policies:

LUD-55 Support conversion of remnant residential uses south of Atlantic Avenue to industrial or office uses. Allow assembly of small residential lots that will increase the feasibility of attracting light industrial employers, provide a more compatible industrial setting, and accommodate uses appropriate for 70 dB noise levels from SFO overflights.

LUD-60 Support establishment of airport-related uses within the industrial area along Montgomery Avenue. In accordance with Ordinance 1284, consider construction of parking structures for car rentals, parking, or other airport-related storage uses.

HS-37 Require that all sponsors of new housing (residential and senior housing units) record a notice of Fair Disclosure, regarding the proximity of the proposed development to San Francisco International Airport and of the potential impacts of aircraft operation, including noise impacts, per Ordinance 1646 and AB 2776.

HS-48 Work together with other affected cities, the Airport Land Use Commission, and San Mateo County to achieve further reduction of SFO airport-generated noise and safety concerns.

HS-49 Require all new development to comply with FAR Part 77 height restriction standards, in accordance with Airport Land Use Commission guidelines.

Mitigation

None required.

3.1-C Changes in land uses proposed by the General Plan will require an update of the San Bruno Zoning Ordinance. (Less than Significant Impact)

The Proposed General Plan Land Use Diagram does not differ significantly from the current 1984 General Plan. The proposed project merely allows slight increases in density and intensity, primarily along the key corridors and transit station areas.

California planning law requires that a city's Proposed General Plan and Zoning Ordinance be internally consistent with regard to land use classifications, densities and intensities, and design guidelines. Changes in Proposed General Plan land uses from 1984 Plan classifications will require a subsequent update of the City's Zoning Ordinance. The City of San Bruno has already recognized this future need and embarked on the Zoning Ordinance Update process, to be completed immediately following adoption of the Proposed General Plan.

Implementation of the following Proposed General Plan policies will reduce potential conflicts with the San Bruno Zoning Ordinance to a *Less than Significant* level by identifying specific changes and/or issues that should be addressed.

Applicable General Plan Policies:

LUD-8 Develop and implement standards in the City's Zoning Ordinance and Subdivision Regulations that minimize the visual dominance of garages in multifamily complexes. Use the following design techniques:

- Locate garages and carports to the rear of parcels;
- Provide access to tuck-under parking from the side or rear of parcels, particularly along major arterial roadways;
- Screen tuck-under parking with landscaping or other buffering techniques; and
- Allow shared driveway configurations, as appropriate.

LUD-10 Revise the Zoning Ordinance to allow child care services in all residential and commercial zones, so that they are distributed throughout San Bruno to reduce commute times and costs for working parents.

LUD-26 During the Zoning Ordinance Update, create a transit-oriented zoning district surrounding the BART and Caltrain stations, and along the El Camino Real and San Bruno Avenue transit corridor. Within the district, reduce building setbacks, increase development intensities, require pedestrian connections, reduce parking requirements, and consider establishment of minimum development intensities.

LUD-42 During update of the Zoning Ordinance, consider expanding the Multi Use–Residential Focus designation west to comprise the entire block from El Camino Real to Linden Avenue. Require new development to retain emphasis on residential uses fronting Linden Avenue.

LUD-80 Amend zoning districts and development standards in the Zoning Ordinance consistent with land use classifications in the General Plan, particularly as it relates to mixed-use development along El Camino Real, the Transit Oriented Development district, and intensification within the Tanforan District

LUD-81 As part of the Zoning Ordinance Update, outline criteria for use of FAR and density bonuses, as listed in Table 2-2, for development projects in Transit Oriented Development and Mixed Use areas that include off-site improvements and amenities for public benefit, such as streetscape improvements, outdoor plazas, and bus shelters.

Mitigation

None required.

3.2 POPULATION AND HOUSING

This section described the past and current trends in population, housing, and employment growth within San Bruno. Potential growth impacts based on the proposed project are presented and discussed.

ENVIRONMENTAL SETTING

Population and Households

According to the California Department of Finance, San Bruno's population as of January 1, 2005 was estimated to be 42,215, making it the fifth most populous city in San Mateo County. Historically, the city's population increased rapidly between 1940 and 1970 and then declined slightly in the subsequent decade. The population has grown steadily since 1980, but at a slower rate. During the city's most rapid growth period in the 1960s and 1970s, its population comprised 6.5 percent of the total San Mateo County population; by 2005 this had slipped to 5.8 percent, despite addition of more than 2,050 people between 2001 and 2005. Table 3.2-1 and Chart 3.2-1 show the changes in San Bruno and San Mateo County populations between 1950 and 2005, and the percentage of the County population represented by San Bruno residents.

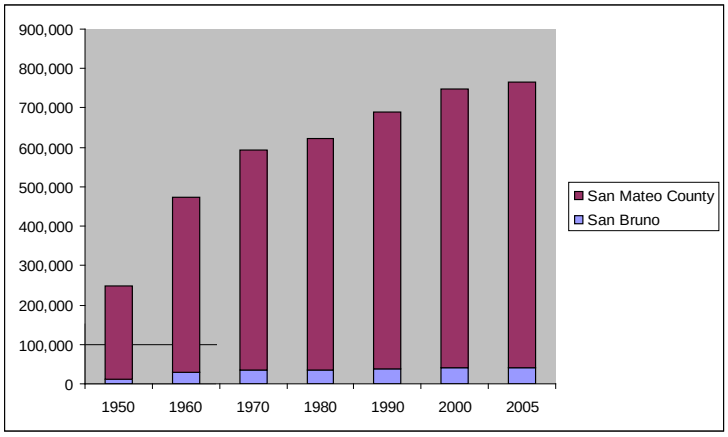
According to the California Department of Finance, there were an estimated 15,776 households in San Bruno in 2005, with an average household size of 2.72. The Association of Bay Area Governments (ABAG) projects that the average household size in San Bruno will remain about the same (at 2.71) in 2025, meaning that the rate of population growth will match the rate of household growth. According to the U.S. Census, the average size of family households—comprising 62 percent of households—stood at 3.29 in 2000.

Table 3.2-1: Population Trends in San Bruno and San Mateo County

	1950	*1960*	*1970*	*1980*	*1990*	*2000*	*2005*	*Average Annual Growth 1990-2005*
San Bruno	12,478	29,063	36,254	35,417	38,961	40,165	42,215	0.54%
San Mateo County	235,659	444,387	556,234	587,329	649,623	707,161	723,453	0.72%

Source: California Department of Finance (1950-2005), U.S. Census (2000).

Chart 3.2-1: Population Trends in San Bruno and San Mateo County



Source: California Department of Finance, ABAG Projections 96, ABAG Projections 2005.

Employment

With 19,150 employed residents and 16,910 jobs as of 2005, San Bruno is primarily a residential community. Table 3.2-2 shows employment growth trends for San Bruno and San Mateo County. Between 1980 and 2005, the city made considerable strides toward job/housing parity, increasing the jobs to employed residents' ratio from 0.51 to 0.88.

Although San Bruno's job base grew by an annual rate of 0.66 percent between 1990 and 2005, ABAG observed that between 2000 and 2005, the total number of jobs shrank notably. While this parallels overall countywide and regional job loss trends since the dot com bust, about half of the job loss (1,170 jobs) was in the retail sector. This is attributable to the 20-month closure for renovation of the Tanforan Mall, which reopened in October 2005 with 1.1 million square feet of total space (including more than 300,000 square feet of additional space). With employment at Tanforan currently potentially exceeding 3,000 (full time equivalent), it is likely that as of 2006, jobs to employed residents' ratio exceeded 0.8—the highest in city history.

Table 3.2-2: Employment Trends in San Bruno and San Mateo County

	1980	*1990*	*2000*	*2005*	*Average Annual Growth 1990-2005*
San Bruno (Sphere of Influence)					
Employed Residents	19,830	21,290	21,872	19,150	-0.70%
Total Jobs[1]	10,030	15,330	17,180	16,910	0.66%
Job/Employed Residents' Ratio	0.51	0.72	0.79	0.88	
San Mateo County					
Employed Residents	314,240	353,680	369,725	318,600	-0.69%
Total Jobs	259,800	326,670	386,590	339,460	0.26%
Job/Employed Residents' Ratio	0.83	0.92	1.05	1.07	

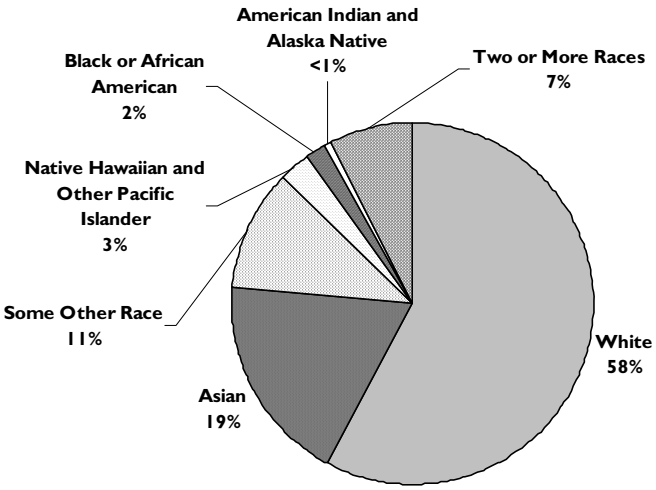
[1] Note that Total Jobs for San Bruno and San Mateo County in 2005 include an additional 3,000 jobs to take the reopening of the Tanforan Mall into consideration.

Source: ABAG Projections 96 (1980), ABAG Projections 2002 (1990), and ABAG Projections 2005 (2000 and 2005).

Ethnicity and Age

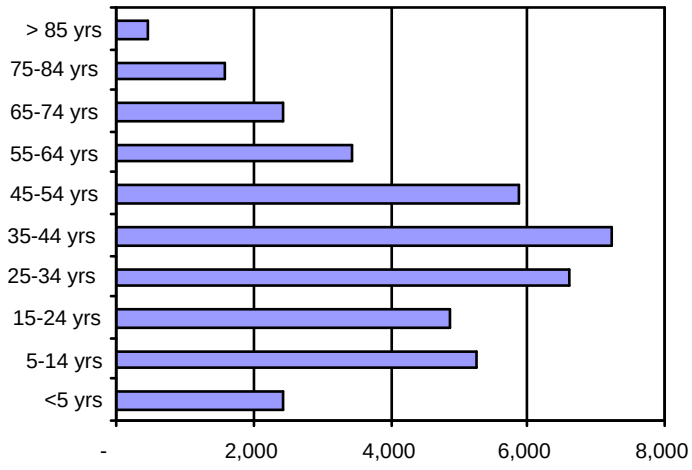
San Bruno is an ethnically diverse city that is home to relatively large Asian and Latino populations. The 2000 U.S. Census estimated that 22 percent of city residents were Asian, Hawaiian or Pacific Islander with the majority being Filipino, Chinese, or Asian Indian. Twenty-four percent of residents identified themselves as being of either Latino or Hispanic origin (and some other ethnicity), and two percent were African American. An estimated 58 percent of the population was White. Nearly eight percent of San Bruno residents identified themselves as multi-racial. This is a significant change from previous decades when a much greater proportion of the City's population was White.

Chart 3.2-2: San Bruno Ethnic Distribution, 2000



Over 24,000 San Bruno residents (or 60-percent) were between the ages of 20 and 59, according to the 2000 U.S. Census. Twenty-six percent were under the age of 19, and 15-percent were over the age of 60. Young children (those less than 10 years of age) made up an estimated 13-percent of the City's population (or 5,035 people). The median age of city residents increased from 33.4 to 36.3 years between 1990 and 2000, indicating that an increasing proportion of the City's population is made up of older adults, a trend that is likely to continue in the future. Chart 3.2-2 shows ethnic distribution and Chart 3.2-3 illustrates the city's age distribution, according to the U.S. Census 2000.

Chart 3.2-3: Age Distribution in San Bruno, 2000



Source: U.S. Census 2000.

SIGNIFICANCE CRITERIA

The General Plan would result in significant impacts on population and housing if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing population and housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of existing businesses.

IMPACT ANALYSIS

3.2-A New development under the Proposed General Plan will induce population growth. (Less than Significant Impact)

As discussed in Chapter 4, *Impact Overview*, development of housing and employment uses under the Proposed General Plan will induce population growth within San Bruno. Intensification of major commercial corridors and transit areas—namely El Camino Real and San Mateo Avenue—with mixed use development will increase the number of housing units within the City. Higher densities are appropriate for these areas, as they provide a greater number of residents with convenient access to the BART and Caltrain stations, Downtown, regional shopping centers, and professional offices. Transit-oriented development relieves the strain of growth by orienting new residents toward transportation to and from work, thereby not contributing to congestion on existing roadways.

Buildout of all vacant and underutilized land under proposed land use classifications could result in approximately 682 new housing units and 4,882 new jobs. These projections are in addition to pending development projects on the U.S. Navy Site and residential subdivisions at Skyline College. Proposed General Plan buildout calculations project an increase in 2,649 residents for a 2025 population of 44,864 residents, along with a 2025 employment base on 22,392 jobs. Table 3.2-3 lists existing, pending, and projected buildout under the Proposed General Plan.

Table 3.2-3: Potential General Plan Buildout (2025)

	Housing Units	*Population*	*Employed Residents*	*Building Sq. Ft.*	*Jobs*	*Jobs/ Employed Residents' Ratio*
Existing Development[1]	15,776	42,215	19,150	n/a	16,910	0.88
Pending Development	878			202,500	600	
U.S. Navy Site Specific Plan[2]	*763*			*202,500*	*600*	
Housing at Skyline College	*115*			-	-	
Additional Development under General Plan	682			1,654,400	4,882	
Total with Existing, Pending, and Additional Development	**17,336**	**44,864**	**24,496**	**n/a**	**22,392**	**0.91**
Change 2005 to 2025	*1,560*	*2,649*	*5,346*		*5,482*	

[1] Housing Units & Population: CA DOF, Report E-5, 2005. Employed Residents & Jobs: ABAG Projections 2005 (with adjustment of +3,000 for jobs at Tanforan).

[2] Residential development includes 185 units in apartment building and 228 senior units under construction, and 350 units in future phase. Non-residential development includes full service 350-400 room hotel, plus ancillary commercial uses

Assumptions:

Buildout of Surface Parking Lots = 40%; Buildout of Vacant Sites = 100%; Buildout of Reuse Areas = 20%.

Population Calculation Assumptions: HH size=2.71 (ABAG projections for San Bruno for 20025), vacancy rate=5%, group quarters population=0.52% of total (same as in 2005)

Potential Employed Residents: 0.546 of total population (ABAG projections for San Bruno in 2025)

Source: Dyett & Bhatia, 2006.

Due to its built-out nature, San Bruno has a limited supply of infill residential land. However, mixed use corridors and transit station areas will provide a slight increase in the local housing stock. A benefit of this (albeit small) increase in housing stock is the availability of a range of attached housing units in smaller sizes and at more affordable costs. The following proposed General Plan policies ensure that expansion of the housing stock, and therefore the City's population, respects environmental resources, accommodates transportation needs, and provides adequate public services.

Applicable General Plan Policies:

LUD-3 During Plan review, protect the residential character of established neighborhoods by ensuring that new development conforms to surrounding design and scale.

LUD-40 Promote high-intensity multi use development along El Camino Real. Limit retail development to those sites, north of Crystal Springs Road which can compliment existing retail activity in Downtown and/or the Shops at Tanforan/Towne Center.

LUD-76 Assure that new development mitigates impacts on existing public services, including transit services, water, sewer, and storm drainage systems, police and fire protection, libraries, and parks and recreation facilities.

T-57 Work with SamTrans to schedule the routing of public transit in San Bruno so that a majority of residents are within walking distance of transit stops.

T-69 Continue to work toward dedication and/or installation of bicycle lanes throughout the city in accordance with Figure 4-4, to enhance recreational opportunities and make bicycling a more viable transportation alternative. Implement bicycle route improvements including signing, striping, paving, and provision of bicycle facilities at employment sites, shopping centers, schools, and public facilities.

ERC-1 Preserve as open space those lands which are identified, through environmental review, as sensitive habitat areas. Require setbacks to develop as buffer areas, as appropriate.

ERC-2 Preserve as open space those portions of property which have significant value to the public as scenic resources, aesthetic, or recreation purposes.

PFS-1 Prepare and adopt an Infrastructure In-Lieu Fee Schedule to ensure that adequate improvements are made to the City's public facilities to accommodate new development.

PFS-3 Require, as part of plan review, identification of needed public service improvement and maintenance costs for those projects that may have a significant impact on existing services.

Mitigation

None required.

3.2-B Reuse and intensification under the Proposed General Plan may result in the displacement of a minimal number of housing, businesses, and/or people. (Less than Significant Impact)

As with any redevelopment project, potential reuse and intensification of existing land uses will result in the need to displace a limited number of residents. Construction of mixed use and transit-oriented development will add to the existing housing stock, but existing residents may need to be temporarily relocated during construction. Potential redevelopment along the El Camino Real, San Mateo Avenue, and Huntington Avenue corridors poses the threat of potential displacement. However, should any relocation be necessary for residents from locations within the San Bruno Redevelopment Project Area, relocation benefits would be provided according to federal law. Additionally, the substantial increase in available housing that will be created will easily accommodate the displaced residents following completion. The following proposed General Plan policies provide further assurance that housing stock will be replaced and that displacement effects will be minimized.

Applicable General Plan Policies:

LUD-5 Allow small-lot single family housing in new and existing neighborhoods to serve as efficient and compact infill development.

LUD-6 Offer development incentives, as stated in Table 2-3, to encourage new infill development along San Mateo Avenue and El Camino Real that incorporates residential use.

ED-14 Conduct a study to assess different techniques for replacing existing non-conforming residences along Montgomery Avenue with viable non-residential uses. Such techniques may include a Relocation Fee Program or District, which would assess all new development within the area to pay for relocation of existing residences.

Mitigation

None required.

3.3 VISUAL RESOURCES

This section analyzes the potential visual and aesthetic impacts of Proposed General Plan development. Views of the western hills, as well as the San Francisco Bay, and the City's scenic corridors constitute visual resources that should be considered during growth.

ENVIRONMENTAL SETTING

San Bruno is a visually rich community, located between the coastal range and San Francisco Bay along the northern Peninsula. Downtown serves as the primary urban element which provides visual interest due to its pedestrian scale and historic architecture. Many natural features—the western hills, canyon open spaces, mature trees, and views of San Francisco Bay—contribute to a variety of visual resources for local residents.

Downtown

The City's Downtown is located along a half-mile long stretch of San Mateo Avenue, between San Bruno Avenue and El Camino Real. Most stores and services are small independently owned establishments. Parcels fronting San Mateo Avenue are a half block deep and are relatively small. The Planned San Bruno Avenue Caltrain Station (which includes a grade separation project) is located at the northern end of Downtown, at the intersection of San Mateo and San Bruno avenues.

While downtown has experienced vitality in recent years with new cafes and increased restaurant patronage, it remains an underutilized focal point within the city. Downtown has good bones, with short blocks, a pedestrian-friendly environment and architecturally unique buildings. Ground-floor shops and restaurants are lined with wide sidewalks, street trees, underground utilities, decorated shop windows, some awnings, wall signs, and antique and pedestrian-scale street lamps. Buildings are typically one to two stories in height, and some date from the early 20th century. Shops offer a range of products from children's furniture to musical instruments to auto parts, and ethnic stores and restaurants with signs in foreign languages (Spanish, Korean, and Chinese).

Downtown is most easily accessed from San Bruno Avenue where one can turn onto San Mateo Avenue. However, Downtown is not as clearly visible from El Camino Real; the intersection of El Camino Real and San Mateo Avenue is not prominent. Cross streets (Jenevein, Sylvan, and Angus avenues) to San Mateo Avenue do provide access to and from El Camino Real, but they are narrow and crowded with cars parked on street. Small parcels, which result in fine-grained development along San Mateo Avenue, are also a hindrance to more intense, multi-story development.

Views

Topography plays a key role in shaping San Bruno's urban character. Hills to the north and west provide a prominent visual backdrop to the vibrant commercial areas adjacent to El Camino Real. San Bruno Mountain and Sweeney Ridge both rise approximately 1,200 feet above mean high water sea level. The topography gradually flattens out from the western ridgeline toward San Francisco Bay. The eastern city limits are located within two miles of the Bay; SFO is situated along the Bay shore itself. Figure 3.3-1 illustrates the city's topography and resulting viewsheds from several different locations; General Plan policies require that development on sites visible from multiple locations undergo design review to ensure they are visually not over-dominant.

The surrounding ridgelines can be seen from points throughout the city and serve as geographical landmarks along the northern San Francisco Peninsula. Partial views of San Francisco Bay, the Oakland hills, and Mount Diablo (in central Contra Costa County) can be seen from points along the western hills.

Due to its location along the ridge of the coastal range, Skyline College has a truly magnificent vista of the coast. The vista point looks west, where rocky shoreline, sandy beaches, and the City of Pacifica's pier can be seen. Rolling green hills and rocky cliffs lie in the Sharp Park area between San Bruno and the coastline, where Pacifica's neighborhoods and commercial districts are tucked among the topography.

Scenic Corridors

A scenic corridor can be described as a roadway or highway with unique or distinctive physical or cultural features. According to the State (Caltrans' Scenic Highway Guidelines), a scenic highway should go through an area of outstanding scenic quality, containing striking views, flora, geology, and other unique natural attributes. The tall, shady trees along San Bruno roadways are generally the "scenic" characteristic identified for designation on the following scenic corridors:

- *Skyline Boulevard.* The entire length of Skyline Boulevard (Highway 35) is designated by Caltrans as a State Scenic Highway. Skyline Boulevard, which lies along the eastern ridge of the coastal range, features mature Eucalyptus trees and views of the San Francisco Bay.
- *Interstate 280.* I-280 is designated by Caltrans as a State Scenic Highway. Most of the San Bruno segment is lined with tall, shady trees, with partial views of San Francisco Bay and SFO to the east.
- *Crystal Springs Road.* Crystal Springs Road is designated by San Mateo County as a County Scenic Road. West of San Bruno City Park, this residential street narrows and tall eucalyptus trees on either side of the roadway give the sense of a wooded grove.
- *Sharp Park Road.* Sharp Park Road is designated by San Mateo County as a County Scenic Road. West of San Bruno, Sharp Park Road features striking views of the Pacifica coastline.
- *El Camino Real.* El Camino Real, south of Crystal Springs Road, is designated by San Mateo County as a County Scenic Road. However, this portion of El Camino Real has the same characteristics as the other portions of the roadway, with small commercial properties, parking lots, and tall free-standing signs and billboards.
- *Sneath Lane.* Sneath Lane is designated by the City of San Bruno as a scenic corridor. West of I-280, Sneath Lane features partial views of San Francisco Bay, while east of I-280, it features views of Sweeney Ridge. Tall, shady trees line the roadway, and most development is set back from the street and accessed from side roads.

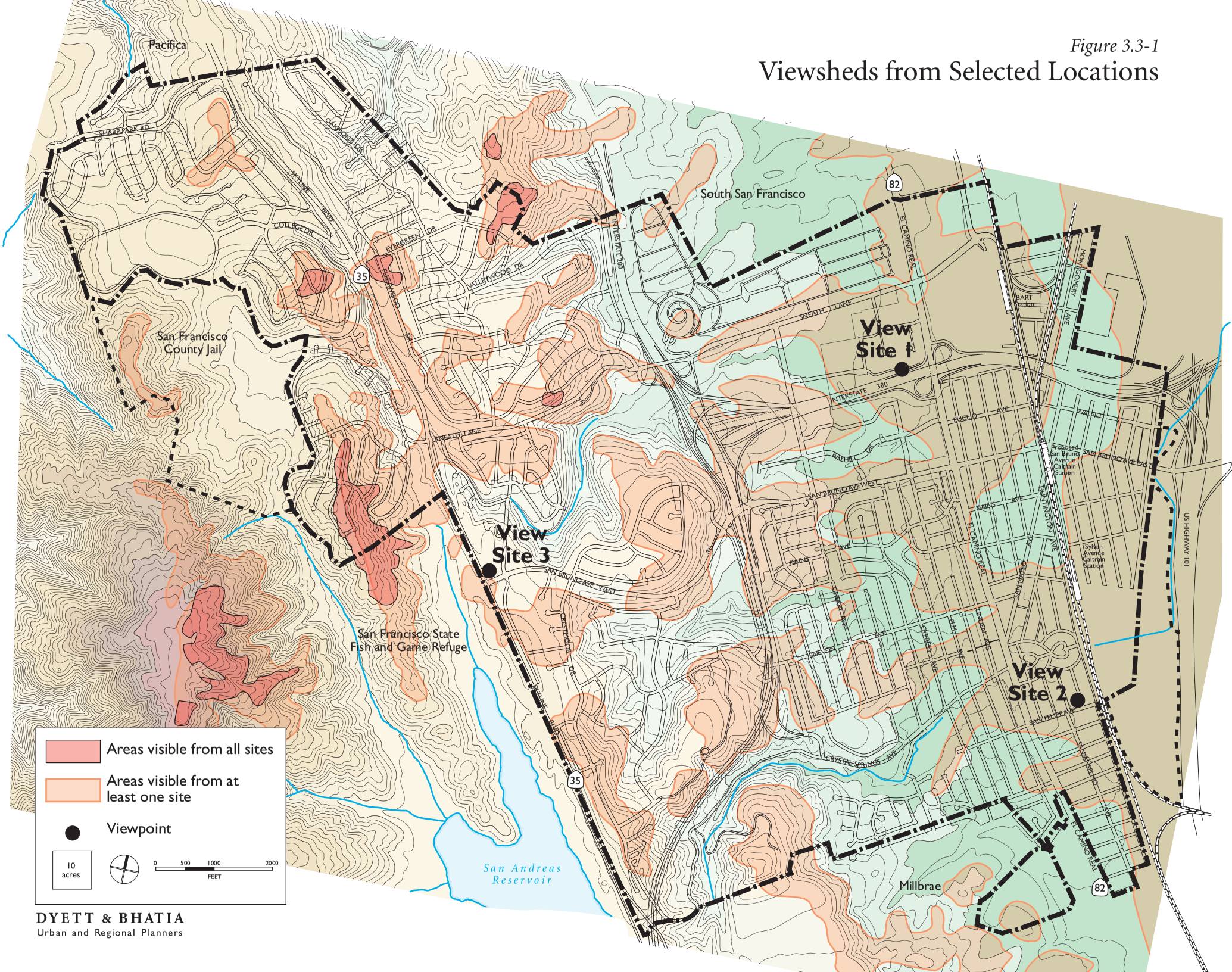
SIGNIFICANCE CRITERIA

The General Plan would result in significant impacts on visual resources if it would:

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

Figure 3.3-1

Viewsheds from Selected Locations



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Development opportunities are limited on the hilly western portion of the city. Thus, views of the hills from the lowlands are less likely to change. However, new development in the lowlands' sites will change the appearance of the urban fabric. Due to the citywide height limit of 50 feet or three stories, the city will not appear much taller but slightly more dense. Urban design policies are developed to preserve views from various perspectives (i.e. views from lowland toward the hill, views from the hills, views down the major corridors, and views of major public spaces). Specific impacts are discussed below.

3.3-A New development under the General Plan may have an adverse effect on scenic vistas and/or views of San Francisco Bay from the western hills. (Less than Significant Impact)

Incredible sweeping views of San Francisco Bay are available from various points in San Bruno's western hills. Residential homes in the hills have enough elevation gain that smaller buildings in the City's eastern flatlands are miniature on the vast horizon. Proposed new development is largely clustered in the eastern portions of the City, along El Camino Real and surrounding transit stations. Due to the City's Ordinance 1284, structures are limited to three stories (or 50 feet) unless voter approval is gained. As such, new development under the General Plan will not likely impact views from the western hills.

Additionally, the new General Plan strives to preserve the City's scenic roadways, which will contribute to the quality of views available from the western hills. Skyline Boulevard, Sneath Lane, Crystal Springs Road, and Sharp Park Road offer varying views of the San Francisco Bay, San Bruno Mountain, the Pacific Ocean, and surrounding Golden Gate National Recreation Area lands.

Implementation of the following General Plan policies will help preserve existing visual resources and would reduce potential impacts on scenic vistas or views.

Applicable General Plan Policies:

LUD-69 Conduct a design review of all development in "Areas visible from all sites" in Figure 2-3 to ensure it is not visually over-dominant.

LUD-70 Provide incentives for developers to create view corridors from El Camino Real and Sneath Lane toward new internal open spaces at The Shops at Tanforan and Towne Center.

T-26 Continue to limit widening, modification, or realignment of the City's scenic corridors, consistent with Ordinance 1284. Preserve large trees and other natural features, limit signage, maintain wide setbacks, and reduce traffic speeds along these roadways.

T-27 Continue to support beautification efforts along Interstate 280, an officially designated State Scenic Highway.

T-28 Recognize and protect the following as local scenic corridors:

- Skyline Boulevard, State Scenic Highway
- Crystal Springs Road, County Scenic Road
- Sharp Park Road, County Scenic Road
- Sneath Lane

T-32 Encourage design of public and private development to frame vistas of the Downtown, public buildings, parks, and natural features.

Mitigation

None required.

3.3-B Reuse and intensification under the General Plan may block existing views of ridgelines in and beyond the western hills. (Less than Significant Impact)

Various points throughout San Bruno have views of the western ridgelines, including San Bruno Mountain. San Bruno Mountain is located beyond the city limits, to the north of the City of South San Francisco. Sweeny Ridge and its adjacent ridgelines are located west of the city limits, within the Golden Gate National Recreation Area (GGNRA). These ridgelines rise approximately 1,200 feet higher than the eastern flatlands.

Ridgeline views from many parts of the city's flatlands are currently obstructed by vegetation, buildings, and other structures. Even single-story buildings can obstruct views of ridgelines from adjacent streets. East-west streets feature the clearest views of the western ridgelines, while north-south streets feature the clearest views of San Bruno Mountain. Depending on the final size and design of buildings allowed under the General Plan, development could potentially block views from San Bruno streets.

Although views may be obstructed in localized areas due to new development, views would not be impacted on a city-wide basis. Any development that would exceed three stories (or 50 feet) in height would be subject to voter approval under City Ordinance 1284. Voter consideration of Ordinance 1284 is uncommon; virtually all development in San Bruno is under this three-story limit. Additionally, both Sweeny Ridge and San Bruno Mountain extend more than one mile in length. Sweeney Ridge blends into adjacent ridgelines in the GGNRA. Therefore, even if new development blocks a portion of the ridgeline, other portions would still remain visible. Finally, the ridgelines themselves are located outside of the city limits and within preservation areas. Sweeney Ridge is located in the GGNRA, and San Bruno Mountain is a county park. Thus, the natural character of the ridgelines would not be changed by development under the Proposed General Plan.

Implementation of new General Plan policies listed above under Impact 3.3-A would further insure protection of ridgeline views, making this impact *Less than Significant*.

Mitigation

None required.

3.3-C Construction along San Bruno's scenic roadways may damage scenic resources, such as trees, outcroppings, and historic buildings. (Less than Significant Impact)

San Bruno's scenic roadways are one of its most treasured qualities. Large, mature trees line the scenic roadways, providing a natural backdrop and shade canopy and buffering the roadway from adjacent neighborhoods. Development proposed under the General Plan may allow new development or reuse of parcels adjacent to the scenic roadways. However, City Ordinance 1284 protects Sneath Lane and Crystal Springs Road from encroachment into the scenic buffer.

Future development along El Camino Real—a scenic roadway that does not feature mature trees stands—would result in beneficial impacts. New development could potentially create a more consistent

streetscape, with street trees, sign controls, bus shelters, architectural treatments, and other urban design elements. Implementation of the following General Plan policies will preserve natural features along the scenic roadway.

Applicable General Plan Policies:

T-25 Coordinate with CalTrans, San Mateo County, and adjacent cities in order to maintain a consistent approach in applying scenic conservation standards in roadway design, improvements, and maintenance.

T-26 Continue to limit widening, modification, or realignment of the City's scenic corridors, consistent with Ordinance 1284. Preserve large trees and other natural features, limit signage, maintain wide setbacks, and reduce traffic speeds along these roadways.

T-27 Continue to support beautification efforts along Interstate 280, an officially designated State Scenic Highway.

T-28 Recognize and protect the following as local scenic corridors:

- Skyline Boulevard, State Scenic Highway
- Crystal Springs Road, County Scenic Road
- Sharp Park Road, County Scenic Road
- Sneath Lane

T-29 Review and update the City's Scenic Corridor Protection Program for I-280, Skyline Boulevard, and future State-designated scenic highways.

T-30 Improve the appearance of the following streets:

- El Camino Real: Continue landscaping the median strips and review projects for good design. Coordinate landscaping design with neighboring jurisdictions.
- San Mateo Avenue: Continue implementation of the Street Beautification Plan in conjunction with merchants and property owners.
- San Bruno Avenue (west of El Camino Real): Retain trees on Bayhill property along San Bruno Avenue, consistent with the City's Tree Preservation policy.
- Huntington Avenue/railroad tracks: Continue landscaping along both sides of the railroad tracks.

T-33 Promote and facilitate planting of shade trees along all streets within San Bruno, through public education, developer incentives, and general beautification funds. Tree specifics should be selected to create a unified image and an effective canopy.

Mitigation

None required.

3.3-D New and redevelopment activities may potentially degrade the existing visual quality of the City, particularly adjacent to Downtown, through incompatibilities with existing development in scale and/or character. (Less than Significant Impact)

The scale of development is determined both by the size of development parcels and the massing and height of structures. The larger the parcel, the larger the potential building footprint, and the larger the potential volume (height and bulk) of the building – which translates to a greater potential for it to be intrusive in an existing neighborhood. However, City Ordinance 1284 restricts development to three stories (or 50 feet) in height, unless voter approval is obtained.

More parking facilities will also be needed as parking demands near commercial centers increase. The General Plan indicates surface parking lots as development opportunity sites, with construction of structured facilities to accommodate parking. Although Ordinance 1284 currently prohibits the construction of multi-story parking structures, the General Plan has identified a need for structured parking facilities in Downtown, The Shops at Tanforan, Bayhill Office Park, and Montgomery Street. The General Plan calls for a coordinated program to seek voter approval for such facilities under Ordinance 1284. Structured facilities generally have larger footprints than other commercial buildings, however, and proposed reuse and intensification projects will need to be reviewed for consistency with the surrounding urban fabric.

General Plan policies focus on development of pedestrian-oriented districts that are compatible with the scale and character of surrounding uses. Implementation of the following General Plan policies will reduce potential scale and character effects and ensure that existing visual quality is preserved.

Applicable General Plan Policies:

LUD-3 During Plan review, protect the residential character of established neighborhoods by ensuring that new development conforms to surrounding design and scale.

LUD-15 Require pedestrian-oriented building design—including zero front setbacks (except where noted for public plazas), awnings, and building entries facing the street—to complement the City's Downtown streetscape improvements.

LUD-17 Encourage new development in Downtown to accommodate small retail shops, with larger anchor stores at the northern and southern gateways. Prohibit auto-oriented uses, including fast food with drive-through facilities.

LUD-19 In accordance with Ordinance 1284, assemble parcels to create a centrally-located structured parking facility that would sufficiently serve merchants and shoppers in Downtown. The parking structure should include ground floor commercial along street frontage, and main entrances and exits along side streets to minimize breaks in commercial frontage along San Mateo Avenue.

LUD-24 Coordinate regional commercial development at the San Bruno/Tanforan BART station with new office development constructed in adjacent South San Francisco areas. Accommodate mixed pedestrian and bicycle connections for office workers to access The Shops at Tanforan and Towne Center.

LUD-25 Coordinate new development at the BART and Caltrain station areas with surrounding residential neighborhoods through landscaping, feathered building heights (taller buildings

near stations and shorter buildings near existing residences), pedestrian connections, and other such techniques.

Mitigation

None required.

3.3-E New development under the General Plan may create new sources of light or glare that could adversely affect day or nighttime views in the area. (Less than Significant Impact)

New sources of substantial light or glare could pose a special danger in areas within the *San Mateo County Comprehensive Airport Land Use Plan* (CALUP) area. The CALUP specially notes that reflected sunlight poses a hazard for pilots of aircraft in an initial climb following take-off or in a straight final approach. Entertainment and/or commercial development must be especially wary of ensuring that night lighting and nonglare windows are in conformance with the CALUP.

General Plan policies seek to minimize light and glare impacts from new development.

Applicable General Plan Policies:

LUD-72 Require buildings in Downtown and in Transit-Oriented Development district to screen mechanical equipments on the roof with non-glaring materials.

LUD-73 Require buildings with a continuous façade of 100 feet or longer to use non-reflective materials to minimize adverse impact of glare.

Mitigation

None required.

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3.4 TRANSPORTATION

This section outlines the current circulation conditions in the City of San Bruno and analyzes the potential impacts of the Proposed General Plan on the city's roadways, transit network, and bicycle and pedestrian paths.

ENVIRONMENTAL SETTING

San Bruno's transportation system consists of streets and highways, public transit, bicycle routes and sidewalks. Regional roadway access to and from the City is provided by Highway 101, I-280, I-380, El Camino Real (State Route 82), and Skyline Boulevard (State Route 35).

Caltrain provides commuter rail service north and south along the San Francisco Peninsula. The Bay Area Rapid Transit District (BART) extension to San Francisco International Airport (SFO), which includes a new BART station in San Bruno, began operations in June 2003 and provides additional commuter rail service to San Francisco, northern San Mateo County, and the East Bay. Local bus service, as well as bus service to San Francisco, is provided by SamTrans.

San Bruno's bicycle facilities are generally limited to signed bike routes that share roadways with vehicles. Existing bike routes are along El Camino Real, Huntington Avenue, Jenevein Avenue, Crystal Springs Avenue, Crestmoor Drive, Skyline Boulevard, and Sneath Lane. Sidewalks are generally provided along all public streets.

Travel Patterns and Mode Split

Both travel patterns and transit mode share are based on daily trip patterns within San Bruno and to or from other Bay Area locations. Travel patterns are shown by home-based work trips, other trips, and all trips by origin or destination. Similarly, mode share is listed by type of transit service and by origin and destination.

Table 3.4-1 provides the daily travel patterns from and to San Bruno as a proportion by trip type: home-based work trips; all other trips (including social, recreational, shopping and education); and total trips. The proportion of each trip type by destination is summarized for trips leaving San Bruno and by origin for all trips entering San Bruno.

Overall, there is a significant amount of work-related commuting into and out of San Bruno. The majority of San Bruno residents work in other locations in San Mateo County or in San Francisco. Only 19-percent of people who live in San Bruno travel to a work destination within the City of San Bruno. For those who work in San Bruno, 43-percent live elsewhere in San Mateo County, 22-percent live in San Francisco, and 20-percent live in other Bay Area counties. In contrast with work-related trips, most non-work trips begin and end within San Bruno, or are made between San Bruno and other locations in San Mateo County.

Table 3.4-2 lists the transit mode share from and to San Bruno as a proportion of total person trips. The highest percent of San Bruno residents who use transit use commuter rail to travel to San Francisco. Less than one percent of transit trips originating in San Bruno use Caltrain to travel south to the Silicon Valley. For people using transit to travel to San Bruno, the highest percent take the bus from San Francisco. However, now that the San Bruno BART station is open, both the percentage and actual number of transit riders using BART is likely to increase.

Very few people use the bus to travel within San Bruno. This is most likely due to the limited number of SamTrans routes traveling throughout the city, as well as the convenience of private automobile use for intracity trips.

Table 3.4-1: Daily Travel Patterns (1996)

	Percent of Trips by Trip Type		
Destination	*Home Based Work Trips*	*All Other Trips*	*Total Trips*
Trips Originating from San Bruno			
Within San Bruno	19%	55%	48%
Within San Mateo County	37%	33%	34%
San Francisco	37%	7%	13%
Other Bay Area Counties	7%	5%	5%
Total	**100%**	**100%**	**100%**
Trips Destined to San Bruno			
Within San Bruno	15%	54%	44%
Within San Mateo County	43%	31%	35%
San Francisco	22%	11%	14%
Other Bay Area Counties	20%	4%	7%
Total	**100%**	**100%**	**100%**

Source: San Mateo County Travel Model, 1996.

Table 3.4-2: Transit Mode Share (1996)

	Mode Share as a Percent of Total Travel			
Destination	*Bus*	*Caltrain*	*BART*	*Total*
Originating from San Bruno				
Within San Bruno	0.1%	0.03%	—	0.2%
Within San Mateo County	5%	2%	0.04%	6%
San Francisco	0.1%	11%	14%	26%
Other Bay Area Counties	1%	1%	5%	6%
Trips Destined to San Bruno				
Within San Bruno	0.1%	0.03%	—	0.2%
Within San Mateo County	4%	2%	—	6%
San Francisco	11%	2%	1%	13%
Other Bay Area Counties	1%	2%	6%	9%

Note: Figures taken before BART began operations to San Bruno.

Source: San Mateo Travel Model, 1996.

Roadway System

Figure 3.4-1 illustrates the City of San Bruno roadway network, which is comprised of arterials (such as El Camino Real), collector streets (such as Cherry Avenue), and local streets. Regional access to San Bruno is provided via Highway 101, Interstate-280 (I-280), Interstate-380 (I-380), El Camino Real, and Skyline Boulevard. These five roadways constitute Congestion Management Program (CMP) facilities as outlined in the *2005 San Mateo County CMP*. Average daily traffic volumes for these roadways are from the CalTrans *2004 Traffic and Vehicle Data System Unit* and are illustrated in Figure 3.4-2.

Overall, relatively few intersections in San Bruno experience significant amounts of congestion. During morning peak hours, however, the intersections of Skyline Boulevard and San Bruno Ave, Skyline Boulevard and College Drive, and Skyline Boulevard and Westborough Boulevard have experienced severe levels of congestion. During afternoon peak hours, there were severe congestion at the intersections of Skyline Boulevard and San Bruno Avenue, and at El Camino Real and Noor Lane. During weekend morning, midday, and afternoon peak hours, the intersection of El Camino Real and Sneath Lane has suffered from severe traffic congestion.

Recent Road Improvement Projects

The following road improvement projects have recently been completed in the City of San Bruno:

Highway 101/San Francisco International Airport Ramp Modifications. As part of the San Francisco International Airport (SFO) Master Plan Project, the Highway 101/SFO interchange was modified to accommodate the SFO International Terminal and Parking Garages. These ramp modifications allow direct access from Highway 101 to the elevated circular roadways serving the International facilities, as well as the existing at-grade roadways at SFO. A more detailed description of these improvements can be found in the 1989 San Francisco Airport Master Plan.

Highway 101/San Bruno Avenue Interchange Modifications. As part of the SFO Master Plan Project, the Highway 101/San Bruno Avenue Interchange was modified. With the ramp modifications, traffic on Highway 101 southbound exits the freeway just north of San Bruno Avenue, effectively increasing the southbound capacity via the addition of the collector/distributor roadway. Traffic from the SFO International Terminal heading onto Highway 101 northbound or I-380 westbound travels on a viaduct that parallels Highway 101 northbound. From the viaduct, traffic then travels on a new slip-ramp onto Highway 101 northbound, or remains on the viaduct to access I-380 westbound. The overall goal of the collector/distributor roadway system is separate airport ingress and egress traffic from Highway 101 through traffic.

Huntington Avenue Improvements between San Mateo Avenue and Sneath Lane. Roadway improvements along Huntington Avenue were recently completed to facilitate the new San Bruno BART station near the Huntington Avenue/Sneath Lane intersection. Huntington Avenue has been realigned between Forest Lane and Sneath Lane. The Sneath Lane/Huntington Avenue intersection is signalized, and converted into a 4-legged intersection (with access to the new BART station and the adjacent shopping center via the new south leg). A new BART station passenger drop-off and bus transfer station has been built along Huntington Avenue, and two of the existing Tanforan Park Shopping Center entrances along Huntington Avenue were signalized.

Highway 101/Millbrae Avenue interchange improvements. To facilitate the new Millbrae BART Station, the Highway 101/Millbrae Avenue Interchange has been modified. The two existing northbound Highway 101 off-ramps were combined into a single three-lane diamond off-ramp. All movements off of southbound Highway 101 are facilitated by a single three-lane diamond ramp as well. The Millbrae interchange off- and on-ramp intersection is signalized. This improvement eliminates weaving beneath the Millbrae Avenue overpass between vehicles entering and exiting the freeway.

El Camino Real improvements between Sneath Lane and I-380 westbound on-ramps. Between Sneath Lane and the I-380 westbound on-ramps, the east side of El Camino Real has been widened to accommodate new exclusive right turn lanes. At the El Camino Real/Sneath Lane intersection, Sneath Lane has be modified to accommodate additional turn and through lanes. To provide access to new development at the U.S. Navy Site, a fourth approach has been added to the intersection of El Camino Real and the Tanforan Park Shopping Center entrance. This intersection has been signalized. The entrance from Tanforan off of Sneath Avenue has also been signalized.

Road Improvement Projects Underway

In addition to the above projects, there are several other planned transportation facility improvements. These projects are listed below and are also shown in Figure 3.4-3.

1. *I-380/I-280 interchange project*. The purpose of the I-280/I-380 interchange project is to provide local access to and from I-380 near the I-280/I-380 interchange. The project will provide freeway ramps onto the collector-distributor roads parallel to I-280 between Sneath Lane and San Bruno Avenue. This project is expected to divert traffic away from the congested I-380/El Camino Real interchange.

2. *New roads within the former U.S. Navy Site.* Several new roads will be created as part of the planned redevelopment of this site in accordance with the adopted U.S. Navy and Its Environs Specific Plan (2002). These new roadways will facilitate internal circulation as well as enhance access to the site from El Camino Real.

3. *Pedestrian Bridge at El Camino Real and Tanforan Shopping Center entrance*. As part of the project named "Crossing" on the former U.S. Navy Site, a second-level pedestrian bridge is planned at the El Camino Real / Tanforan entrance intersection to provide pedestrian access between the Tanforan Shopping Center and the former Navy Site.

4. *San Bruno Ave and Crestmoor Dr Intersection*. This intersection will be signalized to enhance safety of pedestrian crossings. A left turn pocket will be added to the San Bruno Avenue westbound approach for left turn traffic into Shelter Creek Lane.

General Plan Improvements

The following improvements are identified in the General Plan (see policy T-7) and shown in Figure 3.4-3.

a. *San Mateo Ave/Huntington Ave.* Within the existing right-of-way, restripe the southbound Huntington Avenue approach from one left/through/right lane to one left turn lane and one through/right lane. This recommended improvement would result in a delay of 9.3 seconds and a LOS D for the General Plan Buildout Condition PM peak hour. No right-of-way acquisition or utility relocation would be anticipated.

b. *El Camino Real/Noor Ave.* The southbound El Camino Real left turn onto Noor Avenue is the critical movement at this intersection. Converting the intersection from a one-way stop controlled to a signalized intersection would result in a V/C ratio of 0.56 and a LOS A for the General Plan Buildout Condition PM peak hour. The peak hour signal warrant is satisfied under both Conditions. No right-way acquisition would be anticipated. A new signal may require movement of utilities and street furniture, and would require restriping the intersection.

c. *Skyline Blvd and San Bruno Ave.* With restriping and minor right-of-way additions, the northbound Skyline Boulevard approach could be converted from one through lane and one right turn lane to one through lane and one through/right lane. The southbound Skyline Boulevard approach could be converted from one through lane and one left turn lane to two through lanes and one left turn lane. This improvement would result in a maximum V/C ratio of 0.79 and a LOS C. The northbound reconfiguration would require additional right-of-way to accommodate two receiving lanes, which could taper to one lane downstream of the intersection. The southbound reconfiguration would require additional right of way to accommodate the additional through lane and for two receiving lanes downstream. The two southbound receiving lanes could taper to one lane downstream.

d. *Skyline Blvd and College Drive/Berkshire Dr.* With additional right-of-way and restriping, add one left turn lane to the northbound Skyline Boulevard approach for a total of two, and add one through lane to the southbound Skyline Boulevard approach, for a total of three. This improvement would result in a V/C ratio of 0.76 and a LOS C. Additional right-of-way, utility relocation, and movement of traffic signals and other street furniture would be required to implement this improvement.

e. *Skyline Blvd and Westborough Blvd/Sharp Park Rd.* With additional right-of-way and restriping, add one through lane to the southbound Skyline Boulevard approach for a total of three. This improvement would result in a maximum V/C ratio of 0.86 and a LOS D. Additional right-of-way and traffic signal relocation would be required to accommodate the extra through lane and extra receiving lane downstream.

f. *Skyline Blvd and Sneath Lane.* Convert the eastbound and westbound approaches from split phasing to permitted control. This improvement would result in a V/C ratio of 0.84 and a LOS D. No additional right-of-way or utility relocation would be required.

g. *Sneath and Sequoia Ave.* Covert the intersection from a three-way stop control to a permitted or protected signalized control. This improvement would result in a maximum V/C ratio of 0.76 and a LOS C. Restriping and installation of traffic signal hardware would be required to implement this improvement. No additional right-of-way would be required.

h. *El Camino Real/San Mateo Ave.* Permit southbound San Mateo Avenue traffic to turn south on El Camino Real and add pedestrian crossing at north leg of El Camino Real to create a pedestrian connection to Memory Lane.

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Figure 3.4-1

Existing Transportation Network

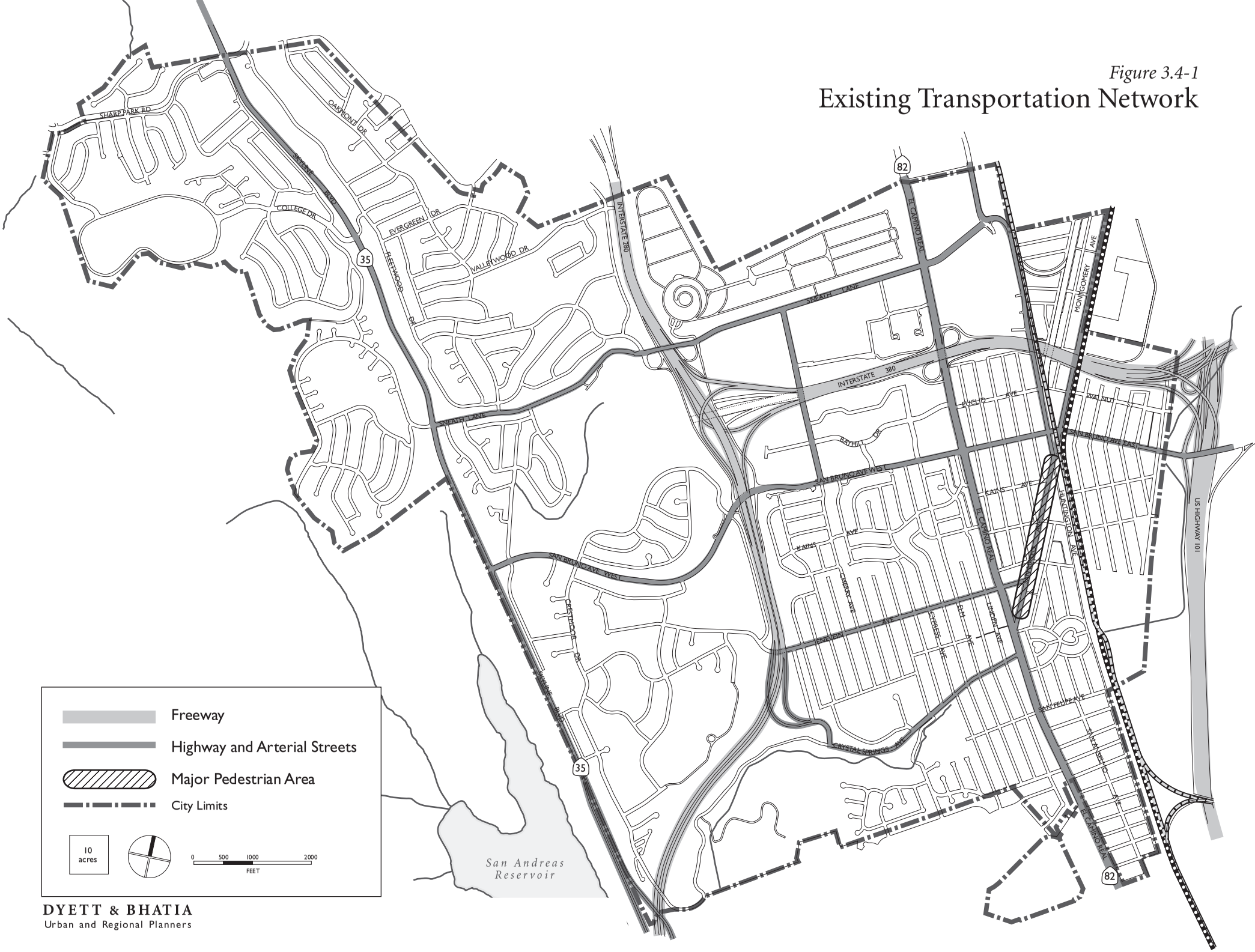

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Figure 3.4-1 Back

Figure 3.4-2

Regional Roadways Average Daily Traffic Volumes (2004)

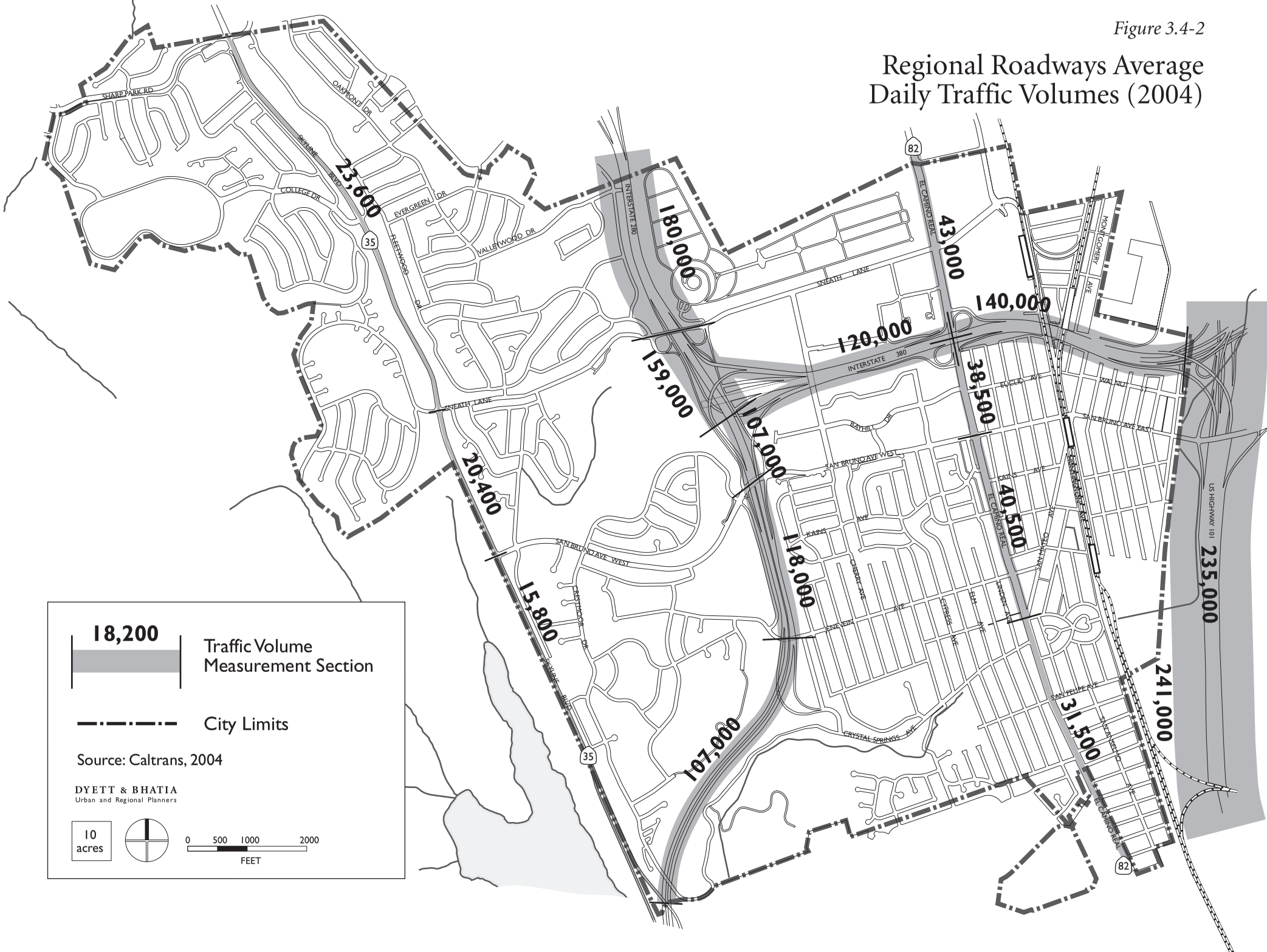

Figure 3.4-2: Back

Figure 3.4-3

Transportation Improvements: Underway and Proposed under the General Plan

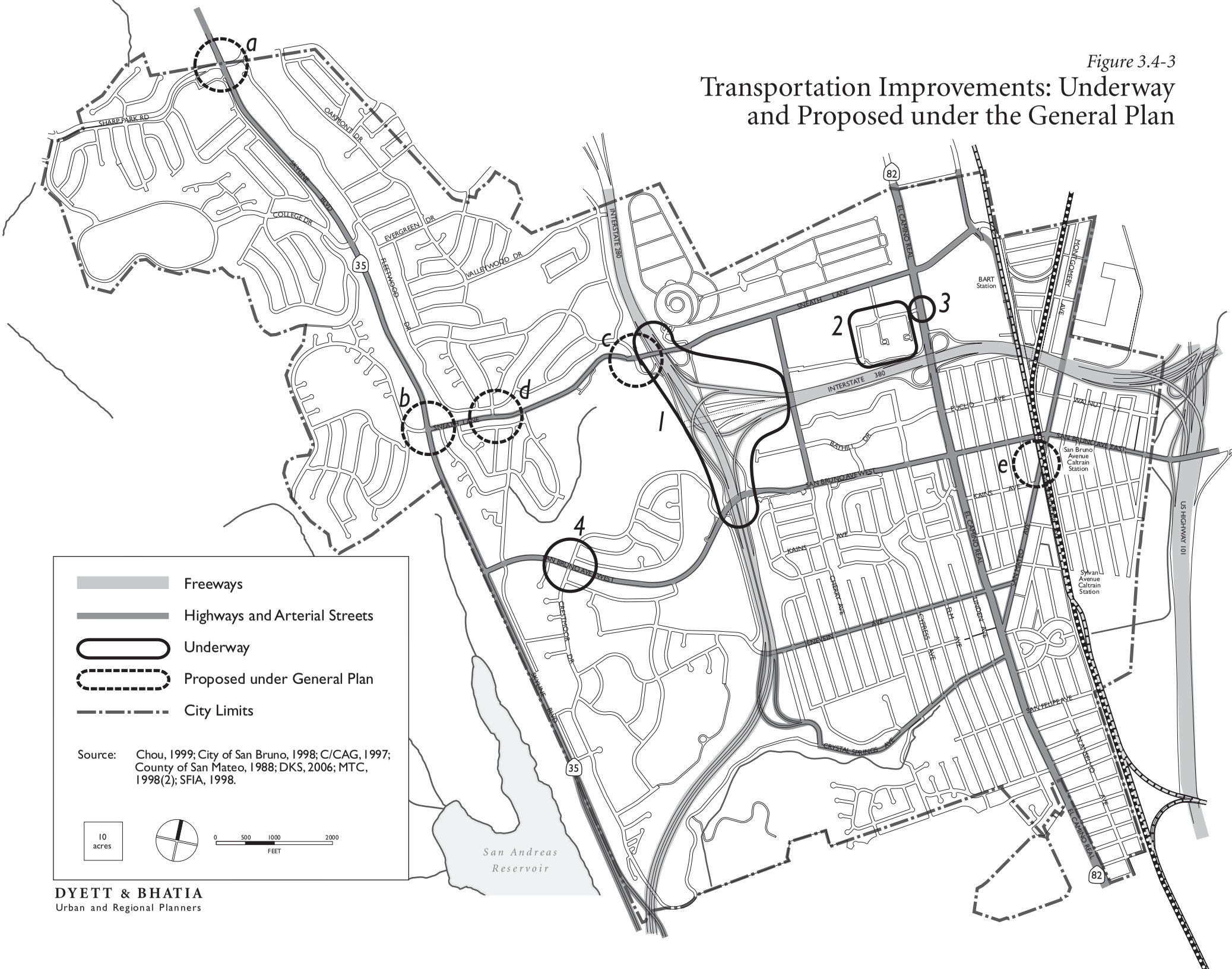

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Figure 3.4-3:back

Transit Systems

The Peninsula Corridor Joint Powers Board (Caltrain) and the San Mateo County Transit District (SamTrans) currently provide transit service in San Bruno. As of June 2003, BART provides service to San Bruno as well. Figure 3.4-4 illustrates transit facilities in San Bruno.

Caltrain

Caltrain is a commuter rail service operating on the San Francisco Peninsula between the cities of San Francisco and Gilroy. The alignment consists of approximately 77 miles of track and serves 33 stations. Currently, Caltrain operates 38 trains in each direction for a daily total of 76 trains. The location of the San Bruno Caltrain station is on Sylvan Avenue, but the station could be relocated to San Bruno Avenue (see description below). Daily ridership averaged 28,400 passengers in 2005, with approximately 488 passengers accessing Caltrain each day via the San Bruno Station.

In June 2004, Caltrain launched a new, limited-stop, express trains known as Baby Bullet service. The Baby Bullet trains are express trains that leapfrog local trains, shorten the travel time between San Francisco and San Jose to less than an hour. Baby Bullet trains currently stop at six locations between the two cities, and they do not stop in San Bruno.

The General Plan Community Survey asked residents about their support for several different actions aimed at addressing Caltrain impacts on pedestrian safety and traffic congestion. There was strong public support for pedestrian safety improvements such as fences and dedicated pedestrian crossings (such as tunnels, bridges, or special crossing gates). Nearly 40-percent of respondents supported the elevation of the railroad tracks between I-380 and Sylvan Avenue.

SamTrans

The SamTrans fixed-route bus system consists of 64 routes, traveling more than 28,000 miles and carrying more than 59,000 passengers on an average weekday systemwide (1999 to 2000). The total number of passengers includes more than 15,000 youth riders. The largest rider category is full-fare adults with more than 34,000 patrons. Senior and disabled patrons complete ridership totals with more than 10,000 daily riders. As shown in Figure 3.4-4, 11 different fixed routes provide service to, from and within San Bruno. SamTrans also operates paratransit bus routes throughout San Mateo County.

Bay Area Rapid Transit (BART)

BART is a 95-mile, automated rapid transit system serving over 3 million people in the counties of Alameda, Contra Costa, and San Francisco, as well as northern San Mateo County. Forty-three BART stations are located along five lines of double track system wide. Trains traveling up to 80 miles per hour connect San Francisco to Millbrae and to other East Bay communities – north to Richmond, east to Pittsburg/Bay Point, east to Dublin/Pleasanton, and south to Fremont. BART's current weekday ridership is approximately 321,000. BART trains operate from 4 AM to midnight Monday through Friday, 6 AM to midnight on Saturday and 8 AM to midnight on Sunday.

BART recently constructed four new stations and 8.7 miles of new track along the San Francisco Peninsula that extend south from the existing Colma Station. The new stations, operational as of June 2003, are located in South San Francisco, San Bruno, SFO, and Millbrae. Projected extension ridership is expected to be 70,000 passengers by 2010, with a projected 9,800 passengers accessing the system from the San Bruno BART station. By 2005, three additional trains may be available for service.

Shuttle Services

A free shuttle runs between the Bayhill Office Park and the San Bruno BART Station during weekday mornings and early evenings. This service is funded by the GAP, Inc. In December 2001, average daily ridership was approximately 180 passengers, which represented an increase over the November daily average of 165 passengers. Each bus can carry between 33 and 37 passengers per run.

In addition to the Bayhill Office Park shuttle, there are two other free shuttle services from the San Bruno BART Station. One of the shuttles runs between the Oyster Point area office building and the San Bruno BART Station during the commute hours with six morning trips and six evening trips. Various employers in the Oyster Point area sponsor this service. Another shuttle, sponsored by employers in the Utah-Grand area, runs between the Utah-Grand area offices building with six morning trips and six evening trips.

Transit Improvements

There are numerous transit facility improvements currently under construction or planned for the near future, as well several potential transit projects that have not yet been finalized or fully funded.

Caltrain. In order to accommodate increasing ridership demand, Caltrain is planning to increase its train service. The permanent location of the Caltrain station may either be at its original Sylvan Avenue location, or near the intersection of Huntington and San Bruno Avenues. (The northern edge of the station would be located at San Bruno Avenue.) This latter option will only be viable if the train tracks are elevated above street level.

SamTrans. SamTrans has completed Phase 1 and Phase 2 of its Five-Year Improvement Plan. The final phase consists of reevaluating express bus service once the BART-SFO extension is complete and Caltrain service has been upgraded.

High Speed Rail. This new statewide rail system is intended to meet the intercity travel needs of California residents, businesses, and tourists for the next 20 years and beyond. Full implementation of the high speed rail system is expected to take approximately 16 years. A number of different corridors throughout California are being evaluated for the implementation of a high-speed rail system. One of the two potential Bay Area corridors is between San Jose and San Francisco. While there is currently no stop proposed within San Bruno City limits, a stop is proposed at SFO which would be linked with existing transit service.

Airtrain. SFO has constructed a new Airtrain System as part of its terminal expansion project. This system began operations in June 2003. The Airtrain System transports passengers and employees from airport parking areas to the main terminal complex and links the SFO BART station with the airport's other terminals. It is estimated that Airtrain will reduce airport traffic by 23-percent annually, which will eliminate some 7 million trips on terminal roadways. Two proposed extensions of the Airtrain System, one that would link the Airtrain with the San Bruno Caltrain station and one that would extend along the North Access Road, could benefit San Bruno. An additional Airtrain extension could be constructed to the redeveloped U.S. Navy site. However, because San Bruno cannot afford to pay the cost of constructing these proposed extensions on its own, a high proportion of the costs will need to be paid by SFO. Currently, it is unlikely that either of these extensions will proceed due to lack of funding.

Figure 3.4-4

Transit Facilities

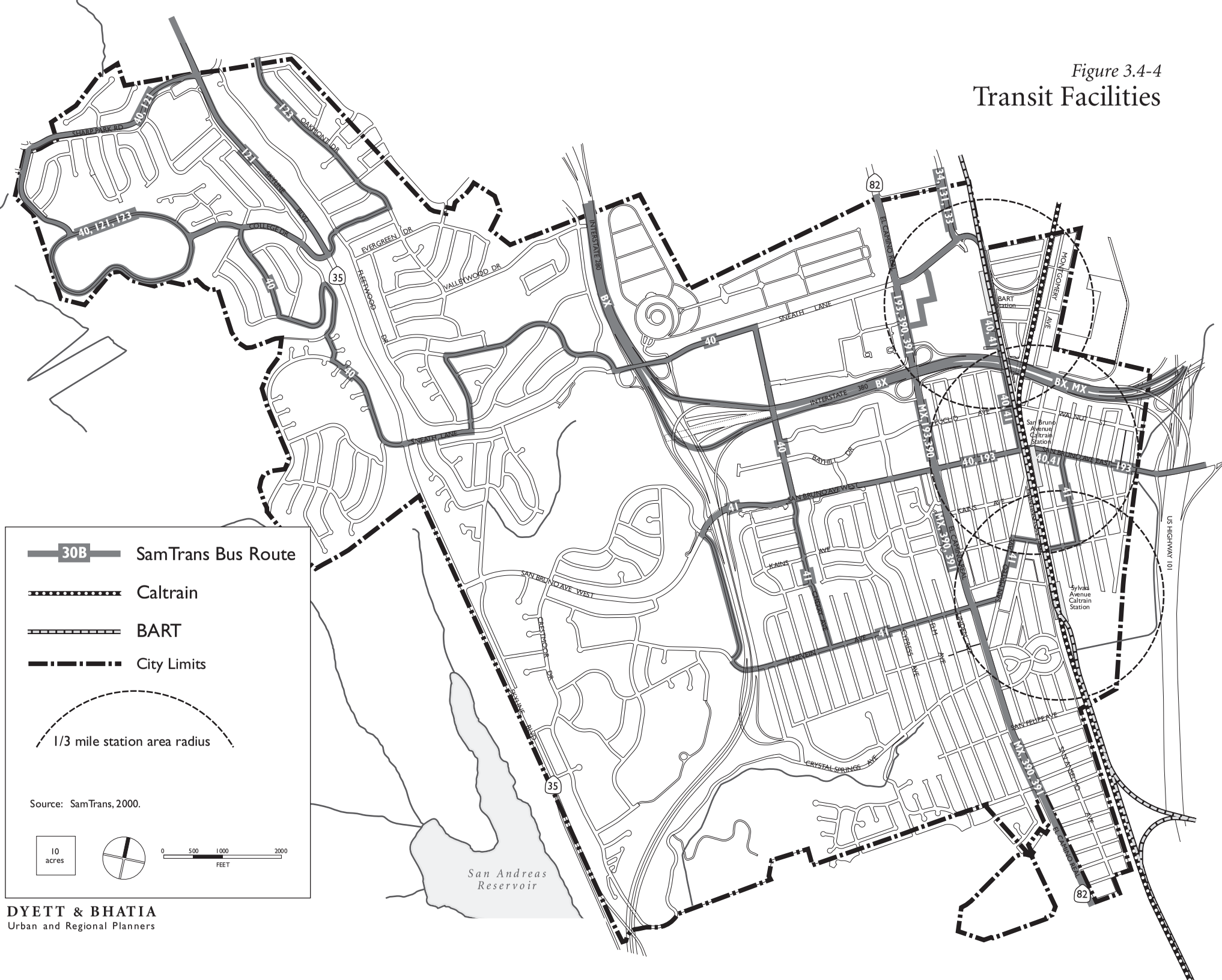

Figure 3.4-4: back

Bicycle and Pedestrian Facilities

Responsibility for planning and providing bicycle facilities rests with San Mateo County, cities, and Caltrans. San Bruno's bicycle facilities consist of designated routes that share roadways with motorized vehicles (Class III bicycle facilities). They are signed as bicycle routes, but do not have bicycle lane markings on the pavement. There are no Class I or Class II bicycle facilities within San Bruno. Class I bicycle facilities are completely separated from motor vehicle traffic, such as an off-street pathway. (Sidewalk bicycle paths are not considered Class I facilities.) Class II bicycle facilities, or bike lanes, are portions of the roadway that are marked with a line for use by bicyclists. Existing bicycle routes are located within the City of San Bruno on the following streets, as illustrated in Figure 3.4-5:

- College Drive,
- Fleetwood Drive,
- Crestmoor Drive,
- Crystal Springs Road,
- Jenevein Avenue,
- San Antonio Avenue,
- Sneath Lane, and
- Huntington Avenue.

Additional bicycle trails are located within the Golden Gate National Recreation Area to the west of the City and are used primarily for recreation. Both the Caltrain and BART stations have bicycle racks and lockers available for bicycle parking.

Currently, there are no exclusive pedestrian facilities, such as pedestrian trails or bridge crossings, within San Bruno. Sidewalks are typically provided along major arterials and residential roadways, and pedestrian crosswalks and signals are provided at most major intersections within the City.

Bicycle and Pedestrian Improvements

There are numerous planned bicycle facility improvements in San Bruno. Described below are some of the major bikeway improvements planned in and around the City. Additionally, a Bicycle Subcommittee has recently been formed to address bicycle access and safety issues citywide.

The Bay Trail Project. This project, which is being coordinated by ABAG, includes a new bike trail near SFO and is illustrated in Figure 3.4-6. Several different alignment options are being considered. The preferred alignment would connect Bayfront Park south of SFO to the North Access Road at South Airport Boulevard. It would be located west of Highway 101, and provide access to Lion's Field in San Bruno. The Airport has been working in cooperation with ABAG and the Bay Conservation and Development Commission (BCDC) to refine alignment alternatives and identify funding opportunities.

Bike lanes on South Airport Boulevard. New bike lanes (which would be separated from traffic by roadway striping) are planned along South Airport Boulevard beginning at San Bruno Avenue and extending north into South San Francisco. The timing of construction of these bicycle lanes would be contingent on the phasing of private development in South San Francisco.

Additional bicycle facilities. Additional bicycle facility improvements include a multipurpose path on Huntington Avenue between Angus Avenue and Sneath Lane and an extension of the Sawyer Camp Trail to Redevelopment Plan Subarea B (at the intersection of San Bruno Avenue and Glenview Drive). As part of the Redevelopment Plan, pedestrian and bicycle improvements will be examined for El Camino Real between the U.S. Navy Site and the Tanforan Park Shopping Center. A proposed expansion of the City's bicycle route network includes new routes on Skyline Boulevard, El Camino Real, and San Bruno Avenue (between El Camino Real and Highway 101).

Parking

Both on- and off-street parking is provided within the City of San Bruno. On-street parking is provided along most of the major arterials and is allowed on most residential streets. In general, there is adequate on-street parking available in most areas; however, on-street parking is in strong demand along the retail-oriented corridors of San Mateo Avenue and San Bruno Avenue.

There are currently eight off-street public parking facilities operated by the City of San Bruno, providing a total of 446 off-street parking spaces near the City's Central Business District along San Mateo Avenue. There are an additional six privately operated parking garages in the City of San Bruno.

As a part of the SFO-BART expansion, a new park-and-ride lot has been constructed at the new San Bruno BART station, which provides approximately 1,000 parking spaces for BART passengers. A new 830-space parking structure is included in the site plan for the Tanforan Park Shopping Center. Furthermore, new development planned for Tanforan would provide additional parking to accommodate new patrons and employees. At the U.S. Navy Site, additional parking is to be provided with each proposed site development. There would be an increase of 3,025 in the number of parking spaces provided at the U.S. Navy Site (4,050 new parking spaces are to be developed at the U.S. Navy Site, while approximately 1,025 parking spaces are demolished). Thus, parking impacts from new development at Tanforan and the U.S. Navy Site should be minimal.

Improved access to Downtown parking is also planned. Jenevein Avenue will be extended east from San Mateo Avenue to surface parking in the rear of existing commercial uses which front San Mateo Avenue.

Figure 3.4-5

Proposed Bikeways

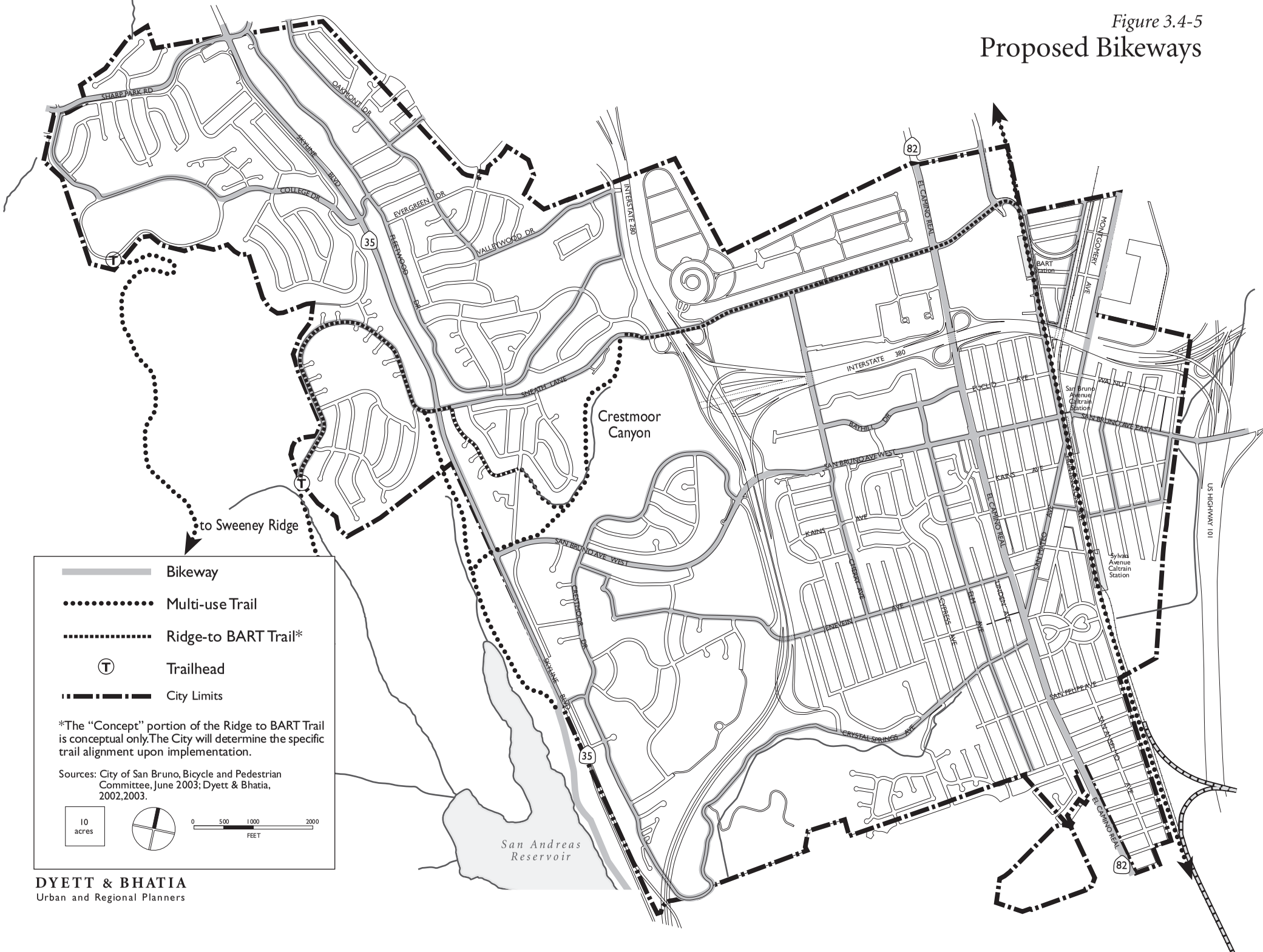

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Figure 3.4-5: back

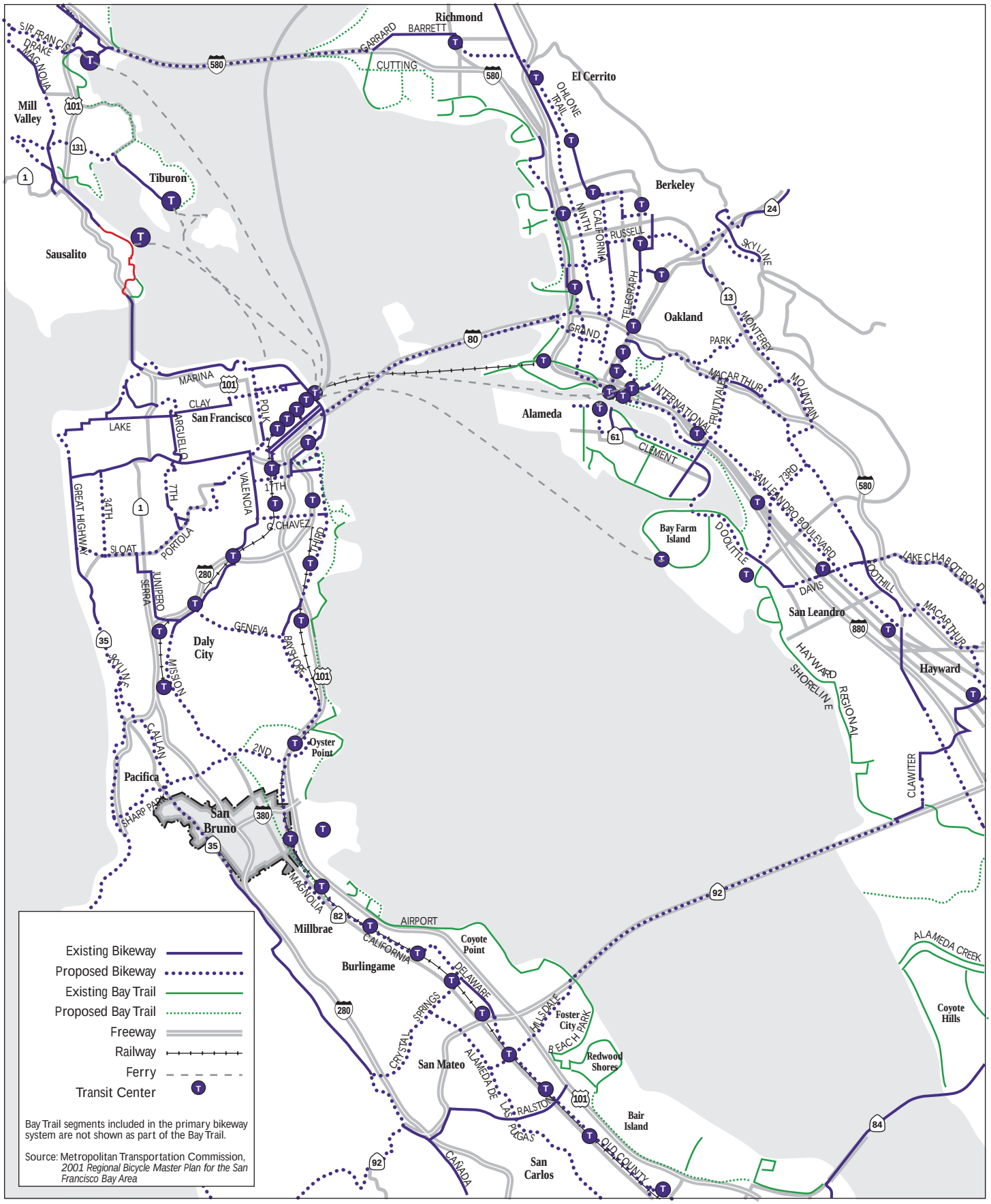

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Figure 3.4-6

Proposed Regional Bikeway System

Figure 3.4-6: back

EXISTING LEVEL OF SERVICE CONDITIONS

Both roadway intersections and freeway segments were evaluated to determine their current operating conditions.

Study Intersections

A total of 29 intersections were evaluated as part of this analysis. These intersections, which were selected in cooperation with the City of San Bruno staff, are listed in Table 3.4-3. This table also includes the month and year that the turning movements for the intersections were collected. The operations of the study intersections for the existing condition were evaluated using existing turning movement counts, existing intersection geometries, and existing traffic signal operation parameters.

Table 3.4-3: Study Intersection Locations

	Intersection	*Count Month/Year*
1	El Camino Real / EB I-380 Ramp	February 2006
2	El Camino Real / San Bruno Ave[1]	February 2006
3	El Camino Real / San Mateo Ave / Taylor St	February 2006
4	El Camino Real / Sneath Lane[1]	February 2006
5	El Camino Real / WB I-380 Ramp	February 2006
6	Huntington Ave / Angus Ave[1]	February 2006
7	Huntington Ave / San Bruno Ave[1]	February 2006
8	Huntington Ave / San Mateo Ave	February 2006
9	Huntington Ave / Sneath Lane[1]	February 2006
10	3rd Ave / San Bruno Ave	February 2006
11	Cherry Ave / San Bruno Ave	November 2002
12	Cherry Ave / Sneath Lane[1]	February 2006
13	El Camino Real / Noor Ave	February 2006
14	El Camino Real / San Felipe Ave	May 2002
15	NB I-280 Ramps / San Bruno Ave	May 2002
16	NB I-280 Ramps / Sneath Lane	May 2002
17	NB US-101 Ramps / San Bruno Ave	February 2006
18	San Mateo Ave / San Bruno Ave[1]	February 2006
19	Skyline Blvd / San Bruno Ave	May 2001
20	Skyline Blvd / College Dr	May 2001
21	Skyline Blvd / Sharp Park Rd / Westborough Blvd	May 2001
22	Skyline Blvd / Sneath Lane	May 2001
23	SB I-280 Ramps / San Bruno Ave	May 2002
24	SB I-280 Ramps / Sneath Lane	May 2002
25	SB US-101 Ramps / San Bruno Ave	November 2002
26	National Ave / Sneath Lane[1]	February 2006
27	Pacific Heights Boulevard / Sharp Park Rd	May 2002
28	Sequoia Avenue / Sneath Lane	May 2002
29	Cunningham Way / I-280 Ramps	May 2002

[1]Includes recent intersection geometry improvements

Source: DKS Associates, 2006.

Intersection Level of Service Methodology

Roadway intersection operations are evaluated in terms of "level of service" (LOS), which is a measure of driving conditions and vehicle delay. Levels of service range from A (best) to F (poorest). LOS A, B and C indicate satisfactory conditions where traffic can move relatively freely. LOS D describes conditions where delay is more noticeable. LOS E indicates conditions where traffic volumes are at or close to capacity,

resulting in significant delays and average travel speeds that are one-third the uncongested speeds or lower. LOS F characterizes conditions where traffic demand exceeds available capacity, with very slow speeds (stop-and-go), long delays (over a minute) and queuing at signalized intersections.

The Transportation Research Board (TRB) *Circular 212* Planning is the selected level of service calculation method for the designated signalized intersections in San Mateo County's CMP Roadway System. A signalized intersection's level of service, according to the method described in TRB *Circular 212*, is based on dividing the sum of the critical volumes by the intersection's capacity. This calculation yields the volume-to-capacity ratio (V/C). The critical movements are the combinations of through movements plus right-turn movements if there is not exclusive right-turn lane, and opposing left-turn movements that represent the highest per-lane volumes. Descriptions of levels of service for signalized intersections, together with their corresponding V/Cs, are presented in Table 3.4-4.

Traffic levels of service for the unsignalized intersections were evaluated using the methodology outlined in the 1994 *Highway Capacity Manual* (Transportation Research Board, Special Report No. 209, 1994). For unsignalized intersection analysis, each traffic movement that yields to another movement is evaluated separately and assigned a level of service. The level of service is based on the relative ability of yielding traffic to find adequate gaps in conflicting traffic flows. The *Highway Capacity Manual* methodology results in a separate LOS for individual movements and also provides an intersection average level of service. Descriptions of levels of service for unsignalized intersections are presented in Table 3.4-5.

Table 3.4-4: Level of Service Definitions – Signalized Intersections

Level of Service	*Volume to Capacity Ratio*	*Description*
A	≤0.60	Uncongested operations; all queues clear in a single signal cycle.
B	0.61-0.70	Very light congestion; an occasional approach phase is fully utilized.
C	0.71-0.80	Light congestion; occasional backups on critical approaches.
D	0.81-0.90	Significant congestion on critical approaches, but intersection functional. Cars required to wait through more than one cycle during short peaks. No long-standing queues formed.
E	0.91-1.00	Severe congestion with some long-standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es).
F	>1.00	Total breakdown, stop-and-go operation.

Source: San Mateo County Congestion Management Program, 2005.

Table 3.4-5: Level of Service Definitions – Unsignalized Intersections

Level of Service	*Expected Delay Average*	*Total Delay (Seconds)*
A	Little or no delay	≤5
B	Short traffic delay	>5 and ≤10
C	Average traffic delays	>10 and ≤20
D	Long traffic delays	>20 and ≤30
E	Very long traffic delays	>30 and ≤45
F	Extreme delays potentially affecting other traffic movements in the intersection	>45

Source: Transportation Research Board (TRB), *Highway Capacity Manual*, Special Report No. 209, 1994.

Existing Intersection Level of Service

Existing intersection operations were evaluated using the *Circular 212* and *HCM 1994* methodologies with existing traffic volumes and lane geometries. The level of service results are summarized in Table 3.4-6. In the AM peak hour, three intersections at Skyline Boulevard (San Bruno Ave, College Drive, and Sharp Park Road) currently operate at LOS E or LOS F. In the PM peak hour, the intersection of El Camino Real and Noor Avenue currently operates at LOS E and the intersection of Skyline Boulevard and San Bruno Avenue operates at LOS F. A detailed analysis of each intersection is provided in Attachment A.

Table 3.4-6: Intersection Existing Conditions Level of Service Summary

		AM Peak Hour		PM Peak Hour	
	Intersection	*V/C*	*LOS*[1]	*V/C*	*LOS*[1]
1	El Camino Real / EB I-380 Ramp	0.36	A	0.50	A
2	El Camino Real / San Bruno Ave	0.44	A	0.63	B
3	El Camino Real / San Mateo Ave / Taylor St	0.33	A	0.44	A
4	El Camino Real / Sneath Lane	0.38	A	0.68	B
5	El Camino Real / WB I-380 Ramp	0.34	A	0.58	A
6	Huntington Ave / Angus Ave[2]	--	B	--	B
7	Huntington Ave / San Bruno Ave	0.16	A	0.31	A
8	Huntington Ave / San Mateo Ave[2]	--	B	--	C
9	Huntington Ave / Sneath Lane	0.17	A	0.29	A
10	3rd Ave / San Bruno Ave	0.39	A	0.51	A
11	Cherry Ave / San Bruno Ave	0.43	A	0.60	B
12	Cherry Ave / Sneath Lane	0.47	A	0.80	D
13	El Camino Real / Noor Ave[2]	--	B	--	E
14	El Camino Real / San Felipe Ave	0.36	A	0.41	A
15	NB I-280 Ramps / San Bruno Ave	0.32	A	0.47	A
16	NB I-280 Ramps / Sneath Lane	0.42	A	0.55	A
17	NB US-101 Ramps / San Bruno Ave	0.37	A	0.34	A
18	San Mateo Ave / San Bruno Ave	0.20	A	0.27	A
19	Skyline Blvd / San Bruno Ave	1.15	F	1.25	F
20	Skyline Blvd / College Dr	0.95	E	0.67	B
21	Skyline Blvd / Sharp Park Rd / Westborough Blvd	1.04	F	0.85	D
22	Skyline Blvd / Sneath Lane	0.76	C	0.86	D
23	SB I-280 Ramps / San Bruno Ave	0.41	A	0.31	A
24	SB I-280 Ramps / Sneath Lane	0.55	A	0.55	A
25	SB US-101 Ramps / San Bruno Ave	0.44	A	0.74	C
26	National Ave / Sneath Lane	0.39	A	0.58	A
27	Pacific Heights Boulevard / Sharp Park Rd	0.61	B	0.41	A
28	Sequoia Avenue / Sneath Lane[2]	--	C	--	C
29	Cunningham Way / I-280 Ramps[2]	--	C	--	C

[1] LOS is the Level of Service.
[2] Unsignalized intersections; delay is reported, not V/C.

Source: DKS Associates, 2006.

Existing CMP Level of Service

Freeway segment level of service was evaluated for freeway segments in the AM and PM peak hours in the vicinity of the study area. Freeway LOS standards for basic freeway segments are indicated in Table 3.4-7.

Table 3.4-7: Level of Service Standards For CMP Roadway Segments

Route	*Freeway Segment*	*LOS Standard*
US 101	San Francisco County Line to I-380	E
US 101	I-380 to Millbrae Avenue	E
US 101	Millbrae Avenue to Broadway	E
US 101	Broadway to Peninsula Avenue	E
US 101	Peninsula Avenue to SR92	F
US 101	SR92 to Whipple Avenue	E
US 101	Whipple Avenue to Santa Clara County Line	F
I-280	San Francisco County Line to SR 1 (North)	E
I-280	SR 1 (North) to SR 1 (South)	E
I-280	SR 1 (South) to San Bruno Avenue	D
I-280	San Bruno Avenue to SR 92	D
I-280	SR 92 to SR 84	D
I-280	SR 84 to Santa Clara County Line	D
I-380	I-280 to US 101	F
I-380	US 101 to Airport Access Road	C
SR 82	Hickey Boulevard to I-380	E
SR 82	I-380 to Trousdale Drive	E
SR 35	San Francisco County Line to Sneath Lane	E
SR 35	Sneath Lane to I-280	F

Source: City/County Association of Governments of San Mateo County, San Mateo County Congestion Management Program for 2005.

SIGNIFICANCE CRITERIA

The General Plan Update would result in significant impacts on transportation and traffic if it would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase traffic hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate parking capacity.
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

IMPACT ANALYSIS

The impacts outlined below are subsequent to the implementation of the City's Capital Improvement Plan.

In addition to new development or redevelopment proposed in the General Plan, numerous proposed projects will affect future traffic conditions. In particular, the proposed redevelopment of the U.S. Navy site (with mixed housing, offices, and retail), new housing adjacent to Skyline College, the recent opening of the San Bruno/Tanforan BART extension, construction of the planned San Mateo Avenue Caltrain station and grade separation project, and recent changes to The Shops at Tanforan and Towne Center shopping areas have/are likely to have the greatest impacts on traffic conditions.

As individual development projects are proposed within the General Plan area, they will require their own analyses to determine if additional site-specific impacts are forecast and mitigation measures would be required as a result of the individual project. In addition, the need for mitigation measures identified for a specific location will need to be assessed under each development project.

Proposed Project Condition

The proposed project condition consists of the No Project condition plus potential increased traffic volumes and roadway improvements initiated by the General Plan that are in addition to the policies and land uses in the existing 1984 General Plan. The operations of the study intersections for the proposed project condition were evaluated using the No Project plus project traffic trips, anticipated future intersection geometries, and anticipated traffic signal operation parameters.

Travel Demand Forecasting

Future estimated turning movement volumes were developed using travel demand forecasting tools. Travel forecasts can be developed in several ways. They can be assumed to be added to existing volumes, added to assumptions about background future volumes, or determined by looking at different land use forecasts between scenarios. Each technique has an appropriateness tailored to the questions and scale of the EIR content.

Several different pre-developed tools are available to provide these forecasts. These tools, called travel demand models (more simply "models"), are available on a variety of scales, levels of detail and accuracy, and different types of logic. For San Mateo County studies, the San Mateo County Travel Demand Forecasting Model 2001 provides an important source of information about countywide travel. For this EIR, the traffic analysis used key data from the model, and estimated traffic needs based on the background regional traffic from the model, as well as trip distribution patterns and mode choice percentages forecasted for the study area derived from the model.

San Mateo County Travel Demand Forecasting Model 2001

The San Mateo County Travel Demand Forecasting Model 2001 was used for each scenario analyzed. This model is developed and maintained in EMME/2, a specialty software designed to produce travel forecasts. EMME/2 contains a battery of programs that are available in order to generate traffic forecasts.

The logic in the San Mateo County Travel Demand Forecasting Model 2001 uses the MTC FCAST model as its base structure, and has been further enhanced in a number of areas. In particular, the transit mode choice component has been expanded to allow for trade-offs of feeder bus, walk and drive to transit to be considered, as well as tradeoffs between SamTrans, BART and Caltrain in certain corridors. The model also has a special

generator component for SFO air travelers – separating business and non-business, resident and non-resident and each arrival mode of parking, drop off, shuttle vans and fixed route transit. A custom set of programs provides countywide forecasts.

The basic block of forecasting is the traffic analysis zones (TAZs). These areas are small districts that vary in size from one block to a few square miles depending on the land uses within the TAZ. In the San Mateo County Travel Demand Forecasting Model 2001, there are 290 TAZs in the county.

Although the Proposed General Plan is assumed to achieve buildout in 2025, the traffic analysis uses a horizon year of 2020, which is the San Mateo County travel model forecast year. This methodology is standard for EIR traffic analyses in the region. The model forecasts weekday PM peak-hour traffic for a horizon year of 2020 with traffic generated by land uses designated in the General Plan Land Use/Transportation Diagram and as predicted by the Association of Bay Area Governments (ABAG) *Projections 2000*. Traffic is assigned to a 2020 transportation system network, reflecting major network improvements programmed for 2020.

The model process contains several steps, which are standard in many travel forecasting models. In the order in which they occur in this model, these steps are trip generation, trip distribution, transit mode choice reduction and traffic assignment.

Trip Generation - This first step is when the total number of trips are estimated as productions and attractions. Productions are defined as home-ends of trips, except for non-home-based trips when productions are simply origins. Attractions are defined as non-home-ends of trips, except for non-home-based trips when productions are simply destinations. The ITE Trip Generation Manual (6th Edition, 1997) was used to calculate trip generation for the four alternatives. The trips that would be generated from the site were determined for the following time periods:

- AM peak hour for an average weekday,
- PM peak hour for an average weekday, and
- Daily trips for an average weekday

Table 3.4-8 contains data on the trip generation for the proposed project.

Table 3.4-8 Trip Generation Summary

Land Use	*Average Rate*				*Proposed General Plan*		
	Type[1]	Daily	AM	PM	Daily	AM	PM
Industrial	130	6.96	0.82	0.86	-	-	-
Low Density Residential	210	9.57	0.77	1.02	2,724	264	310
Medium Density Residential	230	5.86	0.44	0.52	741	56	65
Park/Open Space	412	2.28	0.52	0.59	-	-	-
Regional Community/Office	710	11.01	1.55	1.49	-	-	-
Neighborhood/ Community Commercial	814	44.32	6.84	5.02	68,531	10,579	7,759
High Residential	220	6.72	0.55	0.67	2,422	180	223
Total	**-**	**-**	**-**	**-**	**74,418**	**11,079**	**8,358**

[1] Land use code from the ITE Trip Generation Manual, 7th Edition

Source: DKS Associates, 2008

Trip Distribution - This step creates a trip table, based on the production and attraction totals from trip generation. The productions and attractions become the row and column totals for these tables.

Traffic Assignment - The last step in the development of traffic forecasts is the assignment of those forecasts to a roadway network. This network contains information about the speeds and capacities (based on facility type, amount of green time at intersections and number of lanes) of each link in the system. A typical link is relatively short, with most links in the study area varying between one and six blocks.

Future Intersection Turning Movements

The EMME/2 model outputs results in many formats. The format typically used for further analysis is an approach and departure link volume format. This format consists of the approach (heading toward an intersection) and departure (heading away from an intersection) volumes for every roadway segment in the network. EMME/2 results will not accurately reflect intersection turning movement volumes, and therefore transportation analyses typically post process the approach and departure information.

For this purpose, post processing uses existing intersection turning movement counts and projected link volumes to develop future turning movements at study intersections. A model does not typically include all minor streets in a given city. The average growth rate derived from the comparison between the 2000 and 2020 model volumes was applied to the existing intersection volumes for each of the study intersections listed in Table 3.4-3.

Future Intersection Level of Service

Intersection operations were evaluated using the *Circular 212* and *HCM 1994* methodologies with future traffic volumes and anticipated future lane geometries. The level of service results for the Proposed General Plan are summarized in Table 3.4-9. A detailed analysis of each intersection is provided in Attachment A, which is available at City of San Bruno offices.

Under the projected buildout of the Proposed General Plan, eight study intersections are anticipated to operate at LOS F in the AM peak hour. Three intersections are anticipated to operate at LOS E and eight at LOS F in the PM peak hour.

Table 3.4-9 Future Condition 2030 Level of Service Summary

		No Project AM		No Project PM		Proposed Project AM		Proposed Project PM	
	Intersection	LOS[1]	Critical V/C	LOS[1]	Critical V/C	LOS[1]	Critical V/C	LOS[1]	Critical V/C
#1	El Camino Real and EB I-380	A	0.34	A	0.44	A	0.36	A	0.46
#2	El Camino Real / San Bruno Ave	A	0.51	C	0.73	A	0.54	B	0.68
#3	El Camino Real/San Mateo/Taylor	A	0.34	A	0.45	A	0.37	A	0.46
#4	Sneath Lane / El Camino Real	B	0.61	B	0.64	C	0.71	C	0.75
#5	I-380 WB and El Camino	A	0.57	B	0.68	B	0.61	C	0.71
#6	Huntington Ave/Angus Ave[2]	B	--	B	--	B	--	B	--
#7	Huntington Ave / San Bruno Ave	A	0.20	A	0.34	A	0.31	A	0.38
#8	**San Mateo Ave/Huntington Ave[2]**	**B**	**--**	**C**	**--**	**D**	**--**	**E (D)**	**--**
#9	Sneath Ln/Huntington Ave	A	0.22	A	0.46	A	0.26	A	0.49
#10	San Bruno and 3rd Ave	A	0.43	A	0.49	C	0.74	B	0.68
#11	Cherry Ave and San Bruno Ave	A	0.45	B	0.63	A	0.40	A	0.50
#12	Cherry Ave and Sneath Ln	A	0.40	A	0.42	A	0.49	A	0.49
#13	**El Camino Real/Noor Ave[2]**	**C**	**--**	**F**	**--**	**C**	**--**	**F (A)**	**--**
#14	El Camino Real/San Felipe Ave	A	0.38	A	0.43	A	0.40	A	0.43
#15	San Bruno Ave/I-280 NB Ramps	A	0.33	A	0.49	A	0.27	A	0.47
#16	I-280 NB and Sneath	A	0.44	D	0.84	A	0.60	C	0.77
#17	San Bruno and US 101 NB	A	0.39	A	0.57	A	0.45	B	0.63
#18	San Bruno Ave/San Mateo Ave	A	0.24	A	0.33	A	0.33	A	0.37
#19	**Skyline Blvd and San Bruno Ave**	**E**	**0.97**	**F**	**1.01**	**E (C)**	**0.97**	**D**	**0.85**
#20	**Skyline Blvd and College Drive/Berkshire Dr**	**D**	**0.84**	**A**	**0.57**	**F (C)**	**1.14**	**B**	**0.65**
#21	**Skyline Blvd and Westborough Blvd/Sharp Park Rd**	**E**	**0.95**	**C**	**0.76**	**E (D)**	**0.99**	**C**	**0.79**
#22	Skyline Blvd and Sneath Lane	B	0.65	D	0.87	D	0.89	F (D)	1.10
#23	San Bruno Ave and I-280 SB	A	0.42	A	0.32	A	0.24	A	0.23
#24	I-280 SB and Sneath	B	0.61	A	0.57	C	0.76	D	0.85
#25	San Bruno and US 101 SB	A	0.43	C	0.73	A	0.52	D	0.83
#26	Sneath Lane and Commodore Dr.	A	0.31	A	0.40	A	0.37	A	0.46
#27	Pacific Heights and Sharp Park Rd	B	0.63	A	0.43	B	0.63	A	0.49
#28	**Sneath and Sequoia Ave[2]**	**C**	**--**	**C**	**--**	**E (C)**	**--**	**F (C)**	**--**
#29	I-280 and Cummingham [2]	C	--	C	--	C	--	C	--

Bold indicates deficient intersection requiring improvement; ( ) indicates LOS with GP improvement

[1] LOS is Level of Service

[2] Unsignalized intersections; LOS based on delay, not V/C

Source: DKS Associates, 2008

Future Freeway Level of Service

Anticipated traffic volumes on freeway segments for the proposed project were based upon the manual addition of proposed project traffic to the No Project condition freeway volumes.[1] The capacity of freeway segments was calculated based on the number of travel lanes and the travel lane capacities contained within the travel demand model. Table 3.4-10 illustrates the 2020 proposed project freeway analysis results for the AM and PM peak hours.

Table 3.4-10 Freeway Segment Level of Service Summary

		2030 No Project				*Projected Buildout of General Plan Land Use*			
		AM		*PM*		*AM*		*PM*	
	Highway Link	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*	*LOS*
US 101 (South to North)	SR 92 / 3rd Avenue	1.24	F	1.30	F	1.25	F	1.31	F
	3rd Avenue / Peninsula Avenue	1.42	F	1.44	F	1.43	F	1.45	F
	Peninsula Avenue / Broadway	1.36	F	1.38	F	1.37	F	1.39	F
	Broadway / Millbrae	1.33	F	1.36	F	1.34	F	1.37	F
	Millbrae / SFIA	1.28	F	1.26	F	1.29	F	1.27	F
	SFIA / I-380	1.27	F	1.40	F	1.29	F	1.41	F
	I-380 / Grand Avenue	1.24	F	1.32	F	1.26	F	1.33	F
	Oyster Pt / 3Com Park	1.16	F	1.22	F	1.18	F	1.23	F
I-280 (South to North)	Bunker Hill / Hayne Road	1.24	F	1.39	F	1.25	F	1.43	F
	Hayne / Trousdale	1.36	F	1.50	F	1.37	F	1.53	F
	Trousdale / Hillcrest	1.30	F	1.41	F	1.32	F	1.44	F
	Hillcrest / Larkspur	1.23	F	1.36	F	1.25	F	1.40	F
	Larkspur / Crystal Springs	1.31	F	1.46	F	1.33	F	1.51	F
	Crystal Springs / San Bruno Avenue	0.98	F	1.01	F	1.00	F	1.06	F
	Sneath / Westborough	1.28	F	1.33	F	1.28	F	1.33	F
	Westborough / Hickey	1.05	F	1.17	F	1.07	F	1.19	F
	Hickey / Serramonte	1.09	F	1.15	F	1.11	F	1.17	F
	Serramonte / SR1	1.12	F	1.13	F	1.13	F	1.15	F
I-380 (West to East)	I-280 / El Camino Real	0.69	D	0.80	E	0.69	D	0.80	E
	El Camino Real / US 101	0.83	E	0.95	F	0.84	E	0.95	F

Source: DKS Associates, 2008

[1] Future traffic projections for the No Project Alternative were obtained from the San Mateo County Travel Demand Forecasting Model 2001.

3.4-A New development under the General Plan would cause significant increases in traffic volumes through key intersections and roadway segments in San Bruno. (Less than Significant Impact)

Seven intersections would operate at LOS E or F in the future condition without improvements. The intersection improvements provided in General Plan Policy T-7 reflect the latest traffic forecasts and are shown in the table in that policy. All intersections that operate at LOS E or LOS F under the General Plan Buildout Condition are included for improvement. With the implementation of these intersection improvements, all intersection LOS would be D or better in the future condition, and thus the impact would be reduced to a less-than-significant level. Those intersections that are on State routes would require coordination with Caltrans as part of implementation.

Applicable General Plan Policies:

T-6 Maintain LOS standards for intersections for AM and PM peak periods as shown in Figure 4-2.

T-7 Undertake improvements to intersections as shown in the table below and in Figure 4-7 to ensure their operation at the LOS shown in Figure 4-2 of the Proposed General Plan. Determine cost for these improvements and establish an impact fee program to assess improvement costs to new development, proportionate to the impacts created by such development.

Intersection Improvements

	Intersection	*Condition - Peak Hour*	*Improvement*
A	San Mateo Ave/Huntington Ave	GP Buildout – PM	Within the existing right-of-way, restripe the southbound Huntington Avenue approach from one left/through/right lane to one left turn lane and one through/right lane. This recommended improvement would result in a delay of 9.3 seconds and a LOS D for the General Plan Buildout Condition PM peak hour. No right-of-way acquisition or utility relocation would be anticipated.
B	El Camino Real/Noor Ave	No Project - PM GP Buildout – PM	The southbound El Camino Real left turn onto Noor Avenue is the critical movement at this intersection. Converting the intersection from a one-way stop controlled to a signalized intersection would result in a V/C ratio of 0.56 and a LOS A for the General Plan Buildout Condition PM peak hour. The peak hour signal warrant is satisfied under both Conditions. No right-way acquisition would be anticipated. A new signal may require movement of utilities and street furniture, and would require restriping the intersection.
C	Skyline Blvd and San Bruno Ave	No Project - AM/PM GP Buildout – AM	With restriping and minor right-of-way additions, the northbound Skyline Boulevard approach could be converted from one through lane and one right turn lane to one through lane and one through/right lane. The southbound Skyline Boulevard approach could be converted from one through lane and one left turn lane to two through lanes and one left turn lane. This improvement would result in a maximum V/C ratio of 0.79 and a LOS C. The northbound reconfiguration would require additional right-of-way to accommodate two receiving lanes, which could taper to one lane downstream of the intersection. The southbound reconfiguration would require additional right of way to accommodate the additional through lane and for two receiving lanes downstream. The two southbound receiving lanes could taper to one lane downstream.
D	Skyline Blvd and College Drive/Berkshire Dr	GP Buildout – AM	With additional right-of-way and restriping, add one left turn lane to the northbound Skyline Boulevard approach for a total of two, and add one through lane to the southbound Skyline Boulevard approach, for a total of three. This improvement would result in a V/C ratio of 0.76 and a LOS C. Additional right-of-way, utility relocation, and movement of traffic signals and other street furniture would be required to implement this improvement.
E	Skyline Blvd and Westborough Blvd/Sharp Park Rd	No Project - AM GP Buildout – AM	With additional right-of-way and restriping, add one through lane to the southbound Skyline Boulevard approach for a total of three. This improvement would result in a maximum V/C ratio of 0.86 and a LOS D. Additional right-of-way and traffic signal relocation would be required to accommodate the extra through lane and extra receiving lane downstream.
F	Skyline Blvd and Sneath Lane	GP Buildout – PM	Convert the eastbound and westbound approaches from split phasing to permitted control. This improvement would result in a V/C ratio of 0.84 and a LOS D. No additional right-of-way or utility relocation would be required.
G	Sneath and Sequoia Ave	GP Buildout - AM/PM	Covert the intersection from a three-way stop control to a permitted or protected signalized control. This improvement would result in a maximum V/C ratio of 0.76 and a LOS C. Restriping and installation of traffic signal hardware would be required to implement this improvement. No additional right-of-way would be required.

Source: DKS Associates, 2008

T-8 Support widening of Skyline Boulevard between Sneath Lane and I-280 to alleviate traffic congestion problems, if concerns regarding sensitive natural resources can be mitigated. Preserve the mature trees in the area, if feasible.

T-10 Improve signage and access at the intersection of San Mateo Avenue, Taylor Avenue, and El Camino Real.

T-17 Synchronize traffic signals between El Camino Real, Sneath Lane, Huntington Avenue, and San Bruno Avenue, to improve traffic flows into and out of the San Bruno/Tanforan BART Station.

T-20 Study the potential benefit of implementing High Occupancy Vehcile (HOV) and carpool lane along major arterials.

T-21 Consider investment in Intelligent Transportation System (ITS) to enhance efficiency of existing network, potential ITS strategies includes:

- Roadway monitoring system (cameras, centralized traffic control center)
- Enhance travel information (variable message signs at major intersections)
- Incidence Response Plan
- Adaptive Traffic Signal Timing along major arterials

T-22 Apply turning restrictions to major arterials during peak hours to improve general traffic flow.

T-23 Implement Parking Guidance System to guide motorists to parking locations in commercial areas.

T-24 Implement targeted reinforcement program to eliminate double parking in downtown and along San Bruno Ave and El Camino Real.

Mitigation

None required.

3.4-B Increases in traffic on CMP roadway segments due to Proposed General Plan land uses would not exceed the level of service standard established by San Mateo County's Congestion Management Program. (Less than Significant Impact)

The CMP establishes LOS standards for freeway segments as listed in Table 3.4-10, in addition to El Camino Real (Route 82), Skyline Boulevard (Route 35), state routes 1, 84, 92, 109, 114, and portions of Mission Street, Geneva Avenue, and Bayshore Boulevard. The Proposed General Plan conditions are anticipated to add peak hour traffic to freeway segments within San Mateo County. However, it is important to note that the LOS results for the Proposed General Plan conditions are identical to those for the No Project Alternative. The Proposed General Plan would add no more than 0.01 to the volume-to-capacity ratio of freeway segments within the study area, compared to the No Project scenario. The Plan would not be expected to cause a freeway segment in conformance with CMP policy in the No Project condition to violate the CMP policy in the project condition. The proposed project is expected to add freeway trips to segments anticipated to operate below CMP level of service standards in 2020. Because these segments will operate below CMP standards without the Proposed General Plan, the proposed project would not constitute a significant impact per CMP freeway segment level of service standards. This is also the case for El Camino Real, where the CMP establishes

a standard of LOS E for its entire stretch. Future conditions within San Bruno are projected to be LOS F in some locations (see Table 3.4-9), but would occur regardless of the Plan and is therefore not a significant impact.

Applicable General Plan Policies:

Policy T-7 listed above reduces this impact to a level that is less than significant.

Mitigation

None required.

3.4-C Project development may generate increased demands for on- and off-street parking. (Less than Significant Impact)

Project developments under the General Plan would continue to be subject to City of San Bruno site design review and would need to be designed for adequate parking circulation and access. Each project development would be required to assess parking impacts for that site. The parking demand increases due to the General Plan are not expected to cause significant adverse impacts on parking. It is anticipated that all of the project developments would be required to provide a supply of on-site parking that meets the City of San Bruno parking requirements.

Applicable General Plan Policies:

The following proposed policies would ensure avoidance of adverse impacts.

T-34 Comprehensively review and revise parking standards for new office and commercial development providing alternative transportation measures (i.e., vanpool, shuttle service, bicycle storage).

T-35 Conduct a parking study to determine potential deficiencies at parks and public facilities. Recommend parking solutions.

T-36 Enforce on-street and off-street parking restrictions, particularly of motor homes, trailers, boats, and non-operating vehicles, and in residential areas near major transit facilities.

T-37 Require provisions and marking of handicapped parking spaces in conformance with California Vehicle Code to allow enforcement by public agencies or private interests.

T-38 Study the possibility of providing public parking facilities for commercial and industrial areas. Designate general areas where parking lots are needed; purchase site(s) if possible when land uses change to avoid displacement of occupants. Consider the use of assessment districts to fund land acquisition.

T-39 Encourage parking lot access from non-residential side streets in order to minimize interruption to traffic flow on primary streets (San Bruno Avenue east of El Camino Real and along El Camino Real).

T-40 Consider reduced parking standards within transit corridors and station areas in recognition of their proximity to high frequency transit service, mix of land uses, and walkable environment.

T-41 Allow joint use of parking facilities when nearby uses have staggered peak periods of demand.

T-42 Do not allow parking lots to dominate the frontage of mixed-use streets, interrupt pedestrian routes, or negatively impact surrounding neighborhoods.

Mitigation

None required.

3.5 AIR QUALITY AND GREENHOUSE GASES

INTRODUCTION

This section addresses issues related to three principal categories of air pollutants: criteria air pollutants, toxic air contaminants, and greenhouse gases (GHGs). Criteria air pollutants are those pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. Toxic air contaminants are those pollutants that are associated with carcinogenic and other adverse health effects, but occur at relatively low concentrations and have no established ambient air quality standards. Instead, emissions are evaluated to determine the degree to which they may increase health risks. GHGs are those gases that trap heat in the Earth's atmosphere and thus contribute to global climate change.

ENVIRONMENTAL SETTING

The setting provides an overview of the climate and topography of the project area followed by an overview of the regulatory setting; plans, policies, and regulations; and existing air quality conditions. Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions, and of topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, and consequently affect air quality. The City of San Bruno is located in San Mateo County within the San Francisco Bay Area Air Basin (Bay Area). The Bay Area Air Basin encompasses the nine-county region including all of Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin and Napa Counties, and the southern portions of Solano and Sonoma Counties.

Climate and Meteorology

The Bay Area's climate, as with all California coastal environs, is dominated by the strength and position of the semi-permanent high-pressure center over the Pacific Ocean. It creates cool summers, mild winters, and infrequent rainfall; it drives the cool daytime sea breeze and maintains comfortable humidity levels and ample sunshine. The climate is Mediterranean in character, with mild, rainy winter weather from November through March, and warm, dry weather from June through September. During the summer, dry and subsiding air, associated with high-pressure off the California coast, acts as a cap over the cooler marine air near the surface. These subsidence inversions often persist for several days due to their thickness and strength. During the winter, when the Pacific high-pressure system has retreated southward, subsidence inversions are less common and less persistent than during the summer. During the winter, however, surface inversions caused by radiant cooling of land surface rather than subsiding air are much more frequent than during the rest of the year. Surface inversions typically develop overnight and, while severely restricting vertical dispersion of emissions released at ground level, generally dissipate by afternoon.

San Bruno lies in the northern portion of the Bay Area's peninsula climatological subregion. The peninsula subregion extends from northwest San Jose to the Golden Gate. The Santa Cruz Mountains extend up the center of the peninsula, with elevations ranging from 500 feet to 2,000 feet. The largest gap in the Santa Cruz Mountains is the San Bruno Gap, which extends from Fort Funston on the Pacific Ocean to San Francisco Airport on the Bay. Because the gap is oriented in the same northwest-to-southwest direction as the prevailing winds, and because elevations in the gap are below 200 feet, marine air flows through the gap in the direction of the Bay.

The City of San Bruno hosts several distinct microclimates due to its topography. Temperatures are strongly influenced by the Pacific Ocean, San Francisco Bay, and the Santa Cruz Mountains. This combination of

features results in a variety of microclimates, with hill and ridgetop areas experiencing different temperatures and precipitation patterns compared to the valley floor. Prevailing winds are north-northwest at approximately 10.5 miles per hour. On average, San Bruno temperatures range from 50 to 80 degrees Fahrenheit in the summer and 36 to 65 degrees Fahrenheit in the winter (City of San Bruno, 1999). The average annual rainfall for the city is approximately 19.71 inches (City of San Bruno, 2003).

Within the peninsula subregion, air pollution potential is highest along the southeastern portions (i.e., in the Redwood City vicinity), which is the area that is most protected from the high winds and fog of the marine layer and that receives the most pollution transported from upwind urban areas. At the northern end of the peninsula, such as the San Bruno area, pollutant emissions are high, especially from motor vehicle congestion, but winds are generally strong enough to carry the pollutants away from where they can accumulate (BAAQMD, 1999).

Regulatory Context

Criteria Air Pollutant Standards

The federal Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to establish national standards for the "criteria air pollutants," which include: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter (PM-10 and PM-2.5), and lead. California has adopted more stringent air quality standards, as well as standards for additional pollutants. Because of the unique meteorological conditions and associated air quality problems in California, there is considerable diversity between state and federal standards currently in effect in California, as shown in Table 3.5-1. Table 3.5-1 also provides a brief discussion of the related health effects and principal sources for each pollutant.

The ambient air quality standards incorporate a margin of safety and are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, such as asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

Federal and California Clean Air acts also require that air basins or portions thereof, be classified as either "attainment" or "nonattainment" for criteria air pollutants, based on whether or not the relevant standards have been achieved. Table 3.5-2 shows the attainment status of the Bay Area with respect to state and national ambient air quality standards. Attainment issues are discussed in the section on plans, policies, and regulations.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are air pollutants with short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects. The current list of toxic air contaminants 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 was added in 1998. According to the Bay Area Air Quality Management District (BAAQMD), the local agency with governing air quality issues in the Bay Area, diesel exhaust emissions are the TAC responsible for most excess cancer deaths in the Bay Area. Other TAC sources include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and some agricultural activities.

Table 3.5-1: State and National Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	*Averaging Time*	*State Standard*	*National Standard*	*Pollutant Health and Atmospheric Effects*	*Major Pollutant Sources*
Ozone	1 hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_x) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm	0.08 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide	1 hour	0.18 ppm	---	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Arithmetic Mean	---	0.053 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	---	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Arithmetic Mean	---	0.03 ppm		
Respirable Particulate Matter (PM-10)	24 hours	50 $\mu g/m^3$	150 $\mu g/m^3$	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
	Annual Geometric Mean	20 $\mu g/m^3$	---		
	Annual Arithmetic Mean	---	50 $\mu g/m^3$		
Fine Particulate Matter (PM-2.5)	24 hours	---	35 ug/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics.
	Annual Arithmetic Mean	12 $\mu g/m^3$	15 $\mu g/m^3$		
Lead	Monthly	1.5 $\mu g/m^3$	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurologic dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 $\mu g/m^3$		

Note: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

Source: California Air Resources Board, Available at http://www.arb.ca.gov/aqs/aaqs2.pdf, November, 2006.

Table 3.5-2: Attainment Status of the Bay Area for the State and National Ambient Air Quality Standards

Pollutant	*Averaging Time*	*State Standards*[1] *Attainment Status*	*National Standards*[2] *Attainment Status*
Ozone	1-Hour	Nonattainment	--[3]
	8-Hour	Nonattainment	Nonattainment
Carbon Monoxide	1-Hour	Attainment	Attainment
	8-Hour	Attainment	Attainment
Nitrogen Dioxide	Annual Average	--	Attainment
	1-Hour	Attainment	--
Sulfur Dioxide	Annual Average	--	Attainment
	24-Hour	Attainment	Attainment
	1-Hour	Attainment	--
Respirable Particulate Matter	24-Hour	Nonattainment	Unclassified
(PM-10)	Annual Arithmetic Mean	Nonattainment	--
	24-Hour	--	Unclassified
Fine Particulate Matter (PM-2.5)	Annual Arithmetic Mean	Nonattainment	Attainment
Lead	Calendar Quarter	--	Attainment
	30 Day Average	Attainment	--

[1] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and PM-10 are values that are not to be exceeded.

[2] National standards other than for ozone and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year.

[3] The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005.

Source: Bay Area Air Quality Management District website, January 2007.
http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.htm

Unlike regulations concerning criteria air pollutants, there are no ambient air quality standards for evaluation of TACs based on the amount of emissions. Instead, TAC emissions are evaluated based on the degree of health risk that could result from exposure to these pollutants. Regulation of toxic air contaminants is achieved through federal and state controls on individual sources.[1]

TACs have been regulated under federal air quality law since the 1977 federal Clean Air Act Amendments. The most recent federal Clean Air Act Amendments (1990) reflect a technology-based approach for reducing TACs. The first phase involves requiring facilities to install Maximum Achievable Control Technology (MACT). The MACT standards vary depending on the type of emitting source. U.S. EPA has established MACT standards for over 20 facilities or activities, such as perchloroethylene dry cleaning and petroleum refineries. The second phase of control involves determining the residual health risk represented by air toxics emissions sources after implementation of MACT standards.

Two principal laws provide the foundation for state regulation of TACs from stationary sources. In 1983, the State Legislature adopted Assembly Bill 1807, which established a process for identifying TACs and provided the authority for developing retrofit air toxics control measures on a statewide basis. Air toxics from stationary

[1] Federal environmental laws refer to "hazardous air pollutants," while California environmental laws refer to "toxic air contaminants." Both of these terms basically encompass the same constituent toxic compounds.

sources in California are also regulated under Assembly Bill 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under Assembly Bill 2588, TAC emissions from individual facilities are quantified and prioritized by the regional air quality management district or county air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are violated, they are required to communicate the results to the public in the form of notices and public meetings. Depending on the risk level, emitting facilities can be required to implement varying levels of risk reduction measures.

Locally, the BAAQMD administers the Bay Area's Toxic Air Contaminant Control Program, which is intended to reduce public exposure to TACs from stationary sources in the Bay Area. BAAQMD is currently working to control TAC impacts at local "hot spots" and to reduce TAC background concentrations. The control strategy involves reviewing new stationary sources to ensure compliance with required emissions controls and limits, maintaining an inventory of existing stationary sources of TACs, and developing new rules and regulations to reduce TAC emissions.

Regulation of TACs from mobile sources has traditionally been implemented through emissions standards for on-road motor vehicles (imposed on vehicle manufacturers) and through specifications for gasoline and diesel fuel sold in California (imposed on fuel refineries and retailers), rather than through land use decisions, air quality permits, or regulations addressing how motor vehicles are used by the general public.

Regulatory Agencies

The U.S. EPA is responsible for implementing the myriad programs established under the federal Clean Air Act, such as establishing and reviewing the national ambient air quality standards and judging the adequacy of State Implementation Plans, but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented. California Air Resources Board (CARB), the state's air quality management agency, is responsible for establishing and reviewing the state ambient air quality standards, compiling the California SIP and securing approval of that plan from U.S. EPA, and identifying TACs. 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. The county or regional air quality management districts are primarily responsible for regulating stationary emissions sources at industrial and commercial facilities within their geographic areas and for preparing the air quality plans that are required under the federal Clean Air Act and California Clean Air Act. The BAAQMD is the regional agency with regulatory authority over stationary sources in the Bay Area. The BAAQMD also has the primary responsibility to meet and maintain the state and federal ambient air quality standards in the Bay Area.

Plans, Policies and Regulations

Bay Area Air Quality Plans

As shown in Table 3.5-2, the Bay Area Air Basin is currently designated nonattainment for state and federal ozone standards, though ozone levels measured at monitoring stations in the northern San Francisco peninsula do not exceed either standard. However, since emissions from San Bruno and the peninsula in general do contribute to regional ozone problems further downwind, ozone and ozone precursors such as reactive organic compounds and oxides of nitrogen are the pollutants of greatest concern in the Bay Area. The Bay Area also is designated as nonattainment for the state PM-10 and PM-2.5 standards. The Bay Area is designated as either attainment or unclassified with respect to all other pollutants.

Nonattainment areas are required to prepare air quality plans that include strategies for achieving attainment, and maintenance plans are required for attainment areas that had previously been designated nonattainment in order to ensure the continued maintenance of the standards. Air quality plans developed to meet federal requirements from Districts all over the State, together form the State Implementation Plan (SIP). Air Quality plans are required to address all nonattainment issues except the state PM-10 standard.

The Bay Area Air Quality Management District (Air District or BAAQMD), in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG), has prepared the Bay Area 2005 Ozone Strategy. The Ozone Strategy is a roadmap showing how the San Francisco Bay Area will achieve compliance with the State one-hour air quality standard for ozone as expeditiously as practicable and how the region will reduce transport of ozone and ozone precursors to neighboring air basins.

As required by state and federal laws, there are two plans for the Bay Area Air Basin developed in part by BAAQMD to meet federal and state air quality planning. They are:

- *Ozone Attainment Plan for the 1-Hour National Ozone Standard* (ABAG, 2001) developed to meet federal ozone air quality planning requirements;
- *Bay Area 2005 Ozone Strategy* (BAAQMD, 2006), developed to meet planning requirements related to the State one-hour ozone standard.

BAAQMD Rules and Regulations

BAAQMD exercises permit authority through its *Rules and Regulations*. Both federal and state ozone plans rely heavily upon stationary source control measures set forth in BAAQMD's *Rules and Regulations.*

Existing Air Quality

Criteria Air Pollutants

The BAAQMD operates a regional monitoring network that measures the ambient concentrations of the six criteria pollutants. Existing and probable future levels of air quality in San Bruno can generally be inferred from ambient air quality measurements conducted by the BAAQMD at its monitoring stations. However, there are no BAAQMD monitoring stations within San Bruno. The nearest station is located on Arkansas Street in San Francisco, roughly nine miles north of San Bruno. The next closest station to San Bruno is located in Redwood City roughly 13 miles south of San Bruno. Table 3.5-3 shows a five-year summary of monitoring data for ozone, carbon monoxide, PM-10 and PM-2.5 from the Arkansas Street station. Table 3.5-3 also compares measured pollutant concentrations with state and national ambient air quality standards.

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 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 the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

Based on the data shown in Table 3.5-3, there have been no exceedances of the state or national ozone standard in the project vicinity over the past five years. However, because ozone is a regional pollutant and precursors can travel long distances before they react to form ozone, emissions of ROG and NO_x would probably contribute to regional ozone levels as they are transported inland (wind generally blows from the coast toward inland valleys in summer). The regional monitoring network has recorded exceedances of the State ozone standard on an average of approximately 13 days per year over the past five years, with 2003 being the worst year at 19 exceedances, and 2004 being the best year with only seven exceedances throughout the Bay Area. Bay Area counties experience most ozone exceedances during the period from April through October. Coastal monitoring stations, such as those in San Francisco, Oakland, and San Rafael, record the fewest exceedances, while inland valley stations, such as those in Livermore, Concord, and Gilroy, record the most violations. Exceedances of national one-hour and national eight-hour ozone standards in the Bay Area occur less frequently: on approximately 0 and 7 days per year, respectively. On-road motor vehicles emit approximately 43-percent and 55-percent of the regional inventory of ROG and NO_x, respectively that contribute to ozone formation (CARB, 2002). Region-wide, ROG and NO_x emissions are expected to decrease by approximately 26- and 28-percent respectively from 2001 to 2010 (CARB, 2002).

Carbon Monoxide

Carbon monoxide is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High carbon monoxide concentrations develop primarily during winter when periods of light winds 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 carbon monoxide emission rates at low air temperatures. When inhaled at high concentrations, carbon monoxide 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.

Table 3.5-3 shows that exceedances of ambient carbon monoxide standards have not occurred at the Arkansas Street station in the last five years. Based on BAAQMD carbon monoxide isopleth maps, background carbon monoxide concentrations in San Bruno in the 1990's were approximately 6 parts per million for one-hour average and 3 parts per million for eight-hour averages (BAAQMD, 1999), these levels are now probably much lower based on the measurements shown in Table 3.5-3. On-road motor vehicles are responsible for approximately 77-percent of the carbon monoxide emitted within San Mateo County (CARB, 2002). Carbon monoxide emissions are expected to decrease within the County by approximately 38-percent between 2001 and 2010 due to attrition of older, high polluting vehicles, improvements in the overall automobile fleet, and improved fuel mixtures.

Particulate Matter (PM-10 and PM-2.5)

PM-10 and PM-2.5 consist of particulate matter that is 10 microns (a micron is one-millionth of a meter) or less in diameter and 2.5 microns or less in diameter, respectively. PM-10 and PM-2.5 represent fractions of particulate matter that can be inhaled 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 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 can also damage materials and reduce visibility.

Based on the data in Table 3.5-3, PM-10 concentrations measured in the project vicinity show that more violations of the state 24-hour-average standard occurred in 2001 than any year after 2001. The primary sources of PM-10 in the Bay Area are construction and demolition activities, combustion of fuels for heating, industrial emissions, and vehicle travel over paved roads (BAAQMD, 1999). In general, particulate levels are relatively low near the coast, increase with distance from the coast, and peak in dry, sheltered valleys. Direct PM-10 emissions in San Mateo County are expected to increase by approximately 10-percent between 2001 and 2010. This increase is primarily from area-wide sources such as construction and demolition, paved and unpaved road dust and other miscellaneous sources.

Table 3.5-3: Air Quality Data Summary (2001-2006) for the Project Area

		Monitoring Data by Year [a]					
Pollutant	*Standard* [b]	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*
Ozone:							
State Highest 1 Hour Average (ppm) [c]		0.08	0.05	0.09	0.09	0.06	0.05
Days over State Standard [b]	0.09	0	0	0	0	0	0
State Highest 8 Hour Average (ppm) [c]	0.08	0.05	0.05	0.06	0.06	0.05	0.05
Days over National Standard [b]		0	0	0	0	0	0
Carbon Monoxide:							
State Highest 8 Hour Average (ppm) [c]	9.0	3.3	2.6	2.8	2.2	2.1	2.1
Days over State and National Standard [b]		0	0	0	0	0	0
Particulate Matter (PM-10):							
State Highest 24 Hour Average ($\mu g/m^3$) [c]	50[d]	67.4	49.7	51.7	51.8	46.4	61.4
Days over State Standard [b]		42	0	6	6	0	17
Annual Average ($\mu g/m^3$) [c]	20[d]	22	20	23	23	20	23
Particulate Matter (PM-2.5)							
State Highest 24 Hour Average ($\mu g/m^3$) [c]	35[e]	76.6	70.2	41.6	54.9	44.2	54.3
Days over National Standard [b]		2	4	0	0	0	NA
State Annual Average ($\mu g/m^3$) [c]	15[f]	11.5	13.1	10.2	11.2	9.5	8.7

[a] Data are from the Arkansas Street station in San Francisco.
[b] Generally, state standards are not to be exceeded and national standards are not to be exceeded more than once per year. See Table 3.5-1 for a complete listing of state and national standards.
[c] ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
[d] State standard
[e] U.S. EPA lowered the 24-hour PM-2.5 standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006; the averages from 2003-2005 did not exceed the standard that was in place at that time.
[f] National standard

Note: Values underlined are in excess of applicable standard. NA = Not Available

Source: California Air Resources Board, Summaries of Air Quality Data, 2001, 2002, 2003, 2004, 2005, 2006; http://www.arb.ca.gov/adam.

Air Quality Trends

In general, the Bay Area's air quality is influenced largely by automobile use. Automobile ownership and use is increasing at a faster rate than population growth; however, the trend toward newer, cleaner vehicles will serve to counteract some of the negative air quality impacts associated with increased vehicle use.

Emissions of ozone precursors have decreased in the Bay Area Air Basin since 1975 and are projected to continue declining through 2010. The Bay Area has a significant motor vehicle population, and the implementation of stricter motor vehicle controls has resulted in significant emissions reductions for NOx and ROG. Stationary source emissions of ROG have declined over the last 20 years due to new controls for oil refinery fugitive emissions and new rules for control of ROG from various industrial coatings and solvent operations.

Direct emissions of PM-10 are increasing slightly in the Bay Area Air Basin due to growth in emissions from area-wide sources, primarily fugitive dust sources. Emissions of directly emitted PM-10 from diesel motor vehicles have been decreasing since 1990 even though population and vehicle miles traveled (VMT) are growing, due to adoption of more stringent emission standards.

Emissions of CO have been declining in the Bay Area over the last 25 years. Motor vehicles and other mobile sources are the largest sources of CO emissions in the air basin. Emissions from motor vehicles have been declining, with the introduction of new automotive emission controls, despite increases in VMT. Oil refineries, manufacturing, and electric generation contribute a significant portion of the stationary source CO emissions.

Toxic Air Contaminants

The ambient background of 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 (BAAQMD, 2000b). 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. None of these stations are located in San Bruno; the closest station is located on Arkansas Street in San Francisco. Generally, ambient concentrations of TACs are similar through the urbanized areas of the Bay Area. BAAQMD estimates that the average lifetime cancer risk from TACs in the Bay Area (based on ambient air quality monitoring data for 2000) is 167 cases of cancer per million residents (down from 303 in 1 million based on 1995 data). Of the pollutants for which monitoring data are available, benzene and 1,3-butadiene (which are emitted primarily from motor vehicles) account for over one half of the average calculated cancer risk (BAAQMD, 2000b). Benzene levels declined dramatically in 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.

There is growing evidence that indicates that exposure to emissions from diesel-fueled engines, about 95-percent of which come from diesel-fueled mobile sources, may result in cancer risks that exceed those attributed to other measured TACs. In 1998, the Office of Environmental Health Hazard Assessment (OEHHA) issued a health risk assessment that included estimates of the cancer potency of diesel particulate matter (PM). Because diesel PM cannot be directly monitored in the ambient air, estimates of cancer risk resulting from diesel PM exposure must be based on concentration estimates made using indirect methods (e.g., derivation from ambient measurements of a surrogate compound). Based on CARB estimates of the population-weighted average ambient diesel PM concentration for the Bay Area in the year 2000, and the best-

estimate cancer potency factor adopted by OEHHA, the average cancer risk associated with exposure to diesel PM is about 450 in one million.

Odors and Nuisances

While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the BAAQMD. Any project with potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact. Odor sources in the Bay Area are also subject to the BAAQMD Regulation 7, which establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds, in addition to the requirements of local nuisance ordinances.

BAAQMD receives citizen complaints regarding air pollutant emissions and maintains a record of these complaints. For San Bruno, there are two facilities that, due to the types of materials they handle, could generate nuisance odors that affect residents of the City. These include the San Bruno Transfer Station, located at 1721 Montgomery Avenue near Tanforan Avenue and the South San Francisco-San Bruno Wastewater Treatment Facility, located off of Belle Air Road in South San Francisco just north of San Francisco International Airport and three-quarters of a mile east of the northeast corner of San Bruno. BAAQMD staff has indicated that no odor complaints have been filed for either facility in the past five years (Walker, 2003).

Sensitive Receptors

Some persons are considered more sensitive than others to air pollutants. The reasons for heightened sensitivity may include health problems, proximity to the emissions source, and duration of exposure to air pollutants. Land uses such as schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because the very young, the elderly, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people are often at home for extended periods. Recreational land uses are moderately sensitive to air pollution because vigorous exercise associated with recreation places a high demand on the human respiratory system. San Bruno contains a variety of land uses scattered throughout the City considered sensitive to air quality, including residences, schools, parks, and convalescent homes.

Greenhouse Gases

Gases that 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. Part of the solar radiation that enters Earth's atmosphere from space is absorbed by the Earth's surface. The Earth reflects this radiation back toward space, but GHGs absorb some of the radiation. As a result, radiation that otherwise would have escaped back into space is retained, resulting in a warming of the atmosphere. Without natural GHGs, the Earth's surface would be about 61°F cooler. (California Climate Action Team, 2006) This phenomenon is known as the greenhouse effect. However, many scientists believe that emissions from human activities, such as electricity generation and vehicles, have elevated the concentration of these GHGs in the atmosphere beyond naturally-occurring concentrations, contributing to a larger process of global climate change.

Common GHGs include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. GHGs have varying potentials to trap heat in the atmosphere, known as global warming potential (GWP), and atmospheric lifetimes. GWP ranges from 1 (carbon dioxide) to 23,900 (sulfur hexafluoride). GHG emissions

with a higher GWP have a greater global warming effect on a molecule per molecule basis. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. (California Climate Action Registry, 2006)

GHG emissions contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. (California Energy Commission (CEC), 2006) Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2004, accounting for more than 40 percent of total GHG emissions. (CEC, 2006) This category was followed by the electric power sector (including both in-state and out-of-state sources) (22 percent) and the industrial sector (21 percent). Out-of-state sources, mostly coal-fired power plants in the Southwest, account for 22 to 32 percent of the total energy used in California but contribute 39 to 57 percent of the GHG emissions associated with electricity consumption. (CEC, 2006)

Sea Level Rise

The melting of polar ice, the expansion of ocean water with higher temperatures, and the resulting overall sea level rise are possible impacts of global climate change. According to the San Francisco Bay Conservation and Development Commission (BCDC), "historical records show that sea level in San Francisco Bay has risen 18-20 cm (7 inches) over the past 150 years. The Intergovernmental Panel on Climate Change and the 2006 California Climate Action Team Report project that mean sea level will rise between 10 and 90 cm (12 and 36 inches) by the year 2100." BCDC maps online depict a scenario for a one-meter (100 cm) rise in sea level possible for the year 2100 (http://www.bcdc.ca.gov/index.php?cat=56). Derivative of the BCDC map, Figure 3.5-1 depicts possible inundation areas in and around San Bruno based on land elevation above current sea level. The lightest color of blue on the map represents land equal or less than 6 inches (.5 feet) above sea level, and therefore the most vulnerable to sea level rise over the next 20 years. The middle shade of blue highlights land between 6 inches and 12 inches (1 foot) above sea level. The darkest shade of blue indicates land between 12 inches and 24 inches (2 feet) above sea level, still within the impact area for sea level rise predicted for 2100.

This map depicts neither a model of actual sea level rise nor a model of storm surge impact, but simply the areas of lowest elevation than would be vulnerable to sea level rise if it were to occur. Though one cannot use this map for planning purposes per se, one may deduce from it that, even under the most aggressive global warming predictions, sea level rise within the life of the proposed General Plan (the next 20-25 years) is not likely to directly impact the City of San Bruno. Furthermore, even in the one-meter rise scenario for the year 2100 (which exceeds even the most aggressive projections), in order for sea level rise to impact San Bruno land it will have to first inundate most of the San Francisco International Airport; a great deal of effort is likely to be spent to protect that facility from sea level rise, consequently, the City of San Bruno will benefit from that protection as well.

Federal Action

In 1990, Congress passed and the President signed Public Law 101-606, the Global Change Research Act. 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 to serve as a clearinghouse of information and to provide interagency Global Change Data and Information System (GCDIS) to high level users.

More recently, 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. The EPA is now doing this.

State Action

The Governor of California signed Executive Order S-3-05 on June 1, 2005. The 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.

AB 1493-Pavley (amendments to the Health and Safety Code sections 42823 and 43018.5, passed in 2002) requires CARB to develop and adopt regulations that reduce GHG emissions from passenger vehicles and light-duty trucks. CARB has estimated that these regulations would reduce GHG emissions from these light-duty vehicles 18 percent by 2020 and 27 percent by 2030. (CARB, 2004)

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act (Health and Safety Code Section 38500 et seq). The Act requires the reduction of statewide GHG emissions to 1990 levels by the year 2020. This change, which is equivalent to a 25 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 the California Air Resource Board (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.

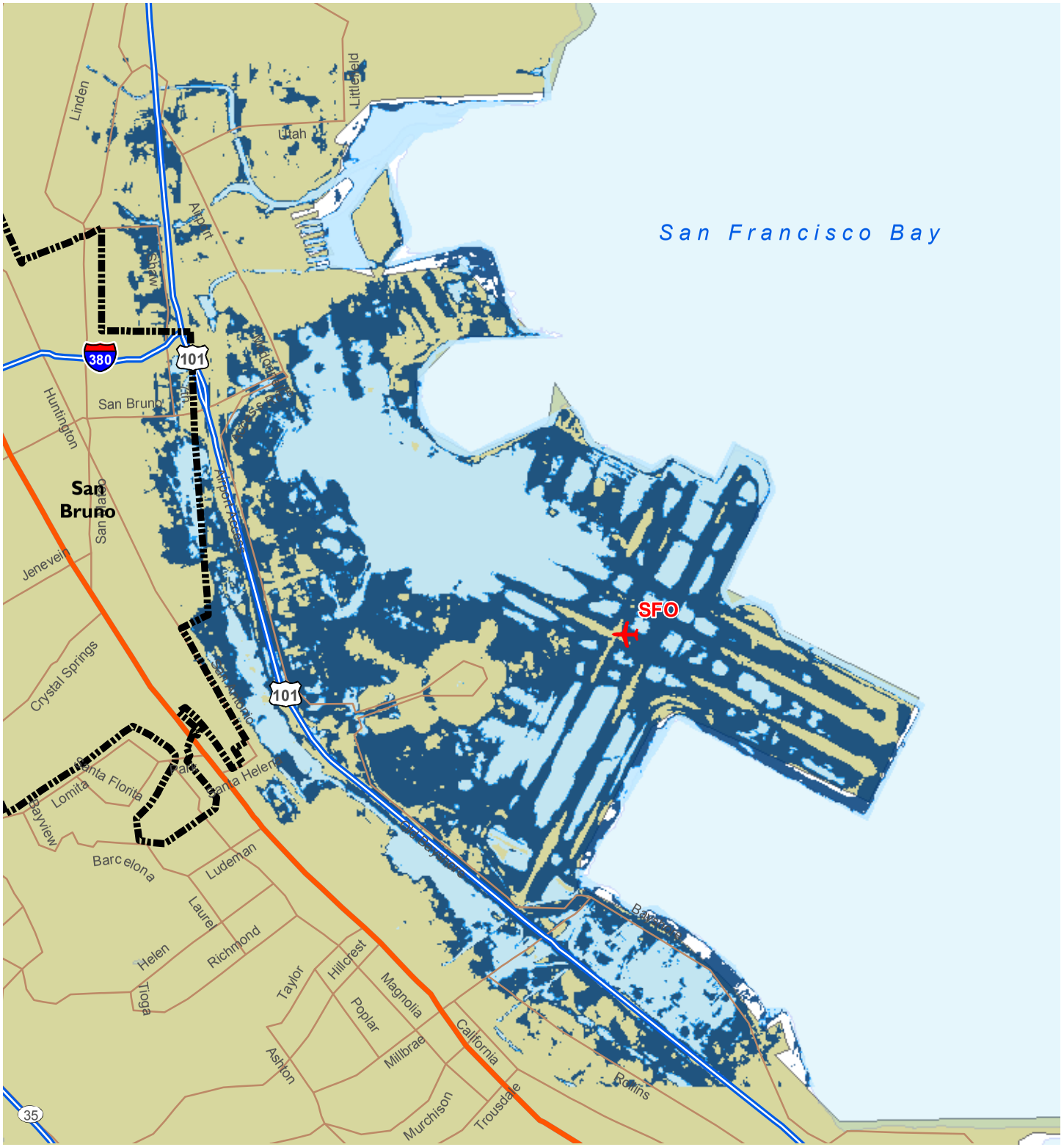
Despite existing legislation, California's demand for gasoline and diesel has nearly doubled over the last twenty years. In 2004, the State consumed more than 15 billion gallons of gasoline and almost three billion gallons of diesel fuel, which accounted for almost half of all fossil fuel energy that the State consumed. (CEC, 2005)

To date, the State has not imposed any requirements on local agencies to help achieve GHG emissions reductions. It has, however, adopted several so-called early action GHG reduction measures that will help to reduce GHG emissions from local land use decisions that may generate additional vehicle traffic. These actions include: a low-carbon fuel standard that reduces carbon intensity in California fuels; reduction of refrigerant losses during motor vehicle air conditioning system maintenance by restricting the sale of "do-it-yourself" automotive refrigerants; and requiring broader use of state-of-the-art methane capture technologies to increase methane capture from landfills.

CARB has also adopted a requirement, effective in 2009, that requires every new car sold in California to bear a sticker showing the vehicle's smog and greenhouse gas emission characteristics. The label will allow consumers to consider and compare a vehicle's environmental impacts. (California Environmental Protection Agency, 2007)

Figure 3.5-1

Land Vulnerability to Sea Level Rise



The map is based on USGS 2m DSM and National Agricultural Imagery Program data. The map is illustrative only. Limitations in the geospatial data available and man-made features may affect accuracy. The map should not be used for planning purposes.

Land Elevation Above Sea Level

- ≤ 0.5 Ft.
- 0.51 - 1 Ft.
- 1.01 - 2 Ft.
- San Bruno City Limits

Source: San Francisco Bay Conservation and Development Commission (BCDC) January, 2008.

0 0.25 0.5 Miles

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SIGNIFICANCE CRITERIA

The Proposed General Plan would result in significant impacts to air quality if it would:

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

In contrast to criteria air pollutants and toxic air contaminants—pollutants of regional and local concern, respectively—GHGs are global pollutants. Moreover, neither the federal nor State governments have adopted any standards for GHGs to which local agencies must adhere. While implementation of the proposed General Plan would have a potentially significant impact if it would prevent the reduction of statewide greenhouse gas emissions to 1990 levels by the year 2020, as required the California Climate Solutions Act of 2006, and there are protocols for calculating greenhouse gas emissions at the local level, there are no accepted thresholds for determining the impact of such emissions on global warming or even on climate changes within California. In the absence of such requirements, the following analysis projects future emissions under the General Plan, but focuses on measures the City can undertake to reduce greenhouse gas emissions without quantifying the impact of the city's future emissions on global, national, or statewide conditions.

For project-level analysis of general air quality impacts, the BAAQMD provides various thresholds and tests of significance. More appropriate to this project however, is the BAAQMD's guidance for assessment of plan impacts, since the project analyzed in this EIR is not a single development, but rather development over the entire City of San Bruno pursuant to the Proposed General Plan. Therefore, analysis for the proposed project has been conducted at a plan level based on assumed development and activity that could occur pursuant to the Proposed General Plan. However, individual projects that may be proposed in the future under the new Proposed General Plan would undergo project level environmental review to determine whether they could generate further air quality impacts specific to their site, time and project description.

For analysis at a plan or program level, the BAAQMD recommends three significance criteria in its CEQA Guidelines (BAAQMD, 1999). In general, the CEQA Guidelines stress that local plans for cities and counties must be consistent with the most recent regional air quality plan, in this case, the *2005 Ozone Strategy*. Local plans found to be consistent with the *2005 Ozone Strategy* would have a less than significant impact on regional air quality.

According to the BAAQMD CEQA Guidelines, implementation of the proposed General Plan would be inconsistent with the Ozone Strategy if:

- Population growth for the City of San Bruno exceeds the values included in the current attainment plan the *2005 Ozone Strategy* (basis: ABAG Projections 2003);
- The rate of increase in vehicle miles traveled for the City of San Bruno exceeds the rate of increase in population;

- Reasonable efforts are not made to implement the transportation control measures (TCMs) of the attainment plan; and
- Buffer zones are not included to avoid odor and toxic impacts.

Construction emissions are typically considered less than significant if appropriate mitigation is employed to minimize particulate emissions. Carbon monoxide (CO) emissions are considered in the context of roadside concentrations measured against the state standard, since CO is a local pollutant that does not readily disperse.

The analysis of impacts on energy use and global climate change is based on information presented in this Air Quality Section and the Transportation Section. Using the California Climate Action Registry Reporting Protocol version 2.2, as well as county level electricity usage data and regional travel data, projections of annual vehicle fuel consumption and electricity usage were used to project greenhouse gas emissions for the Proposed General Plan.

IMPACT ANALYSIS

3.5-A New development under the Proposed General Plan would not increase population and VMT in the area at a rate greater than that assumed in regional air quality planning and therefore conflict with the implementation of the 2005 Bay Area Ozone Strategy. (Less than Significant Impact)

Development under the Proposed General Plan would result in increases in population and employment and consequently an increase in traffic and air pollutant emissions. However, the projectedincrease in population resulting from the Proposed General Plan is 44,864 persons in the year 2025, which is less than the 47,900 persons estimated in 2025 by ABAG *Projections 2003.* Because the applicable regional air quality plan (*2005 Ozone Strategy*) is based on the population projections in ABAG *Projections 2003*, the Proposed General Plan would not increase population, trips, or VMT to levels greater than assumed in the *2005 Ozone Strategy* (MTC staff adjusted the EMFAC VMT data using growth rates developed from their travel demand model; further, the MTC travel demand model utilizes regional demographic forecasts from ABAG socio-economic and population projections). In fact, the Proposed General Plan would likely result in fewer emissions than expected in the *2005 Ozone Strategy*. The Proposed General Plan is estimated to have about 3,000 fewer residents in the year 2025 than estimated in ABAG *Projections 2003*. Future VMT has not been modeled[2] for the Proposed Project and is not needed here because the lower 2025 population expected from the Proposed General Plan (when compared to the 2025 population numbers from ABAG) would result in less vehicle emissions than anticipated for San Bruno in the *2005 Ozone Strategy*.

Vehicle miles traveled is, of course, not only a factor of population increase, but also of employment activity (commutes to jobs) and household habits. Some studies suggest that vehicle miles traveled per capita is increasing across the nation, which would be in conflict with *2005 Ozone Strategy* goals. Regardless of national trends, however, there are over 4,000 fewer jobs projected for San Bruno in 2025 as a result of the Proposed General Plan than were assumed in the projections for the *2005 Ozone Strategy*. Therefore, despite the influence of possible national trends, employment and population change under the Proposed General Plan should produce fewer motor vehicle related emissions than budgeted in the *2005 Ozone Strategy*. (See Table 3.5-4 and section 5.5 for more details)

[2] In the GHG analysis for the Proposed Plan and Alternatives VMT is part of the buildout emissions estimates. However, this VMT was not modeled directly but rather estimated from a combination of directly-modeled future vehicle trips and regional trip length averages.

It is important to note that changes proposed as part of the project encourage new growth in proximity to public transit and would be subject to policies that would aim to reduce vehicle miles traveled and consequently reduce associated air emissions. San Bruno is well served by public transit (SamTrans, Caltrain and BART) and bicycle and pedestrian facilities typical of urbanized areas. Also, there are several policies in the Transportation and Environmental Resources and Conservation elements of the Proposed General Plan that serve to reduce emissions associated with the increased population by promoting use of alternative transportation modes, reduction of vehicle trips generated by projects, and use of clean fuels. These policies are as follows:

Applicable General Plan Policies:

ERC-25 Maintain and improve air quality by requiring project mitigation, such as Transportation Demand Management (TDM) techniques, where air quality impacts are unavoidable.

ERC-27 Budget for clean fuels and vehicles in the City's long-range capital expenditure plans, to replace and improve the existing fleet of gasoline and diesel powered vehicles.

ERC-28 Incorporate air quality beneficial programs and policies into local planning and development activities, with a particular focus on subdivision, zoning and site design measures that reduce the number and length of single-occupant automobile trips.

ERC-29 Promote demonstration projects to develop new strategies to reduce motor vehicle emissions. Projects may include low emission vehicle fleets and LEV refueling infrastructure.

ERC-30 Encourage new residential developments to adopt measures such as shuttle services to major employment centers, commercial areas and transit areas, and provision of adequate transit facilities.

T-1 Develop incentives for San Bruno government and private employers to institute staggered working hours, compressed work week, home-based telecommuting, car pooling, use of transit, alternative fuel vehicles, and bicycling to employment centers to reduce vehicle miles traveled and the associated traffic congestion and air pollution.

T-3 Encourage provision of bicycle facilities such as weather protected bicycle parking, direct and safe access for pedestrians and bicyclists to adjacent bicycle routes and transit stations, showers and lockers for employees at the worksite, secure short-term parking for bicycles, etc.

T-4 Encourage major employers of the City to provide shuttle service for employees from worksite to food service establishments, commercial areas, and transit stations, to reduce the number of automobile trips.

T-5 Provide assistance to regional and local ridesharing organizations; advocate legislation to maintain and expand incentives (e.g., tax deductions/credits).

Implementation of these policies would reduce the emission increases under the Proposed General Plan. Several policies in Section 3.4, *Transportation*, of this document that relate to alternative modes (T-1 through T-5), parking (T-35), BART and Caltrain station areas (T-44, T-45, T-47 through T-49, T-51 through T-53),

bus transit (T-58 through T-60, T-64 through T-68), bicycle routes (T-70 through T-76) and pedestrian paths (T-77 through T-82) would also help reduce the emissions.

Above and beyond air quality emissions generated through traffic congestion, it must be noted that aircraft exhaust from SFO Airport also contributes to the degradation of air quality within and surrounding San Bruno.

While this analysis is based on assumed development and activity that could occur pursuant to the updated Proposed General Plan, individual projects that may be proposed in the future under the Proposed General Plan would undergo environmental review to determine whether they could generate further project-level air quality impacts specific to their site, time and project description.

Mitigation

None required.

3.5-B The Proposed General Plan could be inconsistent with the Transportation Control Measures in the 2005 Ozone Strategy. (No Adverse Impact)

The 1988 California Clean Air Act, §40919(d) requires regions to implement "transportation control measures to substantially reduce the rate of increase in passenger vehicle trips and miles traveled." Consistent with this requirement, a primary goal of the *2005 Ozone Strategy* is to reduce the number of trips and vehicle miles Bay Area residents travel in single-occupant vehicles through the implementation of 19 TCMs. Table 3.5-4 identifies the seven TCMs that local governments should implement through local plans to be considered in conformance with the *Ozone Strategy*. The BAAQMD recommends that local plans that do not demonstrate reasonable efforts to implement these TCMs be considered inconsistent with the regional air quality plan and therefore to have a significant impact. The Proposed General Plan contains several policies that implement the seven TCMs as discussed in Table 3.5-4. Development under the Proposed General Plan would be subject to these policies which promote use of alternative modes of transportation and development of a pedestrian-friendly environment, consistent with some of the TCMs and as discussed in Table 3.5-4. Therefore, the proposed project is consistent with the TCMs in the *2005 Ozone Strategy* and no adverse impact would occur.

Table 3.5-4: 2005 Ozone Strategy TCMS to be Implemented by Local Governments

Transportation Control Measure (TCM)	*Policies of the Proposed General Plan that incorporate the TCM*
1. Support Voluntary Employer-Based Trip Reduction Programs	Policies T-1 through T-4, LUD-52, and LUD-54
9. Improve Bicycle Access and Facilities	Policies T-1, T-48, and T-71 through T-75
12. Improve Arterial Traffic Management	Policies T-6 through T-19
15. Local Land Use Planning and Development	Policies ERC-31
17. Conduct Demonstration Projects	Policies ERC-29
19. Improve Pedestrian Access and Facilities	Policies T-1, T-44. T-47 through T-49, T-53, T-67, T-70, T-71, and T-76
20. Promote Traffic Calming Measures	Policies T-14 and T-15

Source: BAAQMD, Bay Area 2005 Ozone Strategy, January, 2006.

The following policies from the Proposed Environmental Resources and Conservation Element incorporate TCMs. The transportation element policies listed in Table 3.5-4 can be found in Section 3.4, *Transportation*, of this document.

Applicable General Plan Policies:

ERC-32 Coordinate air quality planning efforts with local, regional, and state agencies. Support the Bay Area Air Quality Management District's efforts to monitor and control air pollutants from stationary sources.

These policies, in addition to those listed under Impact 3.5-A, are sufficient to prevent the proposed General Plan from being inconsistent with the 2005 Ozone Strategy.

Mitigation

None required.

3.5-C Fugitive dust generated by construction and demolition activities under the Proposed General Plan could result in health and nuisance type impacts in the immediate vicinity of construction sites. (Less than Significant Impact)

Construction activities would occur intermittently at different sites throughout San Bruno over the implementation period of the Proposed General Plan. Although the related impacts at any one location would be temporary, construction of individual projects could cause adverse effects on the local air quality within the planning area. Construction activities would generate substantial amounts of dust (including PM-10 and PM-2.5) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) and lesser amounts of other criteria air pollutants primarily from operation of heavy equipment construction machinery (primarily diesel operated) and construction worker automobile trips (primarily gasoline operated).

Fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the prevailing weather. Sources of fugitive dust during construction would include vehicle movement over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM-10 concentrations may be adversely affected on a temporary and intermittent basis during the construction period. Background concentrations of PM-10 in San Bruno, as well as the rest of the Bay Area, often exceed the state ambient PM-10 standard and construction activities under the Proposed General Plan would add to those concentrations, particularly in the immediate vicinity of individual construction sites. In addition, the fugitive dust generated by construction would include not only PM-10, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts. Demolition of buildings constructed prior to 1980 often involves hazardous materials such as asbestos used in insulation, fire retardants, or building materials (floor tile, roofing, etc.) and lead-based paint. Airborne asbestos fibers and lead dust pose a serious health threat. The demolition, renovation and removal of asbestos-containing building materials would be subject to the requirements of BAAQMD Regulation 11, Rule 2. Compliance with these requirements, as required by Policy HS-30 of the Proposed General Plan would reduce asbestos exposure impacts to a less than significant level.

The BAAQMD's approach to analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. The District considers construction related impacts to be less than significant if the required dust-control measures are implemented. Without these measures, the impact would be considered to be significant. Policy ERC-26 of the Environmental Resources and Conservation Element of the Proposed General Plan would require the City to condition approval of individual development proposals under the Proposed General Plan on implementation of an appropriate dust abatement program, patterned after the BAAQMD's approach. This would include implementing the basic, enhanced and optional dust control measures based on the size the construction site. Implementation of this policy by the City would reduce construction dust impacts from individual projects developed as part of the Proposed General Plan to a less than significant level.

Construction activities would also result in the emission of other criteria pollutants from equipment exhaust, construction-related vehicular activity and construction worker automobile trips. Emission levels for construction activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NO_x from these emission sources would incrementally add to the regional atmospheric loading of ozone precursors during project construction. BAAQMD CEQA Guidelines recognize that construction equipment emit ozone precursors, but indicate that such emissions are included in the emission inventory that is the basis for regional air quality plans. Therefore construction emissions are not expected to impede attainment or maintenance of ozone standards in the Bay Area (BAAQMD, 1999). In addition, the Proposed General Plan contains Policy ERC-33 stated below, the implementation of which would reduce impacts from construction diesel exhaust emissions. Therefore, this impact would be less than significant.

Applicable General Plan Policies:

ERC-26 Require dust abatement actions for all new construction and redevelopment projects.

ERC-33 Require all large construction projects to mitigate diesel exhaust emissions through use of alternate fuels and control devices.

Mitigation

None required.

3.5-D Reuse and intensification would expose existing and proposed residences to objectionable odors. (Less than Significant Impact)

Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress 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. Odor impacts should be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources. Generally, increasing the distance between a receptor and the source to an acceptable level will mitigate odor impacts. Table 3.5-5 shows BAAQMD-recommended buffer zones (distance between receptor and source) for known odor-emitting sources.

No new major odor sources are proposed as part of the Proposed General Plan. However, as described in the Setting, above, there are two existing facilities that include the types of operations identified in Table 3.5-5 that could generate odors that could affect San Bruno residents. These include the San Bruno Transfer Station and

the South San Francisco-San Bruno Wastewater Treatment Facility. Several existing residential areas in San Bruno are located within the BAAQMD-recommended one-mile-radius buffer of these facilities. Proposed residences under the Proposed General Plan could also be located within the buffer area of these sites, but would not be located any closer to the facilities than existing residences. Odorous emissions from these sources could therefore expose existing and proposed residences to nuisance odors. However, since there have been no complaints filed with BAAQMD staff for either of these facilities in the past five years, and proposed new residences would be located at a greater distance from these sources than existing residences, this impact is considered to be *Less than Significant*.

In addition, individual developments locating odor sources close to sensitive receptors and developments locating receptors close to existing odor sources would be subject to review to determine whether they could generate project-level air quality impacts specific to their site, time and project description, and any significant impacts identified would be mitigated to a *Less than Significant* level.

Table 3.5-5: Buffer Zone Distances for Potential Odor Sources

Type of Operation	*Buffer Zone (Distance between receptor and source)*
Wastewater Treatment Plant	1 mile
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shops)	1 mile
Rendering Plant	1 mile
Coffee Roaster	1 mile

Source: BAAQMD, CEQA Guidelines, Assessing Air Quality Impacts of Projects and Plans, December 1999.

Applicable General Plan Policies:

ERC-34 Require that adequate buffer distances be provided between odor sources and sensitive receptors, such as schools, hospitals, and community centers.

Mitigation

None required.

3.5-E Implementation of the proposed General Plan could prevent the reduction of statewide greenhouse gas emissions to 1990 levels by the year 2020, as required by the California Climate Solutions Act of 2006. (Less than Significant Impact)

As stated in the section on significance criteria, neither federal nor State government has adopted standards for GHGs to which local agencies must adhere. There are protocols for calculating greenhouse gas emissions at the local level, but there are no accepted thresholds for determining the impact of such emissions on global warming or even on climate changes within California. Table 3.5-6 below describes the potential contribution of future electricity use and vehicle fuel consumption to emissions of GHGs at buildout of the Proposed General Plan, assuming fuel technology and electricity sources remain the same over the planning period.

Table 3.5-6: Proposed General Plan Total Annual Greenhouse Gas Emissions (metric tons)

	Carbon Dioxide	*CO2 Equivalent of Nitrous Oxide Emissions*	*CO2 Equivalent of Methane Emissions*	*Total Carbon Dioxide Equivalent*
Electricity	103,147	147	18	103,312
Vehicle emissions	61,900	2,850	193	64,944
Total	165,047	2,997	211	168,255

Source: Dyett & Bhatia, 2008; CCARRP v.2.2.

One medium-sized (500 MW) conventional coal-fired plant emits approximately 3.2 to 4.0 million metric tons of CO_2 a year.[3] With this perspective, it is difficult to attribute significance to the growth in GHG emissions resulting from this Proposed Project alone; rather, the emphasis for the General Plan should be to do the maximum possible to reduce new emissions sources, encouraging less energy consumption as well as cleaner energy technologies.

Applicable General Plan Policies:

General Plan policies listed under Impacts 3.5-A through 3.5-C, in particular those related to reducing VMT, all contribute to reducing GHG emissions that result from the buildout of the proposed General Plan. In addition, the following policies also reduce GHG emissions from buildout:

ERC-31 Prepare a Greenhouse Gas Emissions Reduction Plan, focusing on feasible actions the City can take to minimize the adverse impacts of Plan implementation on climate change and air quality. The Plan will include but will not be limited to:

- An inventory of all known, or reasonably discoverable, sources of greenhouse gases (GHGs) that currently exist in the city and sources that existed in 1990. In determining what is a source of GHG emissions, the City may rely on the definition of "greenhouse gas emissions source" or "source" as defined in section 38505 of the California Global Warming Solutions Act ("AB 32") or its governing regulations. The inventory may include estimates of emissions drawing on available information from to state and regional air quality boards, supplemented by information obtained by the City.

- A projected inventory of the new GHGs that can reasonably be expected to be emitted in the year 2025 due to the City's discretionary land use decisions pursuant to the 2025 General Plan Update, as well as new GHGs emitted by the City's internal government operations. The projected inventories will include estimates, supported by substantial evidence, of future emissions from planned land use and information from state and regional air quality boards and agencies.

- A target for the reduction of those sources of future emissions reasonably attributable to the City's discretionary land use decisions under the 2025 General Plan and the City's internal government operations, and feasible GHG emission reduction measures whose purpose shall be to meet this reduction target by regulating those sources of GHG emissions reasonably

3 This statistic comes from Architecture 2030 (http://www.architecture2030.org/current_situation/coal.html)

attributable to the City's discretionary land use decisions and the City's internal government operations.

PFS-60 Develop and implement a Green Building Design Ordinance and design guidelines for climate-oriented site planning, building design, and landscape design to promote energy efficiency. These standards may include, but are not limited to, the following:

- Require the use of Energy Star® appliances and equipment in new residential and commercial development, and new City facilities;
- Require all new City facilities and new residential development to incorporate green building methods meeting the equivalent of LEED Certified "Silver" rating or better; and
- Require all new residential development to be pre-wired for optional photovoltaic roof energy systems and/or solar water heating.

The Ordinance will allow variances to site or building requirements—building setbacks, lot coverage, and building height—that will enable use of alternative energy sources, such as passive heating and/or cooling.

PFS-61 Require that all new development complies with California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6).

PFS-62 Provide incentives for retrofitting existing homes and businesses for improved energy efficiency, such as passive solar and/or cooling devices.

PFS-63 Require new development to incorporate passive heating and natural lighting strategies if feasible and practical. These strategies should include, but are not limited to, the following:

- Using building orientation, mass and form, including façade, roof, and choice of building materials, color, type of glazing, and insulation to minimize heat loss during winter months and heat gain during the summer months;
- Designing building openings to regulate internal climate and maximize natural lighting, while keeping glare to a minimum; and
- Reducing heat-island effect of large concrete roofs and parking surfaces.

PFS-64 Enforce landscape requirements that facilitate efficient energy use or conservation, such as drought-resistant landscaping and/or deciduous trees along southern exposures.

PFS-65 Require developers and builders to distribute information regarding energy efficiency (such as the Home Energy Guide available from the California Energy Commission) to all new homeowners.

PFS-66 Initiate a marketing campaign where energy efficiency information is distributed to all City employees and residents. Provide information on how, what type, and where to plant trees to reduce energy demand. Make such information available at all public locations such as City Hall and the Public Library.

PFS-67 Offer incentives (such as expedited permit processing, density bonuses, site variances) to support implementation of photovoltaic and other renewable energy technologies that provide a portion of the City's energy needs, or for projects that result in energy savings of at least 20-percent when compared to the energy consumption that would occur under similar projects built to meet the minimum standards of the energy code.

PFS-68 Facilitate environmentally sensitive construction practices by:

- Restricting use of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons in mechanical equipment and building materials;
- Promoting use of products that are durable and allow efficient end-of-life disposal (e.g. reusable, recyclable, biodegradable);
- Promoting the purchase of locally or regionally available materials; and
- Promoting the use of cost-effective design and construction strategies that reduce resource and environmental impacts.

PFS-69 Convert street lights and traffic signals to LED and other more efficient technologies as they become available.

Mitigation

None required.

3.6 PARKS AND RECREATION

This section provides an inventory of parks and recreation facilities, as well as open space resources available to San Bruno residents. Effects on parks and open space, or population growth without comparable increases in recreational acreage and facilities, are analyzed as potential impacts of the Proposed General Plan.

ENVIRONMENTAL SETTING

The City of San Bruno contains a wide range of park facilities, including small pocket parks, neighborhood parks, and community parks. The southern portion of the city is home to San Mateo County's Junipero Serra Park. Table 3.6-1 provides a description of the park classifications, size, service area, and typical activities. San Bruno's park system is fully developed; however, there may be opportunities to improve and expand existing facilities and recreation programs. Additionally, some of the currently inaccessible open space areas within the City may be appropriate locations for new walking or cycling trails, or other types of passive recreation.

The Parks and Recreation Services Department maintains all developed municipal park sites, four school sites, street medians, and landscaping along San Mateo Avenue and at other City facilities. The Department is also responsible for street tree maintenance, vegetation management in open space areas, and for maintenance of recreation and civic buildings and facilities. Junipero Serra Park is maintained by the San Mateo County Parks and Recreation Division. The Department is responsible for overall facilities administration and planning in addition to recreational and educational programming.

Table 3.6-1: San Bruno Park Classifications and Size and Service Standards

Classification	*Description*	*Size*	*Service Area*	*Typical Activities*
Pocket parks	Pocket parks are small (less than one acre) facilities designed to serve residents of the surrounding blocks. They are generally limited to playgrounds and benches.	<1 acre	¼ mile radius	Playgrounds, benches, small grassy areas
Neighborhood park	Neighborhood parks are designed to serve the residential neighborhood in close proximity to the park. They accommodate a variety of activities including playgrounds, picnic tables, and turf areas.	<15 acres	½ mile radius	Playgrounds, multi-use fields, basketball courts, picnic tables, grassy areas
Community park	Community parks are designed to serve several neighborhoods. They provide a wide variety of activities, including sports facilities and recreational centers, and meet the needs of diverse users.	30–100 acres	3 mile radius	Playgrounds, tennis courts, baseball fields, basketball courts, grassy areas, picnic tables, recreation centers
Regional park	Regional parks are large parks and open spaces that serve as recreational amenities to the surrounding region. They generally contain passive facilities, such as picnicking, hiking trails, and spaces for large group events.	100+ acres	15 mile radius	Playgrounds, benches, hiking trails, picnic and BBQ areas, grassy areas, covered shelters

Source: City of San Bruno, Draft Comprehensive Parks and Recreational Facilities Master Plan, April 2003; Dyett & Bhatia, February 2006.

In April 2003, the City published a Draft Comprehensive Parks and Recreational Facilities Master Plan (CPRFMP) and identified specific parks and recreation needs and opportunities in San Bruno. The CPRFMP analyzed each of the City's existing park facilities and proposed improvements based on public safety concerns, accessibility, balance of facilities and equipment, infrastructure, and opportunities for new facilities. The CPRMP identified the following as strengths of the San Bruno parks system:

- Mature vegetation, including dense groves of trees and shrubs with a variety of species;
- Diverse range of parks, developed over time with various park sizes (from ¼-acre to 31 acres) and identifiable character traits;
- Well-used by citizens, who take pride in their facilities and programs; and
- Variety of amenities offered, both for outdoor play and indoor programs.

Existing City Park and Recreation Facilities

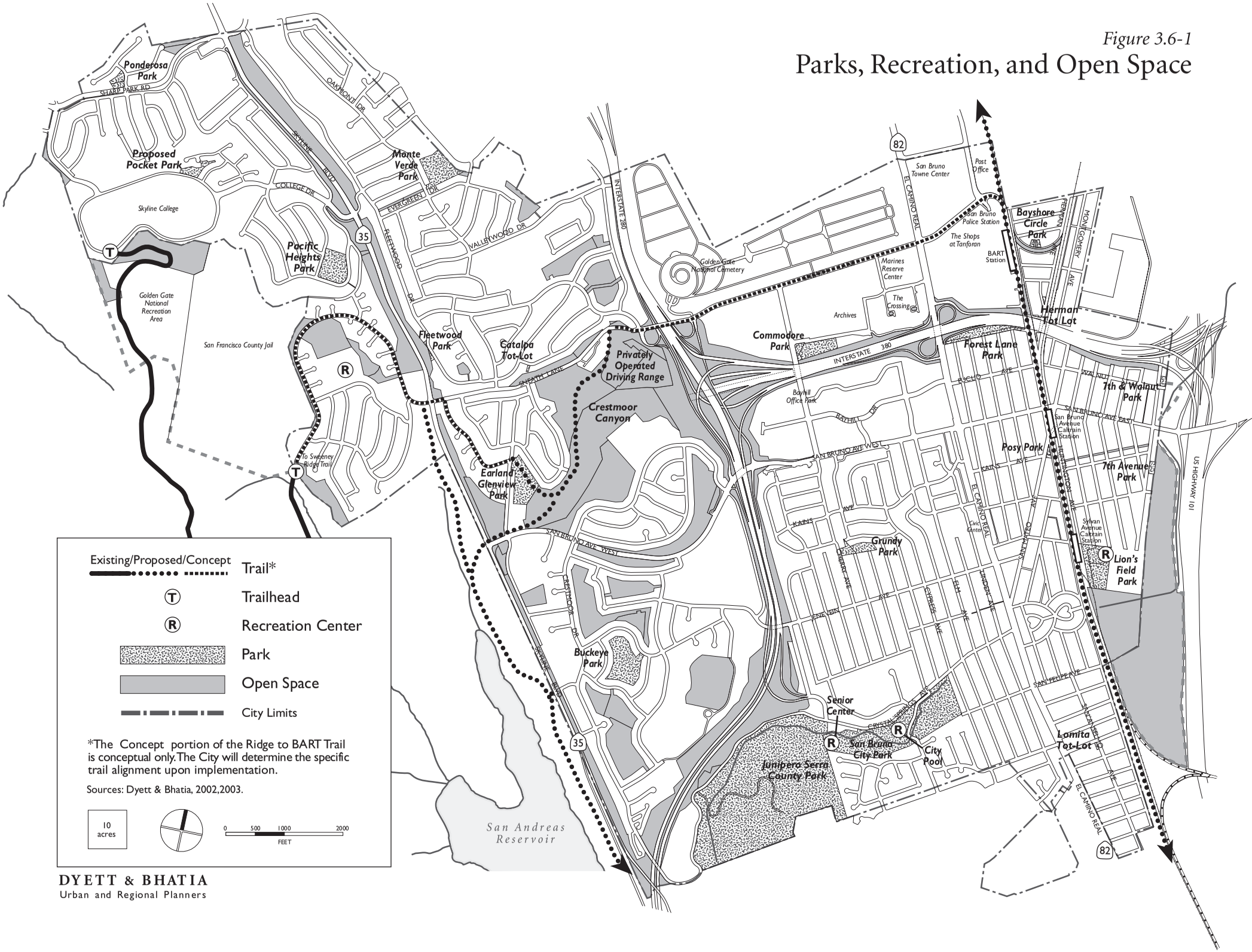
San Bruno currently provides a total of 72 acres of city parkland. There are five small pocket parks, 12 neighborhood parks, and one large community park. Table 3.6-2 describes the acreage, picnic/passive area, playgrounds, sports facilities, and other amenities available at each of the City's parks. San Bruno's most utilized parks are City Park, Grundy Park, and Lion's Field. Figure 3.6-1 illustrates the location of park s and open space throughout the community.

In addition to city parks, local recreation centers, school facilities, and a 108-acre regional park—San Mateo County's Junipero Serra Park—provide recreational opportunities for San Bruno residents. These additional facilities are listed in Table 3.6-3. The War Memorial Recreation Center, which is located in City Park, features a gymnasium, exercise and weight room, large meeting room, and kitchen. Adjacent to the Veterans Memorial building is the City Pool, a public, heated outdoor swimming pool (25 x 20 yards). Located on Crystal Springs Road, the San Bruno Senior Center is a 12,700 square foot facility with a multi-purpose room, kitchen, and other meeting rooms and offices.

Hiking and cycling trails are located west of the City boundary within the Golden Gate National Recreation Area and the San Francisco Peninsula Watershed, accessible from Sneath Lane and San Bruno Avenue. A privately operated driving range, located at the former Willard Engvall school site along Sneath Lane, also provides recreational services.

Figure 3.6-1

Parks, Recreation, and Open Space



DYETT & BHATIA
Urban and Regional Planners

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Table 3.6-2: City of San Bruno Park Facilities

Park	*Acres*	*Picnic/ Passive*	*Play Areas*	*Sports Facilities*	*Turf*	*Rest Rooms*	*Meeting Rooms*
Pocket Parks							
Catalpa Tot Lot	0.5	YES	YES				
Earl and Glenview Park	0.3		YES				
Herman Tot Lot	0.25		YES		YES		
Lomita Park	0.25	YES	YES		YES		
Posy Park	0.25						
Neighborhood Parks							
Bayshore Circle Park	1		YES	YES	YES		
Buckeye Park	7	YES	YES		YES		
Commodore Park	4	YES	YES	YES	YES	YES	
Fleetwood Tot Lot	0.5		YES	YES	YES		
Forest Lane Park	4	YES	YES		YES		
Grundy Park	4	YES	YES	YES	YES	Proposed	
Lion's Field Park	3	YES		YES	YES	YES	YES
Monte Verde Park	5	YES	YES		YES		
Pacific Heights Park	5		YES	YES	YES	Proposed	
Ponderosa Park	4		YES		YES		
Seventh Avenue Park	0.5		YES		YES		
Seventh and Walnut Park	1		YES	YES	YES		
Community Parks							
City Park[1]	31	YES	YES	YES	YES	YES	YES
Grand Total City Parks	**72**						

[1] The San Bruno Park Pool and War Memorial Recreation Center are located in City Park.

Source: City of San Bruno, Draft Comprehensive Parks and Recreational Facilities Master Plan, April 2003.

Table 3.6-3: Additional Recreational Facilities in San Bruno

Park	*Acres*	*Picnic/ Passive*	*Play Areas*	*Sports Facilities*	*Turf*	*Rest Rooms*	*Meeting Rooms*
San Mateo County Parks							
Junipero Serra Park[2]	108	YES	YES		YES	YES	
Recreation Centers							
Belle Air Community Center						YES	YES
Portola Performing Arts Center						YES	YES
San Bruno Senior Center[3]				YES		YES	YES
War Memorial Recreation Center				YES		YES	YES
School District Facilities							
Belle Air Elementary	5			YES			
Carl Sandburg Elementary[4]	4			YES			
Crestmoor Elementary	5			YES	YES		
Crestmoor High School	12			YES			
John Muir Elementary	3.5				YES		
Parkside Elementary	2			YES			
Rollingwood Elementary	3.5				YES		

[2] Junipero Serra Park also has several outdoor shelters and day-use facilities for organized youth groups.

[3] San Bruno Senior Center contains Bocce Ball courts as its only sports facilities.

[4] The City's only dog run is located at Carl Sandburg Elementary/Field.

Source: City of San Bruno, Draft Comprehensive Parks and Recreational Facilities Master Plan, April 2003.

Junipero Serra Park

Nestled in the foothills at the southern edge of San Bruno, San Mateo County's Junipero Serra Park affords a spectacular panorama of the Bay Area, and unequaled views to San Bruno Mountain, SFO Airport, San Francisco Bay, and Mount Diablo. The park contains the oak foothill plant community, spring wildflowers, and Crystal Springs Creek. San Mateo County's Environmental Services Department, Parks and Recreation Division oversees planning, operations, and maintenance of the park facilities. Junipero Serra Park features daycamp areas (for use by youth organizations), picnic areas, and hiking trails. On-site facilities are described in Table 3.6-4.

Table 3.6-4: Facilities Available at Junipero Serra Park

	Bay View Shelter	*Willow Shelter*	*Upper Meadow View Picnic Area*	*Lower Meadow View Picnic Area*	*DeAnza Picnic Area*	*Oak Cove Picnic Area*	*Iris Point Picnic Area*
Size	32' x 62'	32' x 62'	40' x 60'	50' x 85'	45' x 60'	45' x 100'	60' x 100'
Floor Surface	0% slope, concrete	0% slope, concrete	15% slope, wood chips	3% slope, wood chips	1% slope, wood chips	0% slope, wood chips	1% slope, wood chips
Roof	yes	yes	no	no	no	no	no
Capacity	125	125	50	150	50	50	150
Parking	24	27	10	40	50	5	6
BBQs	4	4	2	4	2	2	2
Picnic Tables	12	12	5	14	6	9	4
Vegetation	Eucalyptus and Pine trees	Oak woodland	Grassy meadow, trees	Grassy meadow, trees	Oak woodland	Oak woodland	Eucalyptus trees
Views	yes	no	yes	yes	no	no	yes
ADA Accessible	yes	yes	no	yes	no	no	no
Special features		Crystal Springs Creek			Volleyball court, playground	Crystal Springs Creek, Limited tent camping, Amphitheater seating	Limited tent camping

Source: San Mateo County, Environmental Services Department, Parks and Recreation Division, http://www.co.sanmateo.ca.us/smc/department/esa/home/0,2242,5556687_10575172,00.html, March 14, 2003.

Existing Open Space

The City of San Bruno contains several large open space areas in the hillside neighborhoods west of I-280. Many of these areas, however, are inaccessible to the public. The city's open space is also characterized by steep terrain and dense vegetation. As shown in Figure 3.6-1, at 66.5 acres in size, Crestmoor Canyon is the largest of the city's open spaces. The General Plan Community Survey, conducted in March 2001, found strong support for development of hiking and bicycling trails through Crestmoor Canyon.

San Bruno also lies directly adjacent to several other open space preserves: Golden Gate Natural Recreation Area, which includes the Sweeney Ridge trail and the San Francisco City and County Jail site; San Francisco Peninsula Watershed, which includes San Andreas Reservoir; and Bay margins along the western San Francisco International Airport lands.

Golden Gate National Recreation Area

The open space located south of San Bruno's city limits at Skyline College is managed by Golden Gate National Recreation Area (GGNRA) under the jurisdiction of the National Park Service. The 1,000-acre area consists of undeveloped coastal grasslands and public access trails. The Sweeney Ridge trails leads to the historic Portola Discovery Site marker and unites the GGNRA with the San Francisco Peninsula Watershed to the southeast.

Encircled by the GGNRA is a parcel belonging to the San Francisco City and County Jail. An access road from Moreland Drive leads to the prison site where a new detention facility is currently under construction. The new jail will replace the original internment facilities.

San Francisco Peninsula Watershed

The San Francisco Public Utilities Commission (SFPUC) oversees the San Francisco Peninsula Watershed, the open space area bordering the City of San Bruno southwest of Skyline Boulevard. Because of the need to protect the reservoirs and facilities belonging to the SFPUC within Watershed boundaries, much of the property is not accessible to the public without a permit.

San Francisco International Airport

Between San Bruno's eastern city limit and Highway 101 lies approximately 80 acres of open space belonging to the San Francisco International Airport (SFO). Public access is restricted on the property, which is designated as a "Sensitive Species Habitat."

Recreational Programs

San Bruno offers a diverse range of recreational and educational programs for residents of almost all ages. Programming largely depends on community interest and instructor and facility availability, and is financed by user fees. Most classes are housed in city-owned recreational facilities, including the War Memorial Recreation Center and San Bruno Senior Center. The San Bruno Recreation Services Department administers recreation programs, as well as summer concert series at the Rotary Pavilion in City Park and other special events. The City offers many programs, including:

- Summer camps, featuring crafts, soccer, basketball, baseball, adventure field-trips (bowling, ice skating, miniature golf), and rock climbing;
- Aquatics, including recreational swimming, water aerobics, water safety, lifeguard training, and swimming lessons;
- Dance and fitness classes, including judo, creative dance, hip hop, ice skating, ballet, tap dance, and volleyball;
- One-day adventures, including such destinations as Santa Cruz boardwalk, Great America, Muir Woods, and Russian River;
- Adult sports and fitness, including volleyball, rowing, tennis, softball, basketball, aikido, yoga, ballroom dance, belly dance, and tap dance;
- Adult crafts, including scrap-booking, pottery, painting and watercolor, sculpture, and creative writing;
- Senior (adults 50+) classes, including western line dance, ceramics, bocce ball, ballroom dance, BINGO, tai chi, stained glass, computers, oil/acrylic painting, ping pong, and gardening.

In addition to various classes for adults age 50 and over, the San Bruno Senior Center offers support services (such as health insurance, Alzheimer's counseling, and home repair), social events (such as pancake breakfasts, dances, and holiday celebrations), summer tournaments (such as billiards, ping pong, and softball), and special trips (such as gambling in Reno, nature walks in Elkhorn Slough, and cruises to Alaska). The Senior Center is a great success in serving the needs of San Bruno's senior population, as well as seniors from other communities along the Peninsula.

San Bruno Park School District buildings are available for recreational and educational programs on a very limited basis. The City is negotiating a joint use agreement with the District that may provide much needed space for after-school programs.

Parks Standards and Planned Improvements

Although there are no State standards for parks, the Quimby Act (Government Code § 66477) allows local agencies to establish standards, at a maximum of five acres per 1,000 residents,[1] and to require residential developers to provide land or in-lieu fees for developing new or rehabilitating existing neighborhood or community park or recreational facilities to serve new residents.

This City maintains a parkland dedication/in lieu fees standard of 4.5 acres per 1,000 residents (Section 12.44 of the Municipal Code), which is also the parkland standard established in the General Plan. With 72 acres of existing city parks facilities, approximately 1.8 acres of parkland per 1,000 residents is provided. However, if Junipero Serra Park is included in this figure, there are 4.5 acres of parkland per 1,000 residents. With an increase in population to 44,864 at buildout, about 20 acres of new parkland will be needed to maintain the City's current parkland goal. Table 3.6-5 illustrates the existing parks standard.

Table 3.6-5: San Bruno Parks Standard, 2000

2000 Population	40,165	Residents
2000 City Parks Acreage	72	Acres
2000 City Parks Ratio	1.8	Acres/1,000 residents
2000 City & County Parks Acreage	180	Acres
2000 City Parks Ratio	4.5	Acres/1,000 residents

Source: Dyett & Bhatia, July 2003.

Potential opportunities for enhancing the citywide park and recreation system include:

- Examining opportunities to make currently inaccessible open space areas available for public recreation. These areas are illustrated in Figure 3.6-1 and include Crestmoor Canyon, as well as smaller canyons and open areas in the Crestmoor and Rollingwood subareas.
- Seeking opportunities to create new neighborhood parks or tot lots, particularly in areas that are not within a 5-minute walk of an existing facility.
- Continuing to work with the San Bruno Park Elementary School District on the joint use of facilities.
- Implementing the Comprehensive Parks and Recreation Master Plan, which identifies park and recreation improvements as well as potential funding sources.

[1] The maximum dedication/in lieu fees standard under Quimby Act is three acres per thousand residents, unless existing parkland provision exceeds three acres/1,000 residents, in which case the standard can be at existing parkland ratio, subject to a maximum of five acres/1,000 residents.

Many of San Bruno's parks and recreation facilities are aging and in need of repair. Renovations of all city playgrounds will occur over the next several years, and extensive repairs to the municipal pool are planned as well. The Recreation Services Department reports that classroom and meeting room space is insufficient, and that there may be a need for a new community center.

SIGNIFICANCE CRITERIA

The General Plan would result in significant impacts on parks and recreation if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

IMPACT ANALYSIS

3.6-A New and redevelopment activities may increase the use of existing parks or other recreational facilities, which could cause physical deterioration and could result in a reduced park acreage ratio. (Less than Significant Impact)

Although the 1984 General Plan established a citywide goal of 2.5 acres of parkland per 1,000 residents, the current ratio is approximately 1.8 acres of city parks per 1,000 residents, which is less than the General Plan standard. However, if Junipero Serra Park is included in this figure, there are 4.5 acres of parkland per 1,000 residents.

Projected increases in housing and population would result in the need for additional parkland, or significant improvements to existing parkland to fully serve the city's residents with recreational facilities and programs. Unfortunately, because San Bruno is a built-out city, it is unlikely that new neighborhood or community park facilities will be developed within the General Plan timeframe. Small public plazas and gathering areas will likely be constructed in Downtown, regional commercial centers, and transit station areas, but active parkland may not. The Draft Comprehensive Parks and Recreational Facilities Master Plan includes a detailed list of improvements to existing parkland to better serve the recreational needs of San Bruno residents; it does not, however, include proposals for new parkland.

Table 3.6-6 lists projected park acreage needs, based on existing park standards, and the potential parks standard should no additional parkland be developed through year 2025. Inclusion of San Mateo County's Junipero Serra Park in the parks calculation would result in a combined City and/or County parkland need of 22 acres to match the year 2000 standard. With the increase in population as a result of new or intensified development under the new General Plan, parks facilities may be exposed to increased use and physical deterioration.

The City's Building Code requires that developers of residential subdivisions "provide adequate and appropriate recreational facilities for the subdivision by the dedication of land in the subdivision or by the payment of fees in lieu thereof." These fees could provide the opportunity to build additional recreational facilities as needed to serve the increased population.

Table 3.6-6: San Bruno Park Needs, 2025

	Population	*Citywide Standard (Acres/1,000 residents)*	*Total Acreage Required to Meet Standard*	*Additional Acres needed in 2025*
Existing Conditions (2000)	40,165	4.5	180	n/a
Future Buildout (2025)	44,864	4.5	202	22

However, due to the built-out nature of San Bruno and limited availability of vacant land, the City's Comprehensive Parks and Recreational Facilities Master Plan (2003) focuses on improvements to the existing parks system. New recreational facilities are proposed within the context of existing parks acreage, rather than identification of potential new park sites.

Policies in the Proposed General Plan seek to identify needed parks and recreation improvements to accommodate the existing and projected population. These policies would likely result in the addition of acreage to the City's parklands. Implementation of these policies will reduce parks impacts to a *Less than Significant* level.

Applicable General Plan Policies:

OSR-1 Maintain a parkland dedication/in lieu fee standard of 4.5 acres/1,000 residents.

OSR-2 Amend the City's Zoning Ordinance to ensure that all developments are subject to dedication/in lieu fee requirements, whether or not such developments result from subdivision.

OSR-3 Revise the City's Park In-Lieu Fee to create an option (at the City's discretion) to accept either Park In-Lieu Fees or require the developer to design/build parks and/or recreation facilities as part of the development.

OSR-4 Undertake a program to add 20 acres of parkland to the City system over the next 20 years. Seize all opportunities to develop and/or maintain parks and recreation facilities within existing residential neighborhoods through acquisition or preservation of former school facilities.

OSR-5 Strive to locate neighborhoods park facilities within 1/3-mile walking distance of all residences in San Bruno. If limited in some neighborhoods, coordinate with local school districts to allow use of playgrounds and sports facilities after school hours.

OSR-6 Provide small public parks and/or plazas within BART and Caltrain station areas, within Downtown, and along El Camino Real. Provide benches, water fountains, and trees to serve as resting areas for pedestrians, commuters, and shoppers.

OSR-7 As former Skyline College properties are developed for single-family residential neighborhoods, create an option (at the City's discretion) for development of parks and/or recreation facilities to serve San Bruno residents.

OSR-8 During reuse of the former Crestmoor High School site (designated for single family residential development), preserve the existing playing fields for recreational use per direction of the General Plan Update Committee.

OSR-9 Actively implement the City's Comprehensive Parks and Recreational Facilities Master Plan, which more fully identifies park and recreation needs and deficiencies.

OSR-10 Continue coordination with San Bruno Park School District (per the Five-Year Joint Use Agreement, 2002) to allow joint use of school facilities for after-school programs, sports leagues, and non-organized play.

OSR-12 Study potential locations and funding mechanisms for the development of a Teen Recreation Center that provides the types of programs and activities to successfully attract the City's teens.

OSR-13 Design and construct non-traditional recreation facilities (skateboarding/BMX bike park, rock climbing wall, etc) to provide alternative forms of recreation for the City's teens. Coordinate this facility with the Parks and Recreation Commission.

OSR-14 Continue to support and expand adult (50+) programs and activities offered at the Senior Center. Develop plans to expand the facility as needed to accommodate the City's senior population.

OSR-15 Study potential sites and funding mechanisms for relocation of the San Bruno Swim Center, or development of a new multi-programmed Aquatics Facility.

Mitigation

None required.

3.6-B Reuse and intensification of opportunity sites under the General Plan may lead to creation of new open spaces or public plazas near Downtown and transit nodes. (Beneficial Impact)

The General Plan proposes that several sites at key locations be developed with public plazas and open spaces. Public plazas at Downtown gateways will help to improve visibility of Downtown, and open spaces in new employment centers along Montgomery Street will provide needed lunch and break areas for workers. Open spaces in regional commercial districts and near transit nodes will provide space to rest, visit, and people-watch. The General Plan requires that major public open spaces retain visibility and access from main streets.

Although the Proposed General Plan does not assume development of new parkland, the proposed development of various public plazas will create additional spaces for passive recreation, such as resting, reading, lunching, gathering with friends, and people-watching. The creation of these new public spaces will serve to offset the impacts of reduced parkland development described in Impact 3.6-A above. These public spaces will provide open areas for residents, works, and visitors, and will serve to reduce the physical deterioration of existing parks and recreation facilities.

Policies in the Proposed General Plan seek to clarify the location and development of public plazas in Downtown and transit station areas. Implementation of these policies will create a *Beneficial* impact.

Applicable General Plan Policies:

LUD-12 Improve the visibility of Downtown from El Camino Real through a variety of techniques that may include signage, lighting, landscape treatment, or provision of plaza or building design that "announces" Downtown.

- Require buildings along the intersection to present attractive and pleasant facades where visible from El Camino Real, including windows, displays and entryways (transparency) at ground level.
- Incorporate a historical marker to identify the intersection as the beginning of the California

State Highway system.

- Improve the visibility of Downtown by expanding streetscaping and amenities to parcels on the west side of El Camino Real. Install directional signage or banners along El Camino Real to announce Downtown. Consider use of signage arching over El Camino Real were Caltrans to abandon State Highway designation for El Camino Real.
- Place clearly marked crosswalks and traffic lights to ensure the safety of residents and visitors entering Downtown from across El Camino Real.
- Work with Caltrans and other agencies to Modify El Camino Real street design to implement traffic calming measures that ensure safe pedestrian and bicycle access to Downtown.

LUD-13 Integrate the planned San Bruno Avenue Caltrain Station with Downtown. Designate the station as the northern gateway into Downtown, as illustrated in Figures 2-4 and 2-5. Implement the following design techniques:

- Orient the station's main exit, signage, lighting, and landscaping toward Downtown.
- Create a marker (such as small public plaza) at the intersection of Huntington Avenue and San Mateo Avenue as an anchoring and focal element for Downtown. Use coordinated design elements (consistent and repeated signage, fountains, streetlights, landscaping, etc).
- Ensure that the station platform over San Mateo Avenue is oriented toward Downtown, and affords views down the Avenue toward El Camino Real.

LUD-70 Provide incentives for developers to create view corridors from El Camino Real and Sneath Lane toward new internal open spaces at The Shops at Tanforan and Towne Center.

LUD-81 As part of the Zoning Ordinance Update, outline criteria for use of FAR and density bonuses, as listed in Table 2-2, for development projects in Transit Oriented Development and Mixed Use areas that include off-site improvements and amenities for public benefit, such as streetscape improvements, outdoor plazas, and bus shelters.

OSR-6 Provide small public parks and/or plazas within BART and Caltrain station areas, within Downtown, and along El Camino Real. Provide benches, water fountains, and trees to serve as resting areas for pedestrians, commuters, and shoppers.

Mitigation

None required.

3.7 SCHOOLS AND LIBRARY

This section presents a summary of San Bruno schools and library facilities. Potential impacts are identified, based on the ability of existing schools and library facilities to accommodate future demand. General Plan policies supporting the provision of additional facilities are identified.

ENVIRONMENTAL SETTING

Four different school districts serve San Bruno residents from kindergarten through the community college level. The San Bruno Park Elementary School District is located entirely within the city and operates seven elementary schools and one middle school. This district serves most San Bruno children in kindergarten through eighth grade. South San Francisco Unified School District has one elementary school located in San Bruno—Monte Verde Elementary. The San Mateo Union High School District serves San Bruno's high school students, and the San Mateo Community College District provides post-secondary educational services. Figure 3.7-1 illustrates existing and former school sites within the city.

Based on the Proposed General Plan and Department of Finance (DOF) projections, school-age population (5–18 yrs.) will slowly, but steadily increase through 2025. This gradual increase in student age population will slowly increase demand on some existing school facilities. However, because many San Bruno schools are under capacity, current facilities may be sufficient to accommodate student age population growth through 2025.

Facilities and Enrollment

Table 3.7-1 reports current school enrollment. Schools in the San Bruno Park Elementary School District are at capacity; however, there are no projected increases in enrollment during the Proposed General Plan timeframe. Most school facilities were built in the 1940s and 1950s, and the District is undertaking a facilities modernization program over the next two years, which will not affect total district capacity of 3,785.[1] A $30 million general obligation bond and $6 million in state funds finance improvements and new structures. The District also has three excess school sites, which are being used for district offices, childcare and storage, and a driving range.

The San Mateo Union High School District operates eight schools, two of which, Capuchino High School and Peninsula High School, are in San Bruno. Students can choose to attend any of the District's schools, and San Bruno residents also attend Burlingame, Hillsdale, Mills, and San Mateo High Schools. Capuchino High School is currently operating below its 1,300-student capacity[2], but expects enrollment to increase once major facility upgrades are completed and curriculum changes occur. The District plans to spend approximately $42 million on capital improvements for Capuchino High as part of a $137.5 million district-wide general obligation bond. Peninsula High School is a continuation school serving the needs of students throughout the District. The school is located at the former Crestmoor High School site. Peninsula High School is under its 250-student capacity, and no facilities improvements are planned.

South San Francisco Unified School District is also undertaking a modernization program using state and general obligation bond funding. The South San Francisco General Plan (1999) states that the capacity of

[1] Steve Fuentes, Chief Business Officer, San Bruno Park School District, personal communication, July 10, 2003.

[2] Pam Thomas, Administrative Assistant, San Mateo Union High School District, personal communication, April 9, 2003.

Monte Verde School is 514 students. With a current enrollment of 469, this school is under capacity. District projections, however, indicate that future enrollment will remain stable, or could decline. There are no planned facilities improvements for Monte Verde Elementary School in the near future.

Table 3.7-1: School Enrollment, 2004-2005 School Year

School	*Number of Students*
San Bruno Park School District	
Allen Elementary (K-6)	376
Belle Air Elementary (K-6)	429
Crestmoor Elementary (K-6)	248
El Crystal Elementary (K-6)	201
John Muir Elementary (K-6)	361
Portola Elementary (K-6)	197
Rollingwood Elementary (K-6)	255
Parkside Intermediate School (7-8)	605
South San Francisco Unified School District	
Monte Verde Elementary	469
San Mateo Union High School District	
Capuchino High School (9-12)	1,137
Peninsula High School (10-12)	237
Total K-6	2,536
Total 7-8	605
Total 9-12	1,374
Total K-12	4,515[1]
Skyline Community College	8,263[2]

[1] Includes some students who are not San Bruno residents, but who attend schools located within the City.
[2] Figure represents enrollment for Fall 2005 semester.

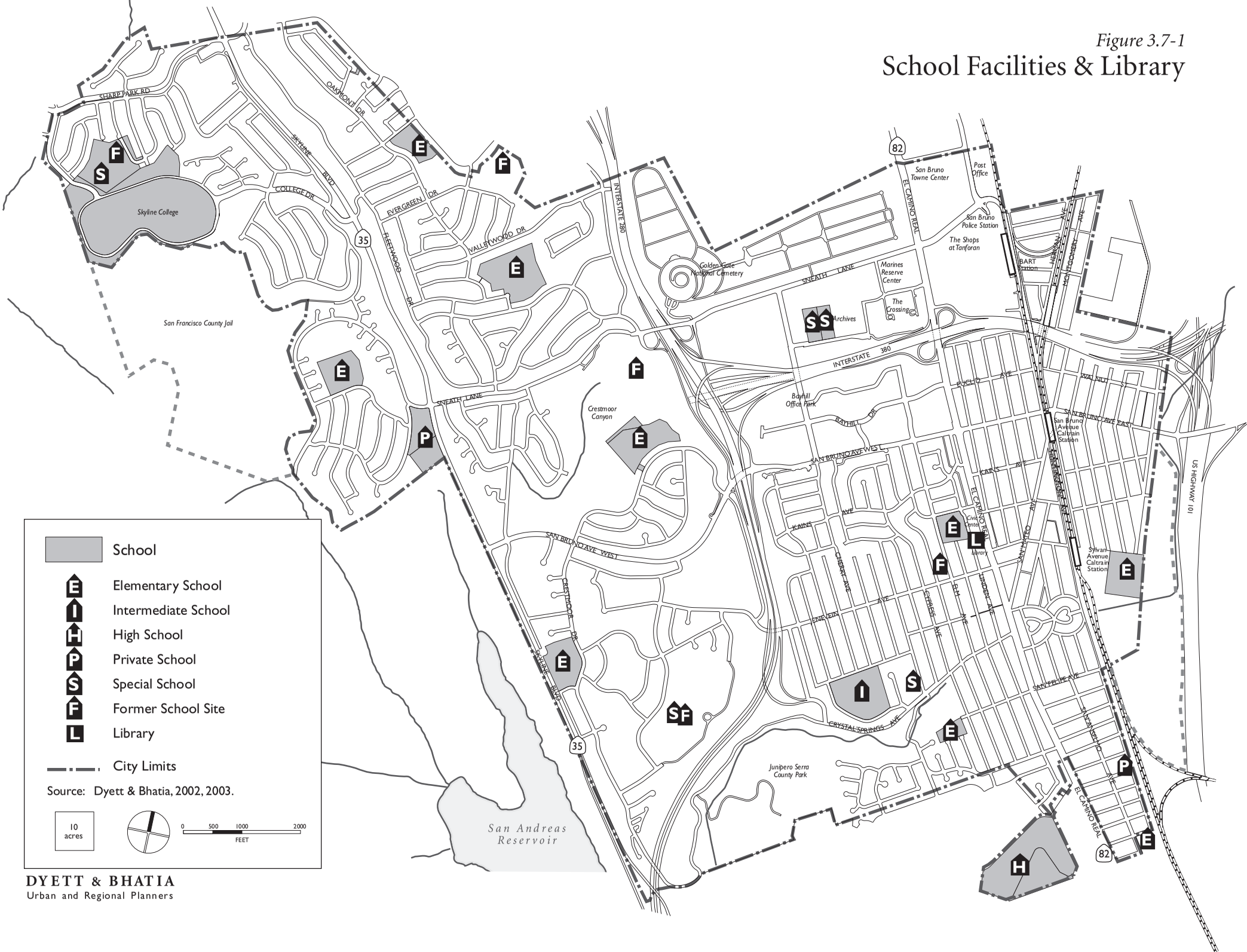
Source: CBEDS 2004-05 Enrollment by Grade and School (California Department of Education)

Two K-8 private parochial schools—Highlands Christian Academy and St. Robert's Catholic School—also serve San Bruno and neighboring cities.

Skyline College is one of three community colleges operated by the San Mateo County Community College District. The 111-acre Skyline College campus, located in northwestern San Bruno, offers a wide array of cultural, educational, and vocational opportunities for students of all ages and is a valuable resource to the San Bruno community. A number of facilities improvements and expansions are planned for the campus, including redevelopment of the former Pacific Heights Middle School site into new College facilities. In the spring of 2006, the College began an Education and Facilties Master Planning Project (EFMPP) after the passage of a second district-wide bond for facilities construction and upgrades. The College has also recently completed a strategic planning initiative that develops a three-year work plan for the College.

Figure 3.7-1

School Facilities & Library



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Senate Bill 50

Senate Bill (SB) 50, enacted in February 1999, prohibits local agencies, such as the City of San Bruno, from denying land use approvals on the basis that school facilities are inadequate. SB 50 implements Proposition 1A, approved by voters on November 4, 1998, and preempts existing city fees. This legislation establishes base school impact mitigation fees – Level One fees – for residential construction of at least $1.93 per square foot, and for commercial construction of at least $0.31 per square foot. A school district may impose Level Two fees if the school district meets certain criteria, such as preparation and adoption of a five-year school facilities needs analysis. The San Mateo Union High School District has adopted a five-year facilities plan.[3]

Library Facilities

The City of San Bruno operates one library, a 15,600 square foot facility located on El Camino Real adjacent to City Hall. The library is open seven days a week for a total of 63 hours per week. An estimated 60-percent of all residents have library cards. The library has over 120,000 circulating items,[4] including books, magazines, videos, DVDs, CDs, books on tape, and books on CD. Children's services include reading and audio-visual materials, as well as regular preschool story times, a summer reading club, after-school specials, and school visits. Adult programming encompasses computer classes, a book club, and several yearly special programs. There is also a growing collection of Spanish reading materials, and a collection of Japanese materials from San Bruno's sister city Narita, Japan. Delivery and pick-up services are available for any homebound person in San Bruno.

The San Bruno Public Library is a member of the Peninsula Library System, a consortium of 32 libraries located in San Mateo County. The number of patron visits to the San Bruno Library during the 2001-2002 Fiscal Year was approximately 250,236[5] (732 patron visits per day[6]). By the year 2005, the number of patron visits is anticipated to increase to 1,018 per day.[7]

The Library was built in 1955 and expanded in 1960. A number of mechanical, systems, and structural deficiencies have been identified. As a result, the library is no longer able to adequately meet the needs of its increasingly diverse and numerous patrons. The Facility Master Plan prepared for the library in August 2000 identified a shortage of materials and resources available to San Bruno residents, as listed in Table 3.7-2.

The Master Plan also found that the current library site is too small to support an efficient building and parking configuration. The Ad Hoc Library Citizens Committee recommended two sites for a new two-story, 38,500 square-foot library facility – both within the existing Civic Center complex. The existing library structure could then be used for City Council Chambers, meeting space, and/or offices. However, the Committee also recommended preparation of a parking plan in recognition of the limited parking available within the complex.

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[3] City of San Bruno, *U.S. Navy Site and Its Environs Specific Plan*, *Draft Environmental Impact Report (DEIR),* October 2000.

[4] City of San Bruno, City Council's Adopted Two-Year Budget, General Fund and Special Revenue Funds 2002-03 and 2003-04.

[3] City of San Bruno, *U.S. Navy Site and Its Environs Specific Plan*, *Draft Environmental Impact Report (DEIR),* October 2000.

[4] City of San Bruno, City Council's Adopted Two-Year Budget, General Fund and Special Revenue Funds 2002-03 and 2003-04.

[5] Janet Zich, Reference Librarian, San Bruno Public Library, personal communication, April 18, 2003.

[6] In the fiscal year 2001-2002, the library did not open 23 days (Vich).

[7] Public Library Master Plan, 2000.

Table 3.7-2: San Bruno Library Services Evaluation

Service	*Current Holdings/Facilities*	*Needed Holdings/Facilities*
Book collection	97,500 volumes	133,000 volumes
Seating	68 chairs	178 chairs
Public Computers	12 computers	50 computers
Storytime space	35 shared seats	40 seats
Group study areas	0 seats	28 seats
Parking	9 spaces	170 spaces
Meeting room	0 seats[1]	160 seats

1. Meeting room has been closed for needed storage space.

Source: City of San Bruno Public Library, Facility Master Plan, August 2000.

SIGNIFICANCE CRITERIA

The General Plan would have significant impacts to schools if it would result in the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable performance objectives.

IMPACT ANALYSIS

3.7-A Increases in housing and population proposed by the General Plan may result in increased school enrollment, which may require new or expanded school facilities. (Less than Significant Impact)

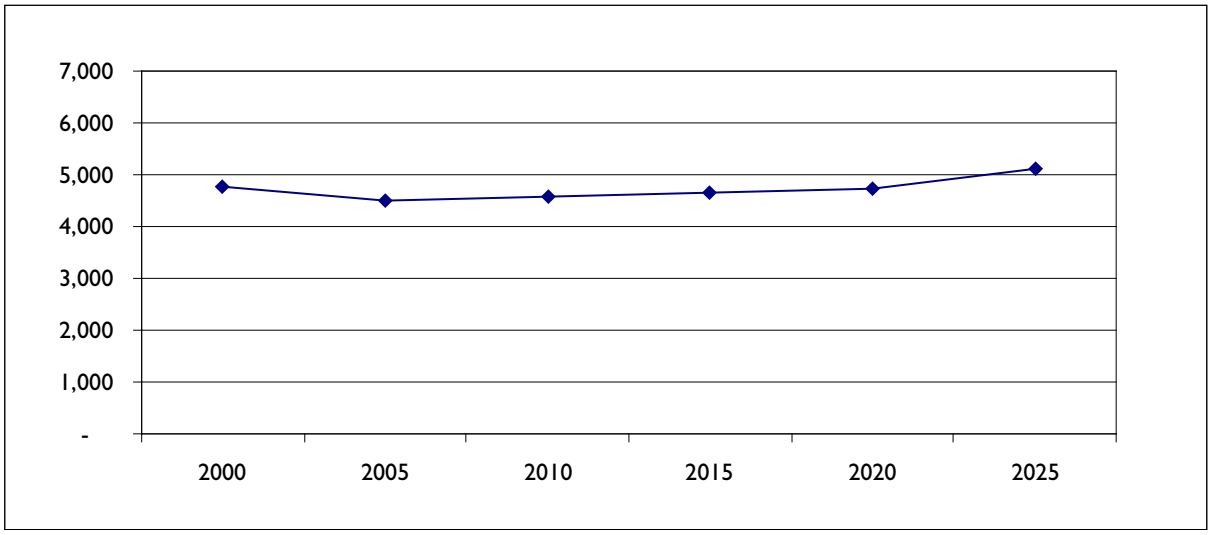
The Proposed General Plan predicts that the City's population will be 44,864 and housing units will total 17,336 by 2025. In addition, according to 2025 enrollment projections based on the Proposed General Plan and by using 1998 DOF age cohort[8] projections (1990-2030), school-age population (5-18 yrs.) will slowly, but steadily increase from today through 2025.

Chart 3.7-1 illustrates San Bruno's projected school enrollment (kindergarten–12th grade) through year 2025 under the proposed project. These projections are derived from Proposed General Plan population projections and age cohort population trends redistributed by student age cohorts within the County. The first step in calculating San Bruno 2025 enrollment projections was to calculate school age as percentage of total population by using 2004 DOF age cohort projections from 2000 to 2050 for San Mateo County. The 2025 school age as percentage of total population, a median of 2020 and 2030 figures, was derived by dividing each school cohort projection number by total population. Next, percent of school age enrolled in District schools (rather than private schools or home-schooled), a median of 1990 and 2000 figures, was calculated by taking enrollment numbers from DOF age cohort projections and dividing these by student population from 2005 DOF enrollment projections. To get 2025 enrollment, projected San Bruno population was multiplied by school age as percentage of total population and percent of school age enrolled. Finally, San Bruno enrollment

[8] An age cohort is a grouping of people having approximately the same age. DOF age cohorts grouped people by age in 5-year intervals (e.g. 0-4, 5-9, 10-14, etc.) from 0 years to 85+ years.

projections between 2005 and 2025 were calculated by extrapolating the straight-line projections between the two.

Chart 3.7-1: School Enrollment Trends and Projections, 2000-2025



Source: DOF Age Cohort Projections.

As a result, Chart 3.7-1 shows a seven percent increase in school enrollment from 2000 to 2025. It also demonstrates that the city's school age population dropped slightly from 2000–2005, but is expected to increase gradually with the total population, at an annual rate of 0.6 percent from 2005 to 2025. This gradual increase in student age population will slowly increase demand on some existing school facilities. However, because many San Bruno schools are under capacity current facilities may be sufficient to accommodate student age population growth through 2025. Planned and underway renovations may further alleviate demand on schools. Former school sites owned by the Districts may even be sold or redeveloped into other uses, such as parks, recreational facilities, or housing. Table 3.7-3 further describes the data above.

Table 3.7-3: Projected K-12 Public School Enrollment by Grade Range

Schools	*Current Enrollment (2005)*	*Projected Enrollment (2025)*	*Change in Enrollment (2005–2005)*	*Capacity*	*2025 Available Capacity*
Elementary Schools (K-6)	2,536	2,772	236	3,970	1,198
Middle Schools (7-8)	605	766	161	650	-116
High Schools (9-12)	1,374	1,560	186	1,550	-10
Total (K-12)	**4,515**	**5,098**	**583**	**6,170**	**1,072**

Source: Dyett & Bhatia, April 2006.

According to the table, the number of students enrolled in San Bruno schools is projected to increase by a net of 583 students. Elementary schools will see a 236 student increase in enrollment, while middle schools and high schools will see an increase of 161 and 186 students, respectively. Such an increase in enrollment will maintain San Bruno schools under capacity overall in year 2025, with 2025 capacity being largest in

elementary schools. According to Table 3.7-3, 2025 available capacity for schools K-12 (calculated by subtracting projected 2025 enrollment by current school capacity), will be a net of 1,072 students.

The increase in enrollment for schools K-6 would most likely have the greatest effect on the San Bruno Park Elementary District because it has the majority of elementary schools in its jurisdiction. Existing school facilities should be able to accommodate a 236 student increase. According to Table 3.7-3, in 2025, schools for grades K-6 will have excess capacity for approximately 1,200 students. Therefore, the District's plan to not expand current facilities at San Bruno Park School District should not affect the District's ability to accommodate additional students. However, in the event that more students enroll than expected, there exist three former school sites within the District's jurisdiction that could accommodate an increase in student population. These facilities include Carl Sandburg, currently being rented out to a child development center, Willard Engvall, used as a driving range, and Edgemont, which serves as the district offices. In total, build-out of the Proposed General Plan would have no adverse impact on elementary school facilities in the City.

Table 3.7-3 also shows an increase in enrollment in the middle school and two high schools in the District. Even though the existing middle school in San Bruno Park District and two high schools in San Mateo Union High School District are below capacity, a modest increase in enrollment would exceed the current capacity of these schools by year 2025—the middle school by as much as 116 students. Nevertheless, if San Bruno's only middle school, Parkside Intermediate School, were to exceed its capacity, former schools sites in the San Bruno Park District could be used to accommodate additional students by temporarily expanding existing facilities. Similarly, high schools in the city should be able to accommodate excess capacity because Capuchino High School is currently undergoing substantial facilities upgrade, increasing total high school capacity. As a result, an increase in enrollment in grades 7-12 will have a less than significant impact on the capacity of intermediate and high school facilities in the city.

Even though school enrollment in San Bruno is increasing at a steady rate, the number of school-aged residents in the city is decreasing. In 1990, students constituted 16-percent of the City's total population. In year 2000, that proportion of students had risen to 19-percent. However in 2025, the student population in San Bruno is projected to decrease to 11 percent of the total population.

As discussed earlier, the majority of San Bruno schools are under capacity. Coupled with a decline in the student population, the projected school-age population increase in grades K-12 indicated by the Proposed General Plan will have a less than significant impact on schools under capacity. Similarly, San Bruno schools at capacity will not be significantly affected by a total 583-student increase in enrollment due to facilities improvements and underutilized school sites that could be used to accommodate additional students.

Applicable General Plan Policies:

PFS-3 Require, as part of plan review, identification of needed public service improvement and maintenance costs for those projects that may have a significant impact on existing services.

PFS-6 As part of the Civic Center Complex Master Plan explore measures to improve access to City facilities, including such measures as integration of Council chambers into the Civic Center complex, provision of visitor parking at City Hall, important information and forms available on the City's website, etc.

PFS-51 Work cooperatively with local school districts to monitor the growth of the school-age population within the San Bruno, and the subsequent need for school sites and facilities.

PFS-52 Provide technical assistance to local school districts in design and planning for reuse of former school sites throughout the City. Consider acquisition or leasing of former school sites for recreation, education, or other community needs.

PFS-53 Maintain good communication with the local school districts, and integrate school facilities planning with the City's objectives, including:

- Designing school facilities to allow safe pedestrian and bicycle access;
- Ensuring construction of traffic calming measures on surrounding streets;
- Designing attractive facilities that contribute to neighborhood identity and pride; and
- Allowing public use of recreational facilities on school sites on evenings and weekends.

Mitigation

None required.

3.7-B New and redevelopment activities proposed by the General Plan may result in the need for new or expanded library facilities due to an increase in the number of cardholders at the San Bruno Public Library. (Less Than Significant Impact)

As mentioned previously, approximately 60-percent of San Bruno residents are library cardholders. Under the Proposed General Plan, projected population growth could add additional residents who could also become cardholders at the San Bruno Public Library. If this population growth added 2,694 residents as the Proposed General Plan predicts by 2025, 1,590 new cardholders (a 6% increase) will have to be served by the existing San Bruno Public Library.[9]

The San Bruno Public Library is already documented as being too small to adequately service its current and future users. The City Council has already agreed to consider the Downtown and/or Civic Center area as the preferred location for a new Library. The Proposed General Plan establishes policies related to expanding library services.

Applicable General Plan Policies:

PFS-55 Provide a wide range of library services to San Bruno residents through a strong main Public Library facility.

PFS-56 Study potential locations and funding mechanisms for development of a larger Public Library facility. Focus on sites within the Civic Center complex, as recommended by the Ad Hoc Library Citizens Committee.

PFS-57 Continue San Bruno's relationship with Skyline College by coordinating collections and sharing resources through their common partnership with the Peninsula Library System.

PFS-58 Continue to provide public access to the Internet and other computer-based resources through the San Bruno Public Library facility.

[9] The number of new cardholders was calculated by taking the percentage of San Bruno cardholders for the populations in 2000 and 2025 and subtracting these two numbers: [44,864 (.6) – 42,215(.6)] = 1,590.

Mitigation

None required.

PFS-59 In order to prevent anticipated future population growth in San Bruno from burdening existing over-extended library services, City staff will ensure upon individual project review that the developer sets aside contributions or in-lieu fees in general proportion to the burden proposed new residential development would have on the library system, and that those fees are used to improve public library facilities. The per capita share will be negotiated between the Ad Hoc Library Citizen's Committee, City Staff, and City Council, within 1 year of Plan adoption, and will be applied uniformly (and if necessary, retroactively) across all residential development occupancy permit applications submitted after Plan adoption, until such time as an alternative form of support is provided, or the library facilities are fully upgraded to the requirements as described on p 8-11 Table 8-3 of the General Plan.

3.8 EMERGENCY SERVICES

Issues related to increased demand for police services, fire protection, and emergency response services are addressed in this section. The ability of existing services and facilities to accommodate new growth and development, as outlined in the Proposed General Plan, provides the basis for identifying potential impacts.

ENVIRONMENTAL SETTING

Fire Protection and Emergency Medical Response

Fire protection services in the City of San Bruno are provided by the San Bruno Fire Department, which has 35 full-time fire fighters and 10 trained "Paid Call Reserves." All full-time fire fighters are certified in the use of defibrillators and are trained Emergency Medical Technicians (EMTs). Eighteen of the fire fighters are trained San Mateo County Paramedics. American Medical Response, which is based in Burlingame, provides ambulance service in the City through its contract with the County of San Mateo. Fire Department responsibilities include plan-checks and field inspections on commercial cooking equipment, fire alarm systems, sprinkler systems, and specialized extinguishing systems in all new and existing construction within the City of San Bruno. They also provide all new businesses, daycare centers and care facilities with their initial fire safety clearance.

The Fire Department operates two stations. Station No. 51, built in 1958,[1] is located on the south side of the City Hall complex at 555 El Camino Real and has primary responsibility for the area east of Interstate 280 (I-280). Station No. 52, built in the early 1960s, is located near the intersection of Sneath Lane and Earl Avenue at 1999 Earl Avenue, and responds to emergency calls west of I-280. Structurally, Station No. 51 is at capacity and currently does not meet the access requirements of the Americans with Disabilities Act or provide facilities for female personnel.[2] Station No. 52 is located within a few feet of the San Andreas Fault, within an Alquist-Priolo Fault Zone, which results in risk of structural damage or failure during a seismic event.

In 2002, the Fire Department responded to a total of 197 fires and 1,812 medical emergencies[3]. In addition, the Department responded to 1,147 other emergencies. Response times average two to three minutes, measured against a countywide average of nearly seven minutes. Overall, on a scale from one (best) to ten (worst), based on the public Protection Classifications (PPC) of the Insurance Services Office, Inc. (ISO), the San Bruno Fire Department has an overall rating of three, considered a top rating.[4]

The Fire Department is part of a Joint Powers Authority (JPA) between the 20 incorporated cities in San Mateo County and the County itself for fire protection and emergency medical services. The JPA requires the closest available paramedic engine company to respond to a call for emergency medical service, and the closest available engine, truck company, and Battalion Chief to respond to fire calls.

The Fire Department is in need of new facilities, and funds have been set aside as part of the City of San Bruno's capital improvement program. The Fire Department is currently in need of renovations to Station

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[1] Jim Holdridge, Division Chief, San Bruno Fire Department, personal communication, April 15, 2003.

[2] Holdridge, April 15, 2003.

[3] Grant Wilson, Supervising Associate Planner, City of San Bruno Planning, correspondence, September 17, 2003.

[4] The Insurance Services Office, Inc. (formerly the American Insurance Association) developed a Public Protection Classification for insurance rating purposes. The classification system measures the major elements of a community's fire suppression system, including water supply and distribution systems, dispatching procedures, firefighting equipment, staff training, etc.

No. 52, and funds have been set aside as part of the City of San Bruno's capital improvement program. Development in the western and central portions of the City may require the Fire Department to review project designs to assess potential wildfire hazards, assure adequate emergency access, assure that adequate fire prevention measures are incorporated in the project design, and assure adequate water supply for fire hydrants.

Fire Hazards

The degree of fire hazard for an area is dependent on three major components: (1) the natural setting of the wildland or urban area, (2) the degree of human use and occupancy of the wildland or urban area, and (3) the level and ability of public services to respond to fires that do occur. The greatest potential for fire hazards in the City of San Bruno occurs in areas near extensive natural vegetation, such as Crestmoor Canyon, San Francisco Water Department's Peninsula Watershed, and Junipero Serra County Park (see Figure 3.8-1 and detailed discussion under Fire Hazard Areas, below). The urban-interface hazard areas represented on the map provide a conceptual illustration of those developed areas potentially at risk of damage should a wildland fire occur. In these areas, highly flammable vegetation mixed with steep topography and long, dry summers create the potential for wildland fires. Dense stands of eucalyptus also exist within the neighborhoods of Rollingwood and Crestmoor surrounding Crestmoor Canyon. Fire hazards in urbanized areas are usually due to industrial chemical use, crowded structures, and building conditions. These urban conditions are found in the Fifth Addition and along San Mateo Avenue. Outside of these areas, San Bruno has a very good fire rating (City of San Bruno, 1984). The fire rating is based upon the type and amount of firefighting equipment, number of firefighters, and water flow and pressure.

The proximity of Crestmoor Canyon, the Peninsula Watershed, and Junipero Serra County Park to the ocean provides an influx of moisture-laden air that tends to limit ignition of potential fuels. However, the movement of the fog bank also brings with it periods of high-speed winds that blow over the ridgetops. The Peninsula Watershed contains several long ridges that run from the north to the south, creating long expanses of uniform vegetation but also sharp contrasts in vegetation caused by elevation changes. The increased moisture and lack of extensive grazing have encouraged a quick conversion from grass to shrubs and the growth of vegetation with greater biomass and lesser ignitability in Crestmoor Canyon and the Peninsula Watershed. Vegetation density in Junipero Serra County Park is maintained by park personnel. Public access is limited in the Peninsula Watershed and Crestmoor Canyon, but public use of Junipero Serra County Park, with its 168 picnic tables and 206 parking spaces, is encouraged. Fire protection for these areas is provided by the San Bruno Fire Department and the California Department of Forestry (CDF).

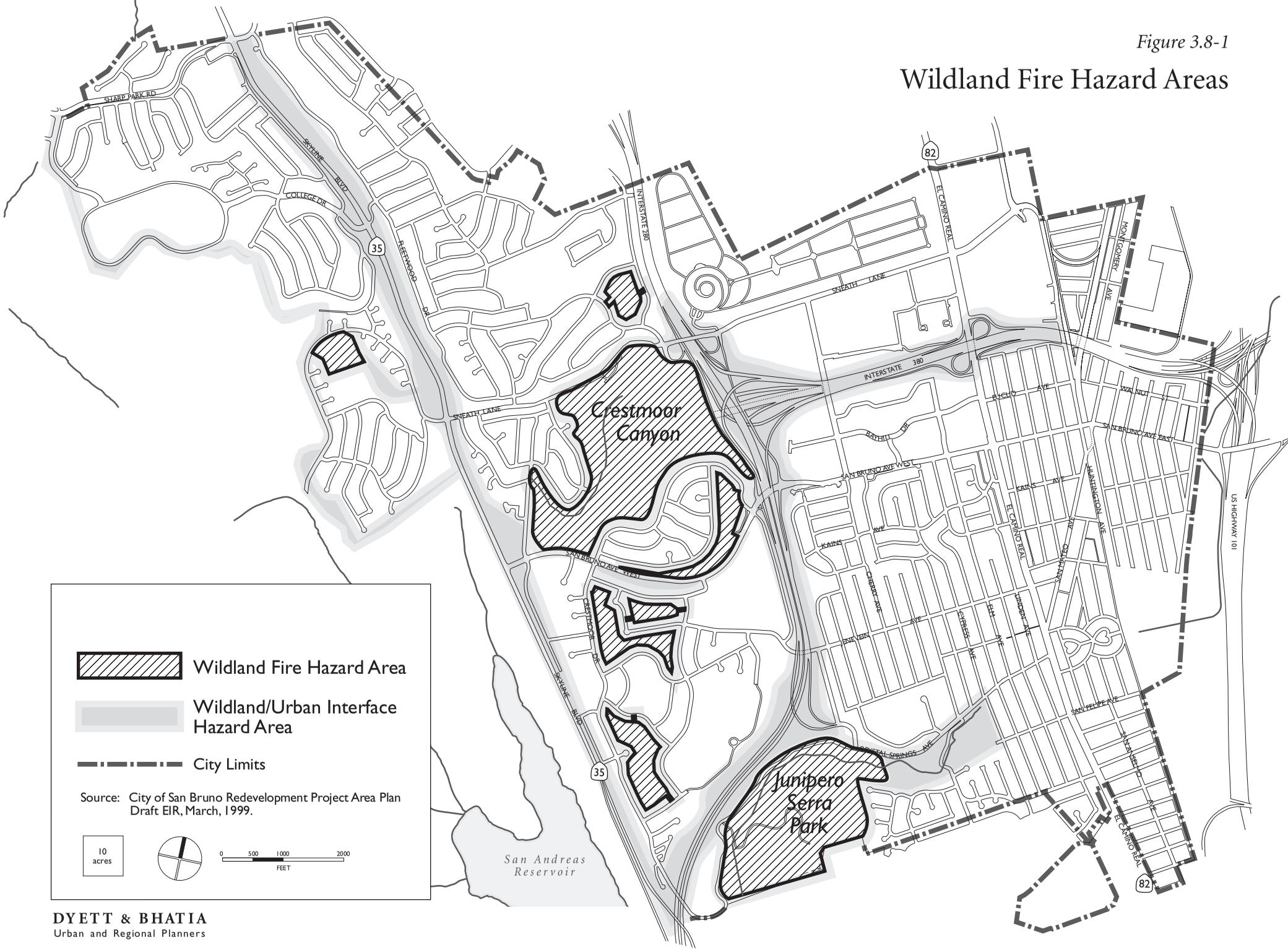
High-density conditions, older buildings, and smaller streets, the latter of which may restrict fire service access, cause potential fire hazard in the urban areas along San Mateo Avenue and in the Fifth Addition neighborhood. The area also contains industrial companies that use various chemicals. Industrial chemical use is a potential fire hazard due to the combustible nature of certain chemicals, and their highly flammable characteristics may hinder suppression. It is possible for high-density areas to have multiple building fires due to existing hazardous conditions and the rapid movement of fire.

Elements of Fire Hazard and Protection

Four elements must be considered when addressing fire protection: fire hazard, the resources at risk, fire behavior, and the fire protection system. Thus, although "fire hazard" usually refers only to fuel complexes and their ignitability and difficulty to control, the overall issue of fire management within wildland and high-density urban areas requires consideration of the other three elements as well.

Figure 3.8-1

Wildland Fire Hazard Areas



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Fire Hazard

Fire hazard refers to the fuels on a site, typically represented by plant biomass (plant material) and its configuration and condition, which may lead to difficult-to-control wildland fires. Plant material fuel complexes within Crestmoor Canyon, the Peninsula Watershed, and Junipero Serra County Park consist of chaparral, grassland, brush, and select stands of trees. For urban areas, wood structures and ignitable chemicals pose the threat of heavy fuel concentrations.

Resources at Risk

Wildland and urban fires pose different risks based on the affected resource.

- *Personal Safety*. This includes the health and well-being of the public and fire service personnel. The greatest threat to safety generally occurs in areas of dense population with poor access (narrow, windy, and steep roads that serve large numbers of people).
- *Property Values.* In general, this term refers to high-value resources, such as homes and property items that represent invested resources and high values, and is usually expressed in monetary terms.
- *Natural Resources*. In the watershed-urban interface, this usually means the flora and fauna on private or public lands, which can be viewed as a public resource for recreation and aesthetics, wildlife habitat, water resources, etc. Fire suppression efforts, typically requiring heavy equipment, can damage vegetation and wildfires, and can create optimal conditions for invasion of non-native species that may displace native species over time. While not directly damaged during a wildfire, both water quality and quantity are affected by wildfire. Increased sedimentation is the primary water quality impact associated with wildfires. In addition, efforts to suppress a fire can result in erosion.

Fire Behavior

The elements of a fire itself that are important in assessing fire hazard are referred to as fire behavior, or the physical parameters associated with a fire. In general, there are two elements of potential fire behavior:

- *Frontal Fire Behavior*. This element refers to the advancing fire front, both its capacity to ignite adjacent unburned fuels as well as the relative ease with which it can be contained and extinguished.
- *Spot Fires.* This mechanism of fire spread refers to the capacity of a fire to deposit burning embers into unburned fuel complexes. Spot fires, although accounting for only 1-percent of all wildland fires in the western United States, are responsible for burning 80- to 96-percent of the area burned (Struass et al., 1989). The potential for this mechanism to drive fire into a "blow-up" phase is evidenced by the Oakland Hills tunnel fire of October 1991, where it is believed that crown fire in trees, and subsequent spotting, dictated the initial rapid advancement of that fire (Sapsis, 1992).

The critical characteristics for analysis of the fire behavior of a site include: slope, surface fire fuel loading and arrangement, and the presence of vertical fuel continuity that would contribute to crowning of aerial fuel complexes (Burgan, 1987; Rothermel, 1983 and 1991). Although conditions contributing to crown fires are relatively rare, when they occur and aerial fuels are engaged in flaming combustion, the potential for spot fires is dramatically increased. Topography plays a role in fire behavior by influencing wind direction, local weather patterns, vegetation types and distribution, and the presence of moisture. Topography can also create microclimates that have localized moisture conditions. By influencing the local wind, fuel, moisture, and heat availability, topography directly and indirectly affects the intensity, direction, and spread rate of wildfires. In addition, topography may create impediments to firefighting.

In addition to the characteristics described above, weather is a physical variable that must be considered in the analysis of fire behavior. Weather conditions can influence both the ignition potential of a fire as well as the intensity, rate, and direction of movement of a fire. Wind, temperature, and humidity are the more important weather variables used to predict fire behavior. In particular, wind conditions can affect the intensity of a fire by increasing ventilation to the combustion process. Wind can also accelerate the movement of the fire front by angling flames and transporting embers. In general, winds in the Bay Area blow from the west in the summer and southwest in the winter; the most severe fire weather occurs with strong north to northeast winds. The steep topography in the Peninsula Watershed creates its own wind, and up-canyon drafts in the morning and down-canyon drafts in the afternoon are common. In addition, the many canyons can divert the wind so that, for example, a prevailing westerly wind can be oriented more to the south.

Fire Protection System

The physical properties of an area and the fire protection infrastructure available (equipment, personnel training, etc.) are important elements in determining the capacity of fire service personnel to protect the resources at risk. Site characteristics such as slope steepness and infrastructure such as fire roads and trails, contribute to the site accessibility, which is also an important factor in fire hazard analysis. Fire defense improvements include fuelbreaks, roads, water sources, gates, and helispots or heliports, which can aid in the effectiveness of fire suppression. The San Bruno Fire Department provides fire protection and emergency medical services in the City of San Bruno.

The Peninsula Watershed is located within the CDF State Responsibility Area and, as such, is protected by the CDF. The CDF station nearest to the watershed is the Belmont Station, located at 20 Tower Road in Belmont, approximately one mile from the center of the watershed (San Francisco Water Department [SFWD], 1996).

Fire Hazard Areas

Crestmoor Canyon

Crestmoor Canyon is a steep, heavily vegetated canyon that originates at the intersection of San Bruno Avenue and Glenview Drive near Skyline Boulevard. San Bruno Creek flows through the canyon as part of the City of San Bruno's storm drain system and provides an ample water source for growing vegetation. The canyon is bounded by Crestmoor Drive, Claremont Drive, and Sneath Lane. The upper canyon is very steep and has dense vegetation. Residential neighborhoods surround the canyon ridgetops. Fire protection for Crestmoor Canyon is provided by the City of San Bruno Fire Department. The fire department also oversees brush clearance in Crestmoor Canyon to minimize the potential fire hazard.

Rollingwood and Crestmoor

Within the neighborhoods of Rollingwood and Crestmoor, which surround Crestmoor Canyon, stands of eucalyptus exist in open space areas and tree reserves. These areas present fire hazards due to the size of the groves and density of the eucalyptus trees. Eucalyptus is a tree that burns well due to the oil contained in the leaves and the lack of protective bark. The City of San Bruno Fire Department provides fire protection for these stands and surrounding neighborhoods.

Junipero Serra

Junipero Serra County Park is a 108-acre, heavily wooded hill with steep topography and a mixture of native and non-native vegetation. This foothill park is adjacent to the Cities of San Bruno and Millbrae. The higher elevation vegetation is mainly eucalyptus trees, which limit underbrush growth due to the allelopathic (chemical inhibitors that restrict vegetative growth) effect of the fallen leaves. Fire protection is provided by

the City of San Bruno Fire Department and other surrounding fire departments depending upon the County of San Mateo central dispatch system.

Peninsula Watershed

The Peninsula Watershed project site encompasses 23,000 acres of the San Francisco Peninsula, located in central San Mateo County. The Peninsula Watershed includes three primary reservoirs: San Andreas and Crystal Springs adjacent to I-280 in the east and Pilarcitos to the northwest. The City of San Bruno shares a border with the Peninsula Watershed along Skyline Boulevard. In addition to its primary use for water collection and storage, the Peninsula Watershed serves as a State Fish and Game Refuge; recreation activities, including hiking, bicycling, walking, and golfing (at the Crystal Springs Golf Course) are also permitted in specified areas of the watershed.

Several large fires occurred within the Peninsula Watershed in the 50-year time period from 1877 to 1929. The last major fire occurred in 1946, and no large fires have been documented since that time. A few small fires occur each year, some of which are characterized as suspicious, related to illegal camping, or the result of fireworks. Historically, large fires have been concentrated in the northern portion of the watershed. The roads and highways that bisect and border the Peninsula Watershed have not been a major source of recorded ignitions. Instead, numerous episodes of fire ignitions have occurred off Sawyers Camp Road and Army Road. No threats to private homes have resulted from wildfires within the watershed (SFWD, 1996).

Water sources for fire suppression in this area are meager. There are 13 hydrants on the watershed and seven water tanks scattered on the eastern portion of the watershed. CDF provides fire protection services for the Peninsula Watershed.

Fire Hazard Regulations

The Health and Safety Element of the City of San Bruno Proposed General Plan sets forth policies and procedures pertaining to reduction of fire hazards. Other applicable regulations are described below.

Public Resource Codes 4290 and 4291

The Peninsula Watershed is protected by the CDF and therefore must comply with the State Public Resource Code (PRC), §4290 and §4291, which require management along structures and roadsides.

All flammable vegetation must be cleared for 30 feet around a structure, and the roof must be maintained free of dead vegetative material. Limbs overhanging roofs must be trimmed of dead material, and branches must be trimmed 10 feet from chimneys, which must have a screen. Vegetation that is ignited easily (primarily grass) must be removed for a distance of 10 feet from each side of the road. While not a requirement, CDF encourages thinning of native vegetation and all dead material for an unspecified distance on both sides of roads. PRC 4290 requires posting an address at each driveway entrance and specifies standards for sign size and style. PRC 4290 also includes specifications for any new installation of water supply and storage systems, hydrant/fire valves, and road design and signage.

Legal Issues

Because wildland fires have recently become a cause of litigation, the issue of liability influences the management of potential wildland fire areas. Where fires start or pass through a parcel of land and cause damage elsewhere, it is not unusual for the landowner to be sued. The most common claim has been negligence, where the landowner knew of a hazard but did not mitigate the hazard. Thus, if significant

damages from a wildfire are a possibility, landowners often take action to protect themselves from potential lawsuits.

Police Services

The San Bruno Police Department provides police protection services to the City of San Bruno. In September 2002, construction was completed on a new, 23,000 square foot police facility located at 1177 Huntington Avenue, next to the new San Bruno/Tanforan BART Station. This new facility is shared with BART Police, who occupy approximately 20-percent of the floor space. The police facility was built to accommodate future expansion of police services, including space for evidence and general storage. The old police facility was incorporated into an expanded city hall facility, which was recently renovated.

In 2001, the San Bruno Police Department responded to 28,719 calls, an estimated thirteen percent increase from 2000[5]. The increased crime rate is primarily due to a 42-percent increase in residential burglaries and a 9-percent increase in parking citations.

The Department currently employs 48 Sworn Officers, 19 civilian employees, 7 Reserve Police Officers and 2 Police Canines. The Police Department anticipates the need to slightly increase its staff as a result of a particular development under construction at the U.S. Navy Site, The Crossing, because of a proposed hotel and commercial development. Development in other areas may require individual assessment by the Police Department to assure adequate police protection services will be provided.

The Department deploys officers in a beat management system, which divides the City into three beats. Beat One covers an irregular area roughly bordered by San Bruno's northern, eastern, and southern city limits, and a western perimeter that follows Hunington Avenue to San Bruno Avenue East, then follows San Bruno Avenue further west to I-280. Beat Two covers the area bounded by San Bruno Avenue East to the north, Hunington Avenue to the east, and I-280 to the west, and extends to the southern city limits. Beat Three covers the area west of I-280.

The Department made a total of 1,176 arrests in 2001 and a total of 1,187 arrests in 2002[6]. San Bruno does not have a municipal jail, but transports detainees to the San Mateo County Jail in Redwood City. Persons with alcohol-related infractions are usually referred to the alcohol treatment program, First Chance, in South San Francisco.

Emergency Operations Plan

The City of San Bruno Emergency Operations Plan will be published within the next few months (Spring of 2008, according to the Planning Department staff). It will contain current maps of emergency evacuation routes, as well as a chain of command system to coordinate all departments of first responders (police, fire, medical). For more information on emergency operations and response, including evacuation routes, please see the Emergency Operations Plan.

SIGNIFICANCE CRITERIA

The Proposed General Plan would result in significant impacts on fire and police services if it would:

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[5] According to San Bruno's City Council Adopted Two-Year Budget, General Fund and Special Revenue Funds 2002-2004.

[6] Russ Nicolopulos, Captain, San Bruno Police Department, personal communication, May 6, 2003.

- Result in substantial adverse physical impacts associated with the provision of new or physically altered emergency facilities, need for new or physically altered emergency facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

IMPACT ANALYSIS

3.8-A New and redevelopment activities could result in increased fire protection and emergency medical response calls, and therefore the need for new or expanded fire facilities. (Less than Significant Impact)

The population increase and new development anticipated by the Proposed General Plan may result in an increase in calls for fire protection and emergency medical response services. According to the Proposed General Plan land use classifications, buildout of all vacant and underutilized land could result in a population increase of 1,756 new residents, and approximately 682 new housing units. These projections are in addition to pending development projects on the U.S. Navy Site, The Shops at Tanforan, and residential subdivisions at Skyline College. According to the Fire Department, additional new mixed-used development in particular, may have impact on services. Increased population density may also increase the threat of structural fire due to the close proximity of buildings.

Both of the existing fire facilities, Stations No. 51 and 52, are currently under review for renovation. According to the San Bruno Fire Department,[7] the existing facilities are outdated and therefore inadequate for the optimal provision of fire services. As described in the Environmental Setting, the two stations have been identified as part of the City's Five-year Capital Improvement Projects, and as such, the City commissioned C3 Design Alliance, an architectural firm in San Francisco, to develop renovation alternatives. In January 2001, C3 Design Alliance presented three retrofit options to the City of San Bruno.

The first option proposes minor refurbishment of each fire station. The second option, proposes major remodeling and expansion of each station. And the third option, proposes total replacement of both fire stations. Each of these options expands the fire station's service capacity by providing more space for administrative support, fire service programs, public education services, etc. However, due to the inability of the City to identify a funding source, and the national economic downturn, none of the three options have been adopted.

If new facilities were to be constructed, Station No. 52 would most likely be either on the same site or within 1/2 to 1/3 mile from the site on which it is currently located due to its centralized location within District 52. Station No. 51 would become part of the new enhanced City Hall center and may be moved to a different area within the site. One idea is for this existing facility to be demolished and a new library constructed in its place.

Because the proposed improvements to the existing fire stations would likely be made at or near existing

[7] Holdridge, April 15, 2003.

facilities in the Civic Center area and near Skyline Boulevard, construction of any new facilities or alteration of existing facilities would be unlikely to cause significant environmental impacts or adverse physical impacts.

According to the Fire Department, residential development and population growth proposed as part of the General Plan would not result in the need for additional department staff and facilities. Although the proposed mixed-use development as part of the new Proposed General Plan may increase the demand for fire services, the existing fire department and JPA could effectively respond to fire and emergency calls. Additionally, the Fire Department has access to extensive mutual aid through the San Mateo County dispatch system, which dispatches calls by proximity to the incident. By emphasizing proper use of sprinklers, annual inspections, and proper installation of smoke detectors, the Department actively minimizes losses due to fire.

While additional development in the City, by itself, would not likely result in the need for additional fire protection facilities, further development may require Fire Department staff to become more involved in safety efforts such as Code Enforcement and public education outreach initiatives. The Fire Department anticipates expanding its staff for these efforts.

Development in the western and central portions of the City may require the Fire Department to review project designs to assess potential wildfire hazards, ensure adequate emergency access, ensure that adequate fire prevention measures are incorporated in the project design, and ensure adequate water supply for fire hydrants.

The following Proposed General Plan policies will ensure that potential impacts are reduced to levels that are not significant.

Applicable General Plan Policies:

PFS-3 Require, as part of plan review, identification of needed public service improvement and maintenance costs for those projects that may have a significant impact on existing services.

PFS-5 Develop a Civic Center Complex Master Plan, in order to coordinate rehabilitation and expansion of the various City departments and service providers.

PFS-26 Ensure adequate staffing and facilities for the City's Police and Fire Departments to achieve desired levels of service, particularly surrounding transit areas and along urban-interface hazard areas.

PFS-27 Consider rebuilding or rehabilitating Fire Station No. 51 to accommodate current and future Fire Department needs, Americans with Disabilities Act standards, and seismic requirements. The new Fire Station could include a community meeting room.

PFS-28 Consider relocating Fire Station No. 52 to a safe site outside of the San Andreas Earthquake Fault Zone. Maintain existing or better levels of service to neighborhoods in the northern and western neighborhoods.

PFS-29 Establish a separate radio channel for use by city crews and firefighters during emergencies. Obtain funding for information technology systems, such as wireless communication systems, to further decrease fire and police response times.

PFS-30 Require installation and maintenance of fire protection measures in high-risk and urban-interface areas (Figure 8-2):

- Proper siting and access;

- Brush clearance (non-fire resistant landscaping 50 feet from structures);
- Use of fire resistive materials (pressure-impregnated, fire resistive shingles or shakes);
- Landscaping with fire resistive species; and
- Installation of early warning systems (alarms and sprinklers).

PFS-31 Ensure adequate fire water pressure as a condition of approval for all new development projects.

PFS-32 Require installation of residential sprinklers in areas with steep slopes and/or diminished access.

PFS-33 Consider the feasibility of establishing a Fire Risk Assessment Zone within and surrounding high-risk and urban-interface areas (Figure 8-2).

PFS-34 Identify and remove mature and/or diseased Eucalyptus trees in rights-of-way and other open areas, if they pose a fire hazard or other threat to health and safety.

PFS-35 Require installation of automatic sprinkler systems in all hotel, motel, and other overnight lodging facilities, in mixed commercial/residential uses, and in apartment buildings of three or more units.

PFS-37 Continue to clear fire hazardous materials from Crestmoor Canyon that pose a threat to nearby residents. Care should be taken to prevent unnecessary harm to healthy vegetation. Ensure continued use by the Fire Department should the existing fire road be transitioned to a multi use trail.

PFS-38 Ensure proper maintenance of the open space areas in western residential neighborhoods. Vegetation maintenance is necessary to prevent potential fire hazards.

PFS-39 Minimize risks to single-access residential neighborhoods by providing alternative access for fire and other emergency personnel.

Mitigation

None required.

3.8-B New and redevelopment activities may result in increased police protection calls, and therefore the need for new or expanded police facilities. (Less than Significant Impact)

Full build-out of development and population proposed by the General Plan may result in the increase in crime rates and subsequently the number of calls for police protection services. The San Bruno Police Department anticipates that the most significant increase in calls for police protection services will be from proposed commercial, and not residential or office development.[8] Commercial development attracts crime associated with retail including petty theft and auto burglaries. This may result in the need for additional police officers.

However, according to the Police Department, the population growth proposed as part of the Proposed General Plan would not result in the need for additional department facilities. Although new development, such as mixed-use, would increase police calls for response, that would not result in the need for additional

[8] Nicolopulos, April 15, 2003.

facilities. Therefore, no new facilities would be required and any potential adverse effects of constructing new facilities would be avoided.

The following Proposed General Plan policies would reduce potential impacts on the demand for additional police officers.

Applicable General Plan Policies:

The policies listed under Impact 3.8-A are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

3.8-C New development and traffic generation may interfere with local or regional emergency response or evacuation plans. (Less than Significant Impact)

There are two fire stations and one police station currently serving the City. Increases in traffic congestion due to development proposed in the General Plan may affect these stations. As individual development projects are proposed within the General Plan area, emergency services should be involved in discussions relating to circulation and access to ensure new development projects will not impact emergency service provisions. In addition, the need for mitigation measures identified for a specific location will need to be assessed under each development project. Despite the proposed improvements to circulation, the potential exists for emergency response to be delayed because of seasonal or other high volume traffic periods. The fire and police departments could also decrease response times by relying on JPA and San Mateo County's dispatch system to respond to emergencies based on proximity to the incident. Additionally, widening streets, building code enforcement, and new structures that meet current building standards that may result from implementation of the General Plan would result in improved access by both the Fire Department and Police Department. The following Proposed General Plan policies further reduce potential effects related to emergency response.

Applicable General Plan Policies:

PFS-40 Acknowledge the regional implications of natural hazards and the need for jurisdictional cooperation in the face of potential disasters. Coordinate emergency response planning with surrounding cities, agencies, and San Mateo County Office of Emergency Services.

PFS-41 Create and maintain an up-to-date Emergency Operations Plan with information including but not limited to evacuation routes and procedures, chain of command communication structure, alerts and warning systems, emergency shelter provisions, and responsibilities and instructions for all relevant departments (police, fire, hazardous materials, emergency medical services, public works).

PFS-42 Conduct emergency drills in public buildings, large office developments, and in coordination with local schools. Hold post-drill training seminars to identify needed improvements to emergency preparedness.

PFS-43 Work with critical use facilities (i.e., hospitals, schools, public assembly facilities, transportation services) to assure that they can provide alternate sources of electricity, water, and sewage disposal in the event that regular utilities are interrupted in a disaster.

PFS-44 Establish a public education program through local schools, county fair, civic organizations, and other service groups to distribute information about emergency preparedness. Develop a

brochure indicating what to do and where to go in the event of safety, seismic, or emergency events.

PFS-46 Coordinate with regional, State, and federal agencies to determine appropriate disaster recovery strategies for after a major natural or man-made event. Publicize recovery measures along with emergency preparedness information.

PFS-50 Develop a primary Emergency Operations Center and a secondary Emergency Operations Center for the management and coordination of disasters in our community.

These policies, as well as those listed under Impact 3.8-A, are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

3.8-D Reuse and intensification may expose people or structures to threat of wildfire, particularly adjacent to inaccessible canyon and grassland areas in the western hills. (Less than Significant Impact)

The residential construction allowed by the Proposed General Plan may result in an increased hazard from wildland fires if construction occurs in Urban Interface Areas along Skyline Boulevard and in the areas of Crestmoor Canyon, Junipero Serra County Park, and the Peninsula Watershed, characterized by slopes covered with tall grasses, chaparral, or eucalyptus stands. However, because proposed development by the Proposed General Plan along Skyline Boulevard is minimal, and intensification is not planned for Crestmoor Canyon, Junipero Serra Park, and the Peninsula Watershed, the impact of new development on wildland fires is less than significant. Policies proposed in the General Plan would serve to further reduce potential effects from wildfire hazards.

Applicable General Plan Policies:

HS-1 Regulate development, including remodeling or structural rehabilitation, to assure adequate mitigation of safety hazards on sites having a history or threat of slope instability, erosion, subsidence, seismic dangers (including those resulting from liquefactions, ground failure, ground rupture), flooding, and/or fire hazards (Figure 7-2).

HS-2 Review and revise the City's Building Code, Zoning Ordinance, and Subdivision requirements to safeguard against seismic, geologic, and safety hazards. Mitigation should include:

- Minimal grading and removal of natural vegetation to prevent erosion and slope instability. Cleared slopes should be replanted with vegetation.
- Proper drainage control to prevent erosion of the site and affected properties.
- Careful siting and structural engineering in unstable areas.
- Consideration of flooding and fire hazards in siting and designing new development.

PFS-45 Continue to participate in a cooperative San Mateo County program to pool natural hazard data which are developed either through special studies or via the plan review process.

These policies, as well as those listed under Impact 3.8-A, are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

3.9 WATER, WASTEWATER, AND SOLID WASTE

Water supply and distribution, wastewater collection and treatment, and solid waste collection and disposal, are three primary public service responsibilities of a local government. This section describes the agencies that provide water, wastewater, and solid waste services to San Bruno, as well as the collection and distribution systems located within the city limits. Projected population growth under the Proposed General Plan is identified as the primary impact on public services and its potential need for new or expanded facilities.

ENVIRONMENTAL SETTING

Water Supply

San Bruno is unique among cities on the San Francisco Peninsula because it uses a local water source to meet more than half of its water needs. Five wells produce approximately half of the City's water supply. These producing wells draw potable water from the Westside Groundwater Basin, a deep aquifer located between 250 feet and 500 feet below ground surface. The aquifer is capped by an impervious layer of clay, which acts as a barrier to any contaminants that might be at or near the surface. The wells are located in the eastern portion of the City and supply most of this area's needs. Well water hardness ranges from 14 to 18 grains due to high mineral content.[1]

Water purchased from the San Francisco Public Utilities Commission (SFPUC) is the second primary supply source for San Bruno. The SFPUC's water source is the Hetch Hetchy system, which originates in the Sierra Nevada Mountains. The water is transported 150 miles through a series of pipelines and tunnels to supply San Francisco and other cities on the Peninsula. Known for consistently high quality and purity, the Hetch Hetchy water source was granted a filtration treatment exemption by the U.S. Environmental Protection Agency. The City and SFPUC signed a Water Supply Contract in 1984 that guarantees 3.246 million gallons per day in purchased water.

In 2002, the City and SFPUC signed an amendment to the Water Supply Contract that permits San Bruno to purchase supplemental water from SFPUC, when it is available. The purpose of the amendment is to conduct a study of the effect of a reduction in San Bruno's groundwater pumping on water levels in the Westside Groundwater Basin. The SFPUC and San Bruno are investigating available groundwater storage capacity in the Westside Basin for the purpose of developing a conjunctive use program.

There is considerable blending of water from the two sources—well water and the San Francisco Public Utilities Commission—in the delivery system, and a seasonal increase in the percentage of purchased water used during the dry summer months. The City of San Bruno uses approximately 4.2 million gallons of water per day (mgd)—an amount that has changed very little over the years due to the built-out conditions of the city. Per capita consumption averages approximately 75 gallons per day (gpd) in the wet season and 125 gpd in dry weather.

In addition to the five wells, San Bruno's water system infrastructure consists of 18 booster pumps, one filtering plant, eight storage tanks (with a combined capacity of eight million gallons), 900 fire hydrants, 9,000 valves, over 100 miles of water mains ranging from 12 inches to 16 inches in diameter, and 11,300 metered services. Much of the distribution system was constructed over 40 years ago before current stringent performance standards were in effect. Assuring compliance with all requirements of the State Department of

[1] City of San Bruno. San Bruno Redevelopment Project Area Plan, Draft Environmental Impact Report (DEIR), March 1999.

Health Services, inspection and maintenance of equipment, inspection and treatment of the water supply, and administration of several programs including water conservation and public awareness, are all tasks of the San Bruno Public Works Department's Water Division. Based on the City of San Bruno Urban Water Management Plan by Erler & Kalinowski, Inc., dated January 2007, San Bruno has adequate water supply to meet current and future demand. The City has adequate water storage capacity to meet current and future domestic demand, however, the Water Master Plan dated July 2001, by Brown and Caldwell, identified the need for an additional 1.3 million gallons of storage capacity to meet future fire flow demand. The City's 10-year capital improvements plan includes projects to provide this additional storage.

Wastewater

The Public Works Department's Wastewater Division is responsible for the wastewater collection system and assures compliance with all permit requirements for the Environmental Protection Agency, the State Water Quality Control Board, the Regional Water Quality Control Board, County Health Mandates, and the National Pollution Discharge Elimination System.

The sanitary sewer system consists of approximately 150 miles of pipeline and seven lift stations. Currently, 2.8 million gallons of effluent per day (mgd)[2] goes to the South San Francisco-San Bruno Water Quality Control Plant (SSF/SB WQCP) that the City of San Bruno owns jointly with the City of South San Francisco. The cities of Colma and Daly City are also partially serviced by the South San Francisco/San Bruno plant; however, the Daly City treatment plant treats most of Colma and Daly City's wastewater. Colma produces approximately 0.2 mgd of wastewater and Daly City produces approximately 0.3 mgd of wastewater that is treated by the South San Francisco/San Bruno treatment facilities.

The SSF/SB WQCP treatment facility is located one mile north of San Francisco International Airport within the boundaries of South San Francisco. Treated wastewater is discharged into the San Francisco Bay from a 60-inch outfall pipeline two miles offshore and 20 feet beneath the surface in conjunction with the North Bayside Unit. The treatment plant is nearly 50 years old but has been updated several times to provide primary and secondary treatment. Its most recent upgrade project was completed in 2001. The new facility expansion allows a dry-weather capacity of 13 mgd and a wet-weather capacity of approximately 62 mgd.

Before the plant's upgrade, San Bruno utilized approximately 50-percent, or about 4.29 mgd, during dry weather, of the plant's capacity. This is a historical average for sewage generated by the City of San Bruno; however, in recent years, the amount of treated water has decreased due to a cut back in water use and the closure of many businesses during the recent economic downturn. Since the wastewater treatment facility upgrade expanded dry weather capacity from 9 to 13 mgd, San Bruno is entitled to 0.5 mgd of the additional 4 mgd capacity, and currently utilizes about 30-percent of the plant's total capacity. It is important to note however, that in general, there is no formal agreement about the proportion of wastewater treatment capacity entitled to each city. The cities are in the process of clearly defining wastewater treatment entitlements.[3]

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[2] David Castagnola, Superintendent, South San Francisco/San Bruno Water Quality Control Plant, personal communication, May 30, 2003.

[3] Castagnola, May 30, 2003.

The City estimates average discharges of 75 gallons per day per capita for residential users, 1,000 gallons per day per acre for commercial use, and 2,000 gallons per day per acre of industrial use. San Bruno generates estimated peak flows of 2.8 million gallons of wastewater per day during the dry season and 20 million gallons per day during the wet season.[4] During the wet season, infiltration of the City's wastewater system has been a continuing problem because wet-weather discharge currently exceeds its treatment plant capacity. Most of San Bruno's sewer collection system was installed 30 to 80 years ago, its age reflecting the decades of the City's most rapid development. It contains large sections of aging pipe that will require upgrading and/or replacement. The gravity-flow lines were constructed primarily with vitrified clay pipe, a material that tends to crack with age. Small sections of Orangeburg[5] pipe installed during the 1940's still exist. Public Works staff currently receives 489 emergency calls annually[6] or approximately 1.3 emergency calls each day related to sewage line blockages, breaks or leaks.[7] A Wastewater Sewage Treatment Master Plan, completed in 1999, addresses these issues.

Solid Waste

San Bruno Garbage Company (SBGC), located at 101 Tanforan Avenue, provides solid waste disposal services to the City. The City's contract with SBGC, which is owned by Norcal Waste Systems, extends through June 30, 2009.

In 2000, San Bruno generated approximately 39,234 tons of waste.[8] Garbage is taken to SBGC's transfer station where recyclable materials and refuse are processed, sorted, and loaded into long-haul trucks for transfer to the landfill or recycling facilities. Waste is transported by truck for final landfill disposal.

Since 1995, San Bruno has deposited between 42,000 and 49,000 tons of waste at the Ox Mountain Landfill each year, including both independent and industrial haulers. The 173-acre Ox Mountain facility is a Class III landfill (non-hazardous waste) owned by Browning-Ferris Industries and overseen by San Mateo County. The landfill has a design capacity of 37.9 million cubic yards, and its remaining capacity, as of 2000, was an estimated 31.2 million cubic yards.[9] San Mateo County estimates that the landfill, which also serves other municipalities, will reach capacity in year 2017. An expansion is currently underway that may extend landfill capacity for an additional eight years.

In 1989, the California legislature enacted the California Integrated Waste Management Act (AB 939) requiring all cities and counties in California to divert 50-percent of their solid waste from landfills by the end of 2000. This act further requires every city and county in California to prepare a Source Reduction and Recycling Element (SRRE). The City of San Bruno's SRRE was adopted in February 1992. SBGC's curbside recycling program, which began in 1987, includes collection of glass, plastics, aluminum, newspaper, cardboard, and yard waste from residential and commercial developments within the City. As a result, San Bruno achieved over 50-percent solid waste diversion in 2001.

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[4] Ibid.

[5] An inferior substitute cardboard-based material used during wartime.

[6] Maureen Brogger, Secretary for Corporation Yard, City of San Bruno Public Works Department, Wastewater Division, personal communication, September 18, 2003.

[7] During 2002, San Bruno Public Works Department, Wastewater Division received 243 Flusher Truck calls (Monday thru Friday) and 246 Stand-by calls (weekends and nights).

[8] Integrated Waste Management Board, accessed April 24, 2006.

[9] Ibid., accessed April 24, 2006.

SIGNIFICANCE CRITERIA

The Proposed General Plan would result in significant impacts on water, wastewater, and solid waste if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require new or expanded entitlements in order to provide sufficient water supplies available to serve projected development.
- 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).
- Require additional permitted capacity at the area's landfill to accommodate the project's solid waste disposal needs.

IMPACT ANALYSIS

3.9-A Reuse and intensification may result in increased water demand, and therefore the need for new or expanded water supply or facilities. (Less than Significant Impact)

According to water consumption estimates in the Proposed General Plan (75–125 gpd per capita), buildout of the Proposed General Plan will generate an additional 131,620–219,367 gpd of water demand (Table 3.9-1). Water consumption resulting from development activities proposed by the General Plan would increase by 3.0 to 4.8 percent over existing water consumption estimates. New water treatment and distribution facilities may be needed to accommodate this increase in water demand. Proposed new development throughout the City of San Bruno would require coordination with the City of San Bruno's Public Works Department to assure adequate water supply to meet demand and to provide adequate fire flow.

Table 3.9-1: Water Projections, General Plan Buildout

Population increase	1,755	
Wet season demand	75	gpd per capita
Dry season demand	125	gpd per capita
Existing Water use	4,200,000	gpd
Pending Water use - Low	67,051	gpd
Pending Water use - High	111,752	gpd
Projected Demand - Low	131,620	gpd
Projected Demand - High	219,367	gpd
TOTAL 2025 - Low	**4,398,671**	**gpd (4.4 mgd)**
TOTAL 2025 - High	**4,531,119**	**gpd (4.5 mgd)**
Percent Addition - Low	*4.7%*	
Percent Addition - High	*7.9%*	

Source: Dyett & Bhatia, 2006.

As with other cities, San Francisco Public Utilities Commission (SFPUC) has anticipated increased water demand in the City of San Bruno from 1,700 acre-feet per year in 1996 to 2,805 acre-feet per year in 2030. SFPUC has outlined strategies to increase its water resources. These strategies include a pipeline and pumping plant at the Crystal Springs Reservoir to be completed in early 2005, and the purchase of additional water resources. San Bruno and SFPUC are also cooperating on a study to determine availability of underground storage capacity and a conjunctive use program.

An increase in water demand may also result in significant portions of the water system needing to be replaced due to deterioration of pipes and the need to increase volume capacity. Hydraulic modeling of the system has identified the need to add about 22 miles of new or replacement water mains. About 47,000 feet of larger diameter mains are needed to ensure adequate fire flow delivery. Coordination between the Public Works and Fire Departments has assigned highest priority for main replacement to school sites, followed by large multi-family housing projects.

Other improvements, such as adding a flow meter and isolation valves to the older pump stations, may also be needed. In addition, emergency power generators are proposed for several locations and, should one of the storage tanks be taken out of service permanently without a replacement, another pumping facility would be needed. Construction of these water supply or transmission facilities may result in temporary noise, traffic, and/or dust impacts to a focused area. The Proposed General Plan includes the following policies that are intended to ensure adequate water supply for existing and future residents. These policies will ensure that water supply impacts are reduced to a *Less than Significant* level.

Applicable General Plan Policies:

ERC-4 Encourage the use of Best Management Practices in conserving the City's valuable water supply sources.

PFS-1 Prepare and adopt an Infrastructure In-Lieu Fee Schedule to ensure that adequate improvements are made to the City's public facilities to accommodate new development.

PFS-3 Require, as part of plan review, identification of needed public service improvement and maintenance costs for those projects that may have a significant impact on existing services.

PFS-6 As part of the Civic Center Complex Master Plan explore measures to improve access to City facilities, including such measures as integration of Council chambers into the Civic Center complex, provision of visitor parking at City Hall, important information and forms available on the City's website, etc.

PFS-8 Coordinate with the City's Public Works Department so that adequate water supply capacity and infrastructure are available. Require expansion of the City's water distribution system proportionate with new development's fair share of demand.

PFS-9 Upgrade the water distribution system as necessary to provide adequate water pressure and volume to meet fire safety standards and to respond to emergency peak water supply needs.

PFS-10 Continue the practice of using Enterprise Funds to finance replacement of the City's aging water distribution system.

PFS-11 Monitor and regulate well water quality and production levels to prevent contamination and overdraft. Coordinate with SFPUC to develop a conjunctive use program for the Westside Groundwater Basin.

PFS-12 Work actively with the San Francisco Bay Area Water Supply and Conservation Agency, adjacent cities, and the water agencies of San Mateo County to increase water conservation measures and minimize the effects of aquifer depletion.

PFS-13 Establish water conservation Best Management Practices (BMPs) and require them for new development and for municipal buildings and facilities.

PFS-14 Actively market the importance of water conservation, water recycling and groundwater recharge through the following means:

- Develop a flyer to promote the necessity of and benefits from water conservation, and distribute the flyer to local residents, businesses, and schools;
- Make water production and treatment facilities available for tours by schools or organized groups
- Encourage educators to include water conservation in their curricula;
- Provide tips to business groups on water conservation and recycling.

The City may solicit assistance from environmental groups, the School District, and/or concerned citizens to provide educational materials or staff time for these public outreach programs.

PFS-15 Develop a schedule for the retrofitting of existing public buildings with water conservation features, and budget accordingly.

PFS-16 Periodically test the City's water supply system for leaks and initiate repairs to conserve water.

PFS-17 Ensure that new or expanded water supply and transmission facilities are constructed in a manner in which construction and operation impacts are minimized or avoided.

PFS-18 Consider establishing rebate and/or incentive programs for the replacement of leaking, aging and/or inefficient plumbing with more efficient, water saving plumbing and for the use of water efficient landscaping.

PFS-19 Investigate the feasibility of developing additional or enhanced sources of water supply, such as recycled water, reclaimed surface water, or enhanced groundwater recharge. Explore working cooperatively with the City of South San Francisco to initiate recycling of treated wastewater from the South San Francisco-San Bruno Water Quality Control Plant.

PFS-66 Enforce landscape requirements that facilitate efficient energy use or conservation, such as drought-resistant landscaping and/or deciduous trees along southern exposures.

Mitigation

None required.

3.9-B Increases in housing and population proposed by the General Plan may lead to deficits in groundwater aquifer volume from excessive pumping of San Bruno wells. (Less than Significant Impact)

Increased housing and population density within the San Francisco Bay Area may have a potential impact on groundwater aquifer volume if they result in excessive pumping. As a result, concern about depletion of the local groundwater aquifer has led the City and SFPUC to sign an amendment to the Water Supply Contract that permits San Bruno to purchase supplemental water from SFPUC, when it is available. The purpose of the amendment is to conduct a study of the effect of a temporary reduction in San Bruno's groundwater pumping on water levels in the Westside Groundwater Basin. The SFPUC and San Bruno are investigating available groundwater storage capacity in the Westside Basin for the purpose of developing a conjunctive use program. This program may be able to alleviate the demand of groundwater pumping during periods when such reductions are feasible and when supplemental water is available. Proposed General Plan policies would address the issue of potential groundwater overdraft, by requiring monitoring and encouraging water conservation and other water saving measures. These policies will reduce potential groundwater impacts to a *Less than Significant* level.

Applicable General Plan Policies:

Policies listed under Impact 3.9-A are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

3.9-C Reuse and intensification may result in increased sanitary sewer demands, and therefore the need for new or expanded wastewater facilities. (Less than Significant Impact)

While increased sewer and wastewater demand will occur with further development in the City, as envisioned by the Proposed General Plan, this increase should not exceed dry season allocated capacity. According to the wastewater unit flow standards listed in Table 3.9-2, buildout of the Proposed General Plan will generate an additional 105,359 gpd of sanitary sewer demand. Demand from residential uses would increase the most (62,583 gpd), followed by commercial uses (25,311 gpd). Table 3.9-3 lists total projected wastewater demand for year 2025, which at 3.1 mgd is still only a third of plant dry season capacity.

Table 3.9-2: Anticipated Wastewater Demand, Proposed General Plan Buildout

Land Use	*Unit*	*Rate*	*Projected Gallons per Day*
Residential	Per capita	75 gallons per day	62,583
Commercial	Per acre	1,000 gallons per day	25,311
Industrial	Per acre	2,000 gallons per day	17,464
School	Per acre	15 gallons per day	-
Total Anticipated Demand			**105,359**

Source: Dyett & Bhatia, 2006.

Table 3.9-3: Wastewater Projections, Proposed General Plan Buildout

Anticipated Demand	105,359 gpd
Existing Flows[1]	2,800,000 gpd
Pending Flows	211,466 gpd
Total 2025	**3,116,825 gpd (3.1 mgd)**
Percent Addition	*3.4%*

Source: Dyett & Bhatia, 2006.

The City's wet weather discharge currently approaches its unofficial treatment entitlement for the plant expansion that was completed in 2001.

The City completed a study of the City's infiltration and inflow problems in 1999. The study recommends a capital improvements program that would reduce peak wastewater flows by 22-percent with relief sewers, by rehabilitating existing sewer lines, and by upgrading pump stations. The City has extensive plans to modernize its sewer system. Older, deteriorating lines will be replaced with new and larger pipelines. Capacity will be increased by the construction of parallel "relief sewer" lines in some places. Upgrading is an ongoing project prioritized according to need. It is a goal of the City's Utility Improvement Program to "shift service from a reactive/crisis driven system to a pro-active posture where staff is able to apply a logical approach to the task of operating and maintaining this highly valuable system."

The City of San Bruno requires all developers to provide hydraulic calculations for anticipated wastewater generated by any proposed project, and requires developers to pay the cost of upsizing utility mains as required. Proposed long-range improvements can be implemented through use of the City's Wastewater System Replacement Fund. Policies in the Proposed General Plan will help ensure that adequate wastewater treatment facilities are in place to accommodate future demand. Implementation of these policies will ensure that potential wastewater impacts are reduced to a *Less than Significant* level.

Applicable General Plan Policies:

PFS-20 Coordinate with the City's Public Works Department so that adequate wastewater treatment capacity and infrastructure are available. Require expansion of the City's sewer collection system proportionate with new development's fair share of demand.

PFS-21 Upgrade or replace sewer lines to accommodate anticipated flows and to prevent overflows. Upgrade sewer lift stations as needed.

Policies listed here, as well as those under Impact 3.9-A, are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

3.9-D Reuse and intensification may result in increased garbage disposal, and therefore the need for new or expanded solid waste disposal facilities. (Less than Significant Impact)

Based on waste disposal rates generated by the California Integrated Waste Management Board, Tables 3.9-4 and 3.9-5 estimate the anticipated solid waste disposal tonnage that would be produced under the Proposed General Plan. New and redevelopment activities are estimated to add an additional 4,362 tons of solid waste to the City's waste stream by 2025. Waste flows at Proposed General Plan buildout would therefore increase by 13.8 percent, from 39,234 tons to 44,654 tons per year.

These solid waste projections, representing buildout of the Proposed General Plan, are within the City's historical disposal tonnage to Ox Mountain Landfill. Increases in waste disposal from independent and industrial haulers may exceed the historical average. Ox Mountain Landfill is anticipated to reach capacity in 2017, eight years shy of the Proposed General Plan's timeframe. However, the landfill is currently undergoing expansion that should extend capacity through 2025.

Table 3.9-4: Anticipated Solid Waste Demand, Proposed General Plan Buildout

Land Use	*Unit*	*Rate*	*Projected Units*	*Projected Pounds per Day*	*Projected Tons per Year*[2]
Residential	Per capita	3.4 pounds per day	739	2,513	459
Commercial[1]	Per employee	4.6 pounds per day	4,455	20,493	3,740
Industrial	Per employee	4.6 pounds per day	195	895	163
Total Anticipated Demand				23,901	4,362

Assumed all jobs generated from pending development are commercial.

1 ton = 2,000 pounds

Source: Dyett & Bhatia, 2006.

Table 3.9-5: Solid Waste Projections, Proposed General Plan Buildout

Anticipated Demand	4,362
Existing Waste Stream[3]	39,234
Pending Waste Stream	1,058
Total 2025 (tons/year)	**44,654**
Percent Addition	*13.8%*

[1] Integrated Waste Management Board, 2000, accessed April 24, 2006.

Source: Dyett & Bhatia, 2006.

The City of San Bruno has reduced the waste stream significantly in the last decade. In 1995, the City diverted approximately 29-percent of its waste stream to recycled or composted materials. In 2001, the City's diversion rate had increased to over 50-percent, meeting the 50-percent State requirement for waste diversion. Waste diversion programs include composting, facility recovery, household hazardous waste, recycling, source reduction, special waste materials, and transformation. The City expects to continue high levels of waste diversion through the year 2025. Proposed General Plan policies seek to ensure that the City maintains low solid waste flows through recycling and waste reduction programs. Implementation of these Proposed General Plan policies will reduce solid waste impacts to a *Less Than Significant* level.

Applicable General Plan Policies:

PFS-22 Continue contracting for garbage and recycling collection services. Negotiate with the service provider to secure the most convenient recycling methods available within current technology.

PFS-23 Expand recycling services to include all commercial and industrial businesses in San Bruno.

PFS-24 Require provision of attractive, convenient recycling bins and trash enclosures in grouped development projects (i.e., multi-family residential projects, office complexes, and commercial shopping centers).

PFS-25 Continue public education programs about waste reduction, including recycling, yard waste, wood waste, and household hazardous waste.

Policies listed here, as well as those listed under Impact 3.9-A, are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

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3.10 BIOLOGICAL RESOURCES

This section describes the biological resources in the City of San Bruno and identifies potential adverse effects that could occur on these plant and wildlife resources as a result of implementation of the Proposed General Plan. The assessment is intended to assist area-wide issue identification as it relates to implementation of the new Proposed General Plan. Site-specific environmental assessment will be necessary to determine the impacts of individual development projects on biological resources.

ENVIRONMENTAL SETTING

Sources used in the preparation of this section include previous field surveys and records from biological literature; review of California Native Plant Society (CNPS) Electronic Inventory (CNPS, 2003) and the California Department of Fish and Game (CDFG) California Natural Diversity Data Base (CNDDB) (CDFG, 2003), which contains reported occurrences of sensitive species by U.S. Geologic Survey 7.5-minute topographic quadrangles. Two quadrangles were used for this project: San Francisco South and Montara Mountain. The study area consists of the entire City of San Bruno, the "footprints" for possible facilities, and siting areas for possible development, and is referred to as the project site. For each special status species, the habitat requirements were assessed and compared to the habitats present in the project site. However, no species-specific protocol-level surveys were conducted. Factors such as habitat quality and species distribution were also considered in evaluating the likelihood of sensitive species occurring in the project site.

Regional Setting

The San Francisco coastal region encompasses the San Francisco Bay and the Santa Cruz Mountains. This region has a Mediterranean climate, with summer temperatures tempered by morning fog and afternoon sea breezes. As a result, this region has a growing season of 200 to 300 days per year. Precipitation ranges between 12 to 60 inches. Once a mosaic of oak, mixed evergreen, and redwood forests, native and non-native grasslands, upland scrubs, wetland communities, and riparian scrubs and forests, the historic natural environment of the Bay Area has been significantly altered over the last 150 years. Composition and successional sequence of some plant communities (especially grassland communities) has been adversely modified because of the introduction of grazing, agriculture, forestry, and urbanization between the late 1700s and early 1900s. Most of the shoreline and surrounding upland areas have been converted to urban uses. This loss of habitat has been accompanied by the elimination of many wildlife species and the reduction in numbers of many native species in the Bay Area.

The greatest expanse of natural vegetation lies west of Skyline Boulevard and is owned by Golden Gate National Recreation Area in the north and San Francisco Water District in the south. A part of this region, in central San Mateo County the Peninsula Watershed encompasses 23,000 acres of the San Francisco peninsula, hosts a variety of habitats and supports the highest concentration of rare, threatened and endangered species in the entire Bay Area. The Watershed includes three reservoirs -- San Andreas, Crystal Springs, and Pilarcitos. Though no part of San Bruno physically drains into this watershed, Skyline Boulevard marks an eastern edge, and a sensitive boundary for these species.

Local Setting

Vegetation and Associated Wildlife

The City of San Bruno extends from the lowland areas near the San Francisco Bay, westward to and across the ridgeline of the Coast Range. This variation in elevation, and the resulting variation in temperature and precipitation patterns, has resulted in a variety of natural vegetation within the city limits. Although

urbanization has removed the greater portion of natural vegetation, it is still found in scattered, discrete areas. There are several distinctive plant communities remaining in the city.

Non-native annual grassland. Non-native grassland consists of a dense to sparse cover of non-native grasses often associated with numerous annual and perennial herbaceous herbs. Species in this community include numerous common non-native grasses, including vulpia (*Vulpia myuros*), wild oat (*Avena barbata*) and bromes (*Bromus hordaceus, B. diandrus,* and *B. madritensis*). Associated herbs include a mixture of native and non-native species, including black mustard (*Brassica nigra*), thistle (*Carduus pycnocephalus*), California poppy (*Eschscholzia californica*), California buttercup (*Ranunculus californica*), non-native clovers (*Orthocarpus* spp. and *Trifolium* spp.) and red-stem filaree (*Erodium cicutarium*).

Reptile species typically found in this habitat include western fence lizard (*Sceloporus occidentalis*), western terrestrial garter snake (*Thamnophis elegans*), and western rattlesnake (*Crotalus viridis*). Mammals within this habitat include black-tailed jackrabbit (*Lepus californicus*), western harvest mouse (*Reithrodontomys megalotis*), California vole, and coyote (*Canis latrans*). The principal game species is mourning dove. Typical foraging birds include turkey vulture (*Cathartes aura*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), and white-tailed kite (*Elanus leucurus*).

Coyote brush scrub. Coyote brush scrub is a sub-type of Northern Coastal Scrub (Holland, 1986) and is characterized by low shrubs with scattered grassy openings. The dominant species in this community is coyote brush (*Baccharis pilularis*). Other associate native species include poison oak (*Toxicodendron diversilobum*), sticky monkey flower (*Mimulus aurantiacus*), and California blackberry (*Rubus ursinus*). French broom (*Genista monspessulana*), an invasive non-native species, is also present in this community. It occurs in disturbed areas such as at roadside edges. Coyote brush scrub is located primarily on the south- and east-facing slopes of Crestmoor Canyon and the western hills.

Coastal scrub is less vegetatively productive than adjacent grassland or riparian habitats, but seems to support equivalent numbers of wildlife species (Mayer and Laudenslayer, 1988). Species commonly occurring in the coastal scrub include orange crowned warbler (*Vermivora celata*), bushtit (*Psaltriparus minimus*), and California horned lizard (*Phrynosoma coronatum*).

Freshwater wetland. Freshwater wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. This transitional habitat occurs between terrestrial and aquatic systems where water tables are near the surface or land is covered by shallow water. Sedges, rushes and spikerush, which emerge from the water, form a dense cover. Seasonal and permanent freshwater wetlands in eastern San Bruno are classified as coastal freshwater marsh (Holland, 1986).

Freshwater wetland habitat is one of the most productive habitats for wildlife because it offers water, food, and shelter. Reptiles and amphibians in this habitat include western aquatic garter snake (*Thamnophis couchii*) and tree frogs. Northern harrier (*Circus cyaneus*), black necked stilts (*Himantopus mexicanus*), avocets (*Recurvirostra americana*), red-winged blackbirds (*Agelaius phoeniceus*), and killdeer (*Charadrius vociferous*) use these areas for foraging and nesting. Snowy egret (*Leocophoyx thula*), black-crowned night heron (*Nycticorax nycticorax*), and mallard (*Anas platyrhynchos*) also forage in this habitat. Mammals common in this habitat are meadow voles (*Microtus californicus*) along the edges of the marsh area, raccoons foraging on eggs and invertebrates, striped skunk (*Mephitis mephitis*), and gray fox (*Urocyon cineroargenteus*).

Willow riparian. Willow riparian community is a broadleafed, winter-deciduous streamside thicket, dominated by any of several willow species (*Salix* spp.), usually as small trees or shrubs. However, arroyo

willow (*Salix lasiolepis)* is the dominant canopy species occurring in this riparian community throughout the project site. Willow riparian habitat can form a dense canopy and an impenetrable understory.

Willow riparian habitat attracts bird species that catch insects by gleaning, such as bushtits (*Psaltriparus minimus*) and Bewick's wren (*Thryomanes bewickii*). Other species such as mallards and snowy egrets use the shallow quiet waters of the river or stream to forage for vegetation, small fish, and invertebrates. American crow (*Corvus corax*) is found in this habitat and others, feeding on insects, fruits, carrion, amphibians, and reptiles. Raptors (birds of prey), such as sharp-shinned hawks (*Accipiter striatus*) and red-shouldered hawks (*Buteo lineatus*), nest in the high canopy and feed on the smaller birds and amphibians. Omnivores, such as the raccoon (*Procyon lotor*) and striped skunk (*Mephitis mephitis*), forage on invertebrate species, plant parts, amphibians, and fruits.

Mixed oak woodland. Mixed oak woodland is dominated by coast live oak (*Quercus agrifolia*), California black oak (*Quercus kellogii*), valley oak (*Quercus lobata*), toyon (*Heteromeles arbutifolia*), and California buckeye (*Aesculus californica*). The understory is dominated by non-native annual grassland. Woodlands provide foraging, nesting, shelter, and migrating corridors for a variety of wildlife species. Common passerines and raptors, small and large mammals, and amphibians utilize this habitat.

Eucalyptus woodland. This vegetation community is usually monotypic, with only one species providing canopy and very little undergrowth. Structurally, it creates a dense, shady canopy of blue-gum eucalyptus. Volatile chemicals, contained in the bark and leaf litter deposited by blue-gum eucalyptus, create poor growing conditions for most herbaceous and woody understory species. Where fire hazard management techniques have not been applied, the understory of this community consists of a thick layer of bark, leaves, and poison oak (where openings in the canopy allow sufficient light to penetrate to the grove floor), creating high fire hazards.

These woodlands offer perching and roosting sites for a variety of avian species, with raptors often nesting in groves. The lack of understory growth does not provide much habitat for insects and other invertebrates and, therefore, reptiles that prey upon them would not occur within this habitat. For this same reason, mammals would not regularly use this habitat except for cover and resting areas. However, *Myotis* bat species and California slender salamanders (*Batrachoseps attenuatus*) have been observed in this habitat.

Mixed pine-oak-eucalyptus woodland. Introduced non-native tree species, including Monterey pine (*Pinus radiata*), Monterey cypress (*Cupressus macrocarpa*) and blue-gum eucalyptus (*Eucalyptus globulus*), intermixes with native oak trees to form a new community type. This mixed pine-oak-eucalyptus community primarily occurs in western San Bruno and is usually isolated amongst residential development. Wildlife species commonly associated with mixed oak woodland and eucalyptus woodland are also associated with mixed pine-oak-eucalyptus woodland.

Urban/Highly disturbed. The majority of the City of San Bruno contains urban/highly disturbed habitat. Many areas throughout the project site have been significantly altered and/or modified by human activity. This category includes any number of conditions commonly encountered in areas with a relatively large human population. Areas included in this category are residential, commercial, and industrial developments, roadways and roadcuts, quarry pits, buildings, and areas devoid of natural vegetation due to the spraying of herbicides or other direct human intervention.

Areas within San Bruno that are known to and potentially support biological resources are illustrated in Figure 3.10-1. Despite their separation and relatively small size, these areas potentially contain a number of sensitive

plant and animal species. Although the California Natural Diversity Database (CDFG, 2003) shows no sensitive plant species within the city limits, there are numerous relatively inaccessible areas in the higher elevations of the City, and it is possible that these areas have never been comprehensively surveyed for sensitive plants.

Special Status Species and Sensitive Habitats

Plants

A total of 21 special status plants were evaluated. Only five special status plant species are known, or have medium potential, to occur within the project site (see Table 3.10-1). Of these species, only Dudley's lousewort (*Pedicularis dudleyi*) and Hickman's cinquefoil (*Potentilla hickmanii*) are protected under state and/or federal Endangered Species Acts. The remaining species, Choris's popcorn-flower (*Plagiobothrys chorisianus* var. *chorisianus*), Marsh horsetail (*Equisetum palustre*), and stink bells (*Fritillaria agrestis*) are federal species of local concern or California Native Plant Society List 3 (Plants about which more information is needed) or List 4 (Plants of limited distribution) species. These species require consideration under CEQA.

Two special status plants have been reported at Lion's Field: Dudley's lousewort, a federal species of concern and state rare species, and stink bells, a California Native Plant Society List 4 species. Other species potentially occur on the property of San Francisco International Airport within the Planning Area, including Hickman's cinquefoil, Choris's popcorn-flower, and Marsh horsetail.

Wildlife

A total of 33 special status wildlife species were evaluated (see Appendix A, Table 2). Only 16 special status wildlife species are known, or have medium or high potential, to occur within the City of San Bruno (see Table 3.10-2).

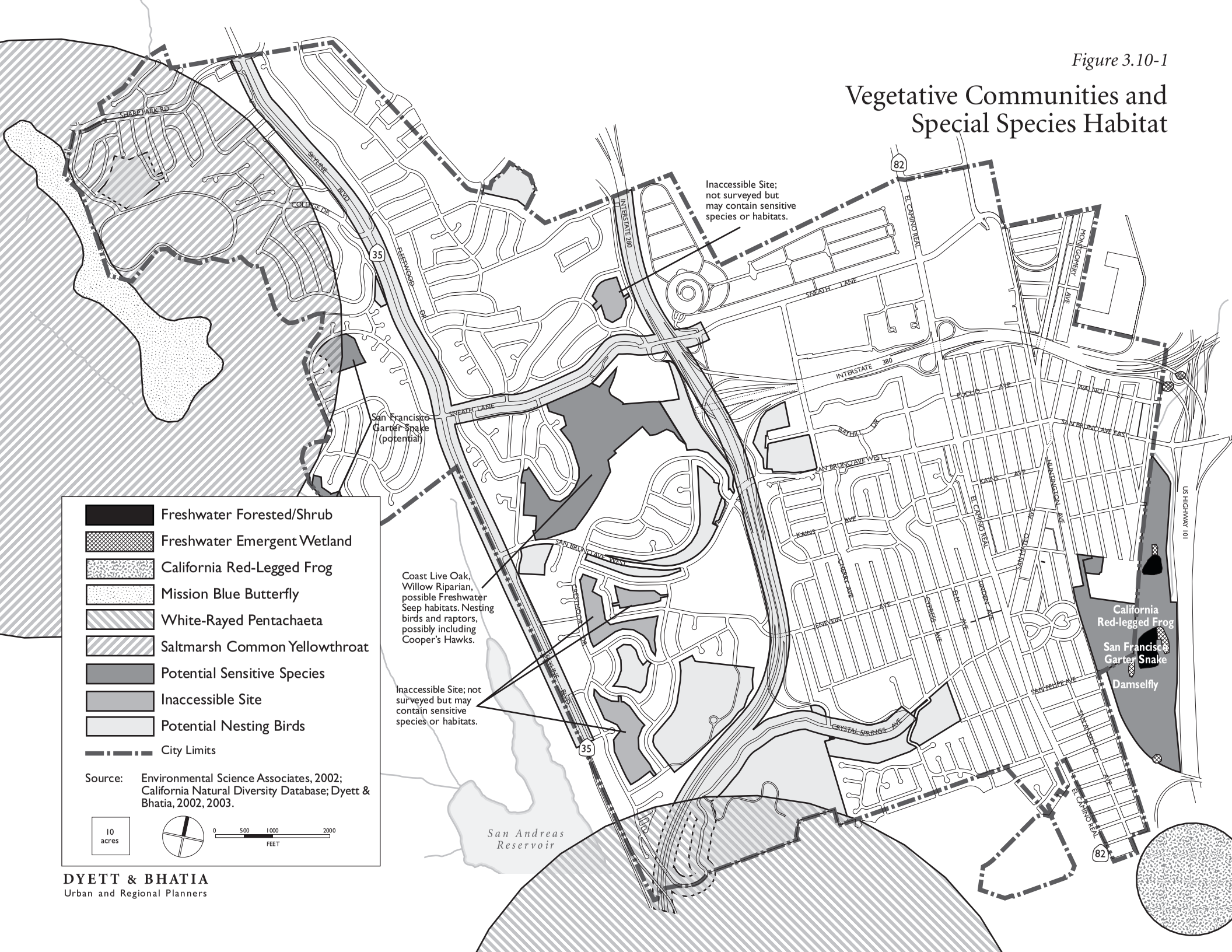
Along the El Camino Real corridor, urban development is too dense for other than ornamental vegetation. However, as the terrain rises to the west, larger areas of vegetation are found within the matrix of development.

The California Natural Diversity Database describes two locations for Mission blue butterfly (*Icaricia icarioides missionensis*) near Skyline College: one just southwest of the college at the boundary between Sharp Park and the Coast Guard reservation; and one north in the Milagra Range area, near Highway 35. However, the college itself has no areas with appropriate host plants for this species. Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*) and San Francisco lacewing (*Nothochrysa californica*) potentially occur within the seasonal wetlands on the property of San Francisco International Airport within the study area.

Two endangered or threatened animal species have been reported within city limits: California red-legged frog (*Rana aurora draytonii*, federally listed as threatened and a state species of special concern) and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*, listed as endangered by both the State and federal governments). Both have been reported from Lion's Field, east of El Camino Real and south of Crystal Springs Avenue (Environmental Science Associates, 1999). In addition, the U.S. Fish and Wildlife Service has indicated that some areas east of Skyline College may provide suitable habitat for both species (U.S. Fish and Wildlife Service, 2000). However, for species such as these that may be collected or captured relatively easily, precise locations are usually not reported or mapped for the safety of the species. A third sensitive species, the western pond turtle (*Clemmys marmorata*, a state species of special concern) might be found at Lion's Field and at other wetland areas which are appropriate habitats, such as the stream area in Crestmoor Canyon, though no known occurrences have been officially reported.

Figure 3.10-1

Vegetative Communities and Special Species Habitat



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Urban and Regional Planners

Back

Raptor species could nest within the large Monterey pine, Monterey cypress, blue gum eucalyptus and oak trees present in the City. Some of these, like Cooper's hawk (*Accipiter cooperii*, a state species of special concern on its nesting sites) are specifically listed as sensitive, and all are protected while nesting by Fish and Game Code §3503.5. The large Monterey pine, Monterey cypress, blue gum eucalyptus and oak trees present in some areas also provide potential habitat for sensitive bat species, including the pallid bat (*Antrozous pallidus*, a state species of special concern), Townsend's big-eared bat (*Plecotus townsendii*), and Myotis species. These bat species have no legal protection under federal or state Endangered Species Act, but may meet the criteria of §15380 of CEQA. Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) has been reported at Sharp Park east of the project site (CDFG, 2003). However, the project site does not support any known occurrences of this species.

Table 3.10-1: Special-Status Plant Species Known or Potentially Occurring within City of San Bruno

Scientific Name *Common Name*	*Listing Status USFWS/ CDFG/CNPS*	*Habitat Requirements*	*Potential Occurrence in the Project Site*	*Flowering Period*
FEDERAL OR LISTED SPECIES				
Pedicularis dudleyi Dudley's lousewort	FSC/SR/1B	Deep shaded areas of older coast redwood forests in north coast coniferous forests, also in grassland openings of maritime chaparral	Present – within grasslands in Lion's Field	April-June
Potentilla hickmanii Hickman's cinquefoil	FE/SE/1B	Coastal bluff scrub, closed-cone coniferous forests, meadows and marshes, mesic sites	Medium – within grasslands on Airport lands	April-August
FEDERAL OR STATE SPECIES OF CONCERN				
Plagiobothrys chorisianus var. chorisianus Choris's popcorn-flower	FLC/--/1B	Chaparral, coastal prairie, coastal scrub, on mesic sites	Medium – within grasslands on Airport lands	April-June
SPECIES ON OTHER LISTS				
Equisetum palustre Marsh horsetail	--/--/3	Marsh and swamp	Medium – within seasonal wetlands on Airport lands	perennial herb (rhizomatous)
Fritillaria agrestis Stink bells	--/--/4	Valley and foothill grasslands, oak woodlands; on clay flats; sometimes on serpentine	Present – within grasslands in Lion's Field	March-April

FEDERAL: (U.S. Fish and Wildlife Service)
FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
FPE = Proposed for Listing as Endangered
FPT = Proposed for Listing as Threatened
FC = Candidate for Federal listing
FSC = Federal Species of Concern (former Category 2 Candidate)
FLC = Federal Species of Local Concern

STATE: (California Department of Fish and Game)
SE = Listed as Endangered by the State of California
ST = Listed as Threatened by the State of California
SR = Listed as Rare by the State of California

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

Sources: CDFG, 2003; USFWS, 2003; CNPS, 2003; ESA, 1999

Table 3.10-2: Special-Status Animal Species Known or Potentially Occurring within the Project Site

Scientific Name *Common Name*	*Status* *USFWS/CDFG*	*Habitat Requirements*	*Potential Occurrence in the Project Site*	*Period of Identification*
FEDERAL OR LISTED SPECIES				
AMPHIBIANS				
Rana aurora draytonii California red-legged frog	FT/CSC	Freshwater ponds and slow streams with emergent vegetation for egg attachment	Present. Known within the seasonal wetlands of Lion's Field	April-June
REPTILES				
Thamnophis sirtalis tetrataenia San Francisco garter snake	FE/SE	Freshwater ponds and slow streams with emergent vegetation	Present. Known within the seasonal wetlands of Lion's Field	warm days
FEDERAL OR STATE SPECIES OF CONCERN				
INSECTS				
*Hydrochara ricksecker*i Ricksecker's water scavenger beetle	FSC/--	Found in freshwater ponds, shallow water of streams, marshes, and lakes	Medium – within the seasonal wetlands on Airport lands	January-July
Nothochrysa californica San Francisco lacewing	FSC/--	Riparian and wetland habitats	Medium – within the seasonal wetlands on Airport lands	Spring
REPTILES				
Clemmys marmaorata Western pond turtle	FSC/CSC	Freshwater ponds and slow streams edged with sandy soils for laying eggs	Medium – within the seasonal wetlands of Lion's Field	warm days
BIRDS				
Accipiter cooperi Cooper's hawk	CSC	Nests in riparian growths of deciduous trees and live oaks	High – within areas of dense groves of trees	March-July
Ardea herodias Great blue heron	CSC	Nests in trees along lakes and estuaries	Medium – within areas of dense groves of trees	March-July
Circus cyaneus Northern harrier	CSC	Nests and forages in wet meadows and pastures	Medium – within grasslands of Airport owned lands	all year
Elanus caeruleus White-tailed kite	3511	Nests in trees near wet meadows and open grasslands	Medium – within grasslands of Airport owned lands	March-July
MAMMALS				
Plecotus townsendii Townsend's big-eared bat	FSC/CSC	Roosts in caves, old buildings, and under bark. Forages in open lowland areas and forms large maternity colonies in spring.	Medium – within the buildings of the Navy compound	Jan.-Feb. and Aug.-Oct.
Antrozous pallidus Pallid bat	--/CSC	Roosts in caves, old buildings, and under bark. Forages in open lowland areas and forms large maternity colonies in spring.	Medium – within the buildings of the Navy compound	Jan.-Feb. and Aug.-Oct.

Table 3.10-2: Special-Status Animal Species Known or Potentially Occurring within the Project Site

Scientific Name *Common Name*	*Status* *USFWS/CDFG*	*Habitat Requirements*	*Potential Occurrence in the Project Site*	*Period of Identification*
Myotis ciliolabrum Small-footed myotis	FSC/--	Roosts in caves, old buildings, and under bark	Medium – within the buildings of the Navy compound	Jan.-Feb. and Aug.-Oct.
Myotis evotis Long-eared myotis	FSC/--	Roosts in caves, old buildings, and under bark. Forms maternity colony in the spring.	Medium – within the buildings of the Navy compound	Jan.-Feb. and Aug.-Oct.
Myotis thysanodes Fringed myotis	FSC/--	Roosts in caves, old buildings, and under bark. Forms maternity colony in the spring.	Medium – within the buildings of the Navy compound	Jan.-Feb. and Aug.-Oct.
Myotis volans Long-legged myotis	FSC/--	Roosts in caves, old buildings, and under bark. Forms maternity colony in the spring.	Medium – within the buildings of the Navy compound	Jan.-Feb. and Aug.-Oct.
SPECIES ON OTHER LISTS				
Danaus plexippus Monarch butterfly	*	Eucalyptus groves (winter sites)	Medium – within the eucalyptus groves on Airport lands	Winter

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 = Federal Species of Concern. May be endangered or threatened, but not enough biological information has been gathered to support listing at this time.

STATE: (California Department of Fish and Game)
SE = Listed as Endangered by the State of California.
ST = Listed as Threatened by the State of California.
SR = 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).
3511 = White-tailed kite is fully protected under Fish and Game Code 3511.
* = Species considered "rare" in California or of special local interest.

Sources: CDFG, 2003; USFWS, 2003; ESA, 1999.

Sensitive Habitats

The State of California also recognizes some plant communities as sensitive or significant communities if they are uncommon, regionally declining, or vulnerable. Among these communities are coast live oak forest, freshwater seeps, and freshwater marshes. All three are present within the study area. A freshwater wetland has also been identified at the southern boundary of the U.S. Naval Facility, just north of Interstate 380.

Wetlands

The study area supports two creeks, San Bruno Creek and El Zanjon Creek, freshwater wetlands, and freshwater seeps. Current maps from the US Fish and Wildlife Wetlands Online Mapper indicate that there are small areas of freshwater emergent wetland near the southwest corner of the intersection of I-380 and US 101

near 7th and Walnut Park, and small areas of freshwater emergent wetland and freshwater forested/shrub wetland a little further south along the western side of US 101, adjacent to Lion's Field. While their general location indicates they are quite close to the City limits, without a field survey it is difficult to know the precise boundaries of these wetlands resources. These features are potentially subject to the jurisdiction of the U.S. Army Corps of Engineers under §404 of the Clean Water Act and/or the California Department of Fish and Game under §1600 – 1607.

While the City is not responsible for the condition of wetlands outside City boundaries, the proximity of these wetlands to San Bruno development suggests that City land management and development decisions could impact the wetlands through changing nearby levels of human activity, rates of stormwater runoff, and populations of domestic animals adjacent to this habitat.

IMPACT SIGNIFICANCE CRITERIA

To determine the level of significance of an identified impact, the criteria outlined in the CEQA Guidelines were used. The following is a discussion of the approaches to, and definitions of, significance of impacts to biological resources, drawn from several distinct CEQA Guidelines sections.

CEQA (§15065) directs lead agencies to find that a project may have a significant effect on the environment if it has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

CEQA (§15380) provides that a plant or animal species, even if not on one of the official lists, may be treated as "rare or endangered" if, for example, it is likely to become endangered in the foreseeable future.

Additional criteria to assess significant impacts to biological resources due to the proposed project are specified in the CEQA Guidelines §15382 (Significant Effect on the Environment) "…a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."

The Proposed General Plan would result in significant impacts to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

In addition to the above criteria, CDFG and USFWS guidelines consider a project to have a significant impact if it were to:

- Cause a change in species composition or result in the measurable degradation of sensitive habitats such as wetlands, oak woodlands, and/or perennial grasslands.

IMPACT ANALYSIS

3.10-A New and redevelopment activities would impact special status plant and animal species in the short-term and long-term. (Less than Significant Impact)

Future development may occur in areas known to support natural habitat and/or special status species. Development may result in the removal of habitat that supports special status species. The Proposed General Plan would implement policies to protect special status species and their habitat; thus, minimizing effects on these species. The Environmental Resources and Conservation Element of the Proposed General Plan 2025 would ensure preservation of natural areas and open spaces to protect known and potentially present special status plant and animal species, including California red-legged frog and San Francisco garter snake. As part of the project, Guiding Policy ERC-1 proposes to preserve and designate biological resource areas as Parks/Open Space.

New and redevelopment activities may require removal of nesting and roosting tree habitat for special status raptors and bats, however, implementing policies of the Environmental Resources and Conservation Element would avoid or minimize impacts on these species.

Applicable General Plan Policies:

Implementing policies that would minimize impacts on special status plant and animal species are listed below.

ERC-1 Preserve as open space those lands which are identified, through environmental review, as sensitive habitat areas. Require setbacks to development as buffer areas, as appropriate.

ERC-5 Preserve critical habitat areas and sensitive species within the City's riparian corridors, hillside and canyon areas, tree canopies, and wetlands that are within the City's control (Figure 6-1). Protect declining or vulnerable habitat areas from disturbance during design and construction of new development.

ERC-7 Ensure that construction adjacent to open canyon areas is sensitive to the natural environment. Preserve the natural topography and vegetation.

ERC-9 Preserve mature trees and vegetation, including wildflowers, within open canyon areas and along the City's scenic roadways.

ERC-13 Through environmental review, ensure that all projects affecting resources of regional concern (e.g., the San Francisco garter snake habitat, water and air quality, the San Francisco Fish and Game Reserve) satisfy regional, State and Federal laws.

ERC-15 Consult with the California Department of Fish and Game to determine significant habitat areas. Identify priorities for acquisition or maintenance of open space areas based on biological or environmental concerns.

ERC-16 Conduct presence/absence biological surveys for sensitive plant and animal species in natural areas prior to any construction activities proposed adjacent to or within the identified natural areas (Figure 6-1). If no special status species are detected during these surveys, then construction-related activities will proceed. If listed special status species are found with the construction zone, then avoid these species and their habitat or consult with U.S. Fish and Wildlife Service and/or California Department of Fish and Game.

ERC-17 If construction activities, including tree removal activities, are required adjacent to or within natural areas (Figure 6-1), then avoid activities during March through June unless a bird survey is conducted to determine that the tree is unused during the breeding season by avian species that are protected under California Fish and Game Codes 3503, 3503.5, and 3511.

ERC-18 Coordinate efforts with the San Mateo County Flood Control District, Caltrans, Golden Gate National Recreation Area, San Francisco Airport, Peninsula Watershed lands, and Junipero Serra County Park to develop or preserve and manage interconnecting wildlife movement corridors.

Mitigation

None required.

3.10-B Construction activities would have effects on riparian habitat and wetlands in the short-term and long-term. (Less than Significant Impact)

Riparian habitat and wetlands in the City have been identified in Junipero Serra Park and Crestmoor Canyon. Construction adjacent to or within riparian and wetland areas could have both direct impacts, from loss of habitat, or indirect effects, as a result of erosion, sedimentation, and increased runoff. However, the Proposed General Plan is not proposing any new development within Junipero Serra Park or Crestmoor Canyon or any other riparian habitat and wetlands areas. The Environmental Resources and Conservation Element will ensure preservation and protection of riparian habitat and wetlands throughout the City, including the eastern and western boundaries of San Bruno; thus avoiding impacts on these features. As part of the project, implementing policies would further minimize impacts on riparian habitat and wetlands. These policies are listed below.

Applicable General Plan Policies:

ERC-6 Preserve wetland habitat in the San Francisco Bay Margins along the eastern edge of City land as permanent open space (Figure 6-1). Where jurisdiction allows, establish buffer zones at the edge of wetland habitats and identify buffer zones as areas to restrict development.

ERC-8 If development occurs adjacent to a wetlands area, ensure that a qualified biologist has conducted a wetlands delineation in accordance with federal and state guidelines.

ERC-14 Preserve wetlands habitat and associated species in compliance with the federal "no net loss" policy using mitigation measures such as:

- Avoidance of sensitive habitat areas;
- Clustering of development away from wetlands;
- Transfer of development rights for preservation of existing sensitive lands; and/or

- Compensatory in-kind mitigation, such as restoration or creation.

Additionally, implementation of policies listed under Impact 3.10-A, as well as water resources policies listed in sections 3.9 and 3.13, would minimize or avoid adverse effects on wetlands.

Mitigation

None required.

3.10-C Erosion-control planting or other slope stabilization plantings would have the potential to introduce invasive non-native plant species into native habitat areas within and surrounding San Bruno in the short-term and long-term. (No Adverse Impact)

The Environmental Resources and Conservation Element would ensure preservation and protection of natural areas throughout the project site, including reducing or avoiding the introduction and spread of non-native invasive species. Implementing policies below, including those stated above under Impact 3.10-A, would avoid introducing and spreading non-native invasive species.

Applicable General Plan Policies

ERC-10 Require incorporation of native plants into landscape plans for new development as feasible—especially in areas adjacent to natural areas, such as canyons or scenic roadways (Figure 6-1). Require preservation of mature trees, as feasible, during design and construction.

ERC-11 Prohibit the use of any new non-native invasive plant species in any landscaped or natural area. Develop a program for abatement of non-native invasive species in open space or habitat areas.

Mitigation

None required.

3.10-D New development under the General Plan would have the potential to result in removal of or damage to heritage or significant trees identified by San Mateo County in the short-term and long-term. (No Adverse Impact)

New development under the Proposed General Plan would involve site-clearing and grading in areas where heritage or significant trees are present. Implementing policies of the Environmental Resources and Conservation Element would prohibit the removal of or damage to heritage or significant trees, thus avoiding potential impacts. These policies are listed below and under Impact 3.10-A.

Applicable General Plan Policies:

ERC-12 Balance the need for fire safety and invasive plant species management with new considerations along the city's scenic corridors. Encourage buildings to be locked outside of the tree's drip-line or 12 feet from the tree trunk, whichever is greater, and/or incorporating special techniques to minimize root damage, etc.

Mitigation

None required.

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3.11 CULTURAL RESOURCES

Cultural resources include prehistoric or historic archaeological sites, properties of historic or cultural significance, or paleontological sites. This section provides a brief description of the City's identified cultural resources and considers the potential impacts of Proposed General Plan development on unidentified resources.

ENVIRONMENTAL SETTING

Prehistoric Resources

At the time of Euro American contact, Native Americans in the Bay Area typically lived along the alluvial terraces and along historic bay margins. Because of San Bruno's location along the San Francisco Bay, potential exists for identifying Native American cultural resources within the city.

Historical Resources

Development of San Bruno's Central Business District began in the late 1880's. The USGS map of San Mateo County indicates that six buildings, the Southern Pacific Railroad grade, and two roadways (El Camino Real and San Mateo Avenue) were established by 1896.

The City of San Bruno contains few historical resources identified by the State of California. The Intersection of El Camino Real and San Mateo Avenue has been identified by the California Register of Historical Resources as a California Point of Historical Interest because it was the historic beginning of the California State Highway System. The site of the former Tanforan Racetrack, located on the northeast corner of the Interstate 380/El Camino Real intersection, has been identified as a California Historical Landmark (No. 934) and is also listed on the California Register of Historical Resources. The racetrack, which opened in November 1899, was the site of several aviation milestones in the early 1900s, and was also used for military purposes in World Wars I and II. The Shops at Tanforan has replaced the racetrack, which burned down in 1964.

In March 2003, the City conducted a Historic Resources Inventory of the Redevelopment Project Area. A combination of historical research and property evaluation resulted in 52 properties designated as historical resources, six of which contribute to the Cupid's Row Historic District. A historic resource is a structure, site, or feature which is representative of a historic period or building type but is not of landmark quality (having significance to the region and intangible elements of association). Modifications of a historic resource, including change of use, additions, and so on, are acceptable as long as the resource retains the essential elements which make it historically valuable. Figure 3.11-1 illustrates the historic resources identified in San Bruno.

A historic district is a geographically definable area with a significant concentration of buildings, structures, sites, spaces, or objects unified by past events, physical development, design, setting, materials, workmanship, sense of cohesiveness, or related historical and aesthetic associations. The Cupid's Row Historic District consists of a variety of early to mid-twentieth century residential building styles generally associated with the development of railroad / streetcar and automobile suburbs. The District, defined by its unusual and distinctive roadways, forming a pair of intertwined hearts, contains a large concentration of residential housing units constructed between 1909 and 1951.

Paleontological Resources

The paleontological resources of an area are a function of the types of sedimentary deposits present in the vicinity. The City is primarily divided into three subareas with distinctive geological characteristics. As described in Section 3.12, *Geology & Seismicity*, of this EIR, the area east of I-280 is underlain by deposits of the Colma Formation, which is Quaternary-aged (about 1 million years old), the area west of I-280 but east of Skyline Boulevard is underlain by deposits of the Merced Formation, which is Pliocene-aged (3 to 11 million years old), and finally, the area west of Skyline Boulevard is underlain by deposits of sheared Franciscan Assemblage sandstone, which are Cretaceous-aged (65 to 136 million years old). Although the Colma Formation may include occasional small marine and nonmarine invertebrate fossils, the dynamic formation and resulting structural complexity of the Franciscan Assemblage resulted in the presence of few fossils.

Regulatory Framework

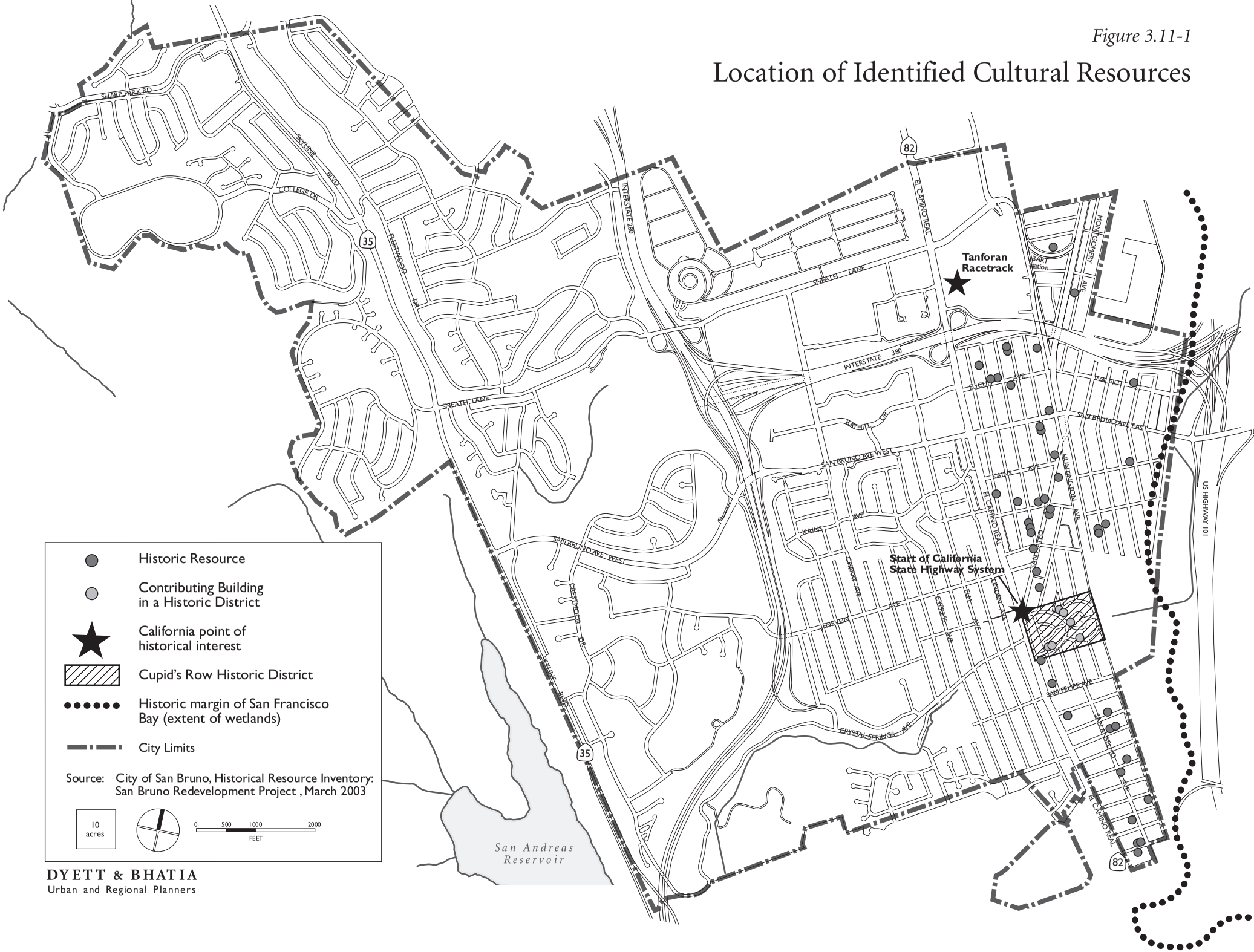
The National Register of Historic Places, authorized under the National Historic Preservation Act of 1966 (NHPA), is a national program designed to evaluate and protect historic and archeological resources. The National Park Service administers the National Register, which contains over 70,000 listings of cultural resources. The required review of potential historic resources under federal jurisdiction is coordinated through the relevant State Historic Preservation Office. The California State Parks Office of Historic Preservation (OHP) coordinates local surveys of historic resources that produce a documented resource inventory that then becomes part of the California Historical Resources Information System (CHRIS). OHP also coordinates submission of applications to the State Historical Resources Commission (SHRC) for nomination to the National Register of Historic Places. SHRC also makes recommendations for three state programs: the California Historical Landmark Program, the California Point of Interest Historical Program, and the California Register of Historical Resources Program. The City of San Bruno 1984 General Plan is the local policy document that contains policies related to the conservation of historic resources.

The State Historical Resources Commission recommends a California Historical Landmark to the Director of California State Parks for official designation. It must be the first, last, only or most significant of a type in the county of local area, have the approval of the chairperson of the Board of Supervisors or the City/Town Council, be recommended by the SHPO, and be officially registered by the Director of California State Parks. The California Point of Interest Historical Program recognizes resources of local or countywide importance. The California Register contains listings associated with events or persons 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.

Prehistoric resources are protected under a variety of federal, State and local regulations. Federal regulations are primarily encompassed by §106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f) as promulgated in 36 CFR Part 800, as amended July 1, 2001. §4(f) of the United States Code (49 U.S.C. §303) provides direction for Department of Transportation projects on the protection of public lands, including prehistoric archaeological sites. In addition, Public Laws 95-341, and 103-141, and Executive Order 13007, relating to American Indian religious freedom and sacred sites, apply to those resources and geographical areas determined to have a sacred and/or religious significance to the Native American population. The National Environmental Policy Act (42 U.S.C. 4321, NEPA) addresses project impacts on the environment, including cultural resources, and Executive Order 12898 addresses environmental justice concerns as they pertain to low income and minority groups. Case law has demonstrated that Executive Order 12898 applies to Native Americans.

Figure 3.11-1

Location of Identified Cultural Resources



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SIGNIFICANCE CRITERIA

The General Plan would result in significant impacts on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

IMPACT ANALYSIS

3.11-A New development under the Proposed General Plan may result in changes to or demolition of potential historic resources. (Less than Significant Impact)

Reuse and intensification allowed by the Proposed General Plan may result in the demolition of various buildings located along commercial corridors within San Bruno. Single story commercial structures along El Camino Real may be replaced with mixed-use development, while aging industrial structures along Huntington Avenue may be replaced with larger campus-style development. San Bruno contains a State-designated Historical Landmark at The Shops at Tanforan (the site of the former Tanforan Racetrack) and Point of Historical Interest at El Camino Real and San Mateo Avenue (the historical beginning of the California State Highway System). The 2003 Historic Resources Inventory of the Redevelopment Project Area resulted in 52 properties designated as historical resources, six of which contribute to the Cupid's Row Historic District. Nevertheless, any changes to or demolition of potential historic resources as a result of infill development proposed by the General Plan, may result in adverse impacts on structures of historic value.

The following Proposed General Plan policies would minimize adverse effects on historic resources.

Applicable General Plan Policies:

ERC-35 Develop criteria for designation of local historic or cultural resources. Designation may not be based solely on the age of a resource, but rather special qualities, detailing, people, or events associated with it. Resources may also include special signage and/or landmarks known to city residents.

ERC-36 Preserve historic structures and resources during reuse and intensification within the city's older neighborhoods.

ERC-37 Designate the vicinity of Taylor Avenue, San Mateo Avenue, and El Camino Real as the beginning of the State Highway System as a historic landmark with a marker (Figure 6-2).

ERC-38 Work cooperatively with the developers of The Shops at Tanforan to identify the site as the former Tanforan Racetrack as a historic landmark with a marker (Figure 6-2).

ERC-39 Continue to protect archaeological sites and resources from damage. Require that areas found to contain significant indigenous artifacts be examined by a qualified archaeologist for recommendations concerning protection and preservation.

ERC-40 Ensure that new development adjacent to historic structures is compatible with the character of the structure and the surrounding neighborhood.

ERC-41 Educate citizens about San Bruno's past by creating a brochure describing the City's history and resources for distribution to community groups and public schools.

ERC-42 If demolition of a historical building is necessary for safety reasons, attempt to preserve the building façade for adaptive reuse during reconstruction. Offer funding through the Redevelopment Agency for façade preservation projects.

ERC-43 Conduct a thorough study of the historic and cultural resources within San Bruno, in coordination with the City's centennial anniversary in 2014.

ERC-44 Rehabilitation, renovation, or reuse of historic resources will be implemented in coordination with the standards of the Secretary of the Interior and the Office of Historic Preservation.

ERC-45 If, prior to grading or construction activity, an area is determined to be sensitive for paleontological resources, retain a qualified paleontologist to recommend appropriate actions. Appropriate action may include avoidance, preservation in place, excavation, documentation, and/or data recovery, and shall always include preparation of a written report documenting the find and describing steps taken to evaluate and protect significant resources.

PFS-47 Develop criteria to determine whether damaged buildings can be preserved and/or restored following a natural disaster, rather than demolished.

ED-21 Emphasize Downtown as San Bruno's historic center, providing an identity and a sense of place for the entire city, by establishing a focused revitalization strategy. Initiatives of the Downtown Revitalization Strategy should include:

- Monitoring of land use and development trends in Downtown to ensure a sufficient supply of land, development intensities, and parking facilities;
- Attraction of retail, hotel, and service sector business to key locations in Downtown;
- Establishment of a proactive land assembly strategy in Downtown for the purposes of redevelopment and revitalization;
- Facilitation of additional cultural attractions and events that bring both residents and visitors to the Downtown; and
- Preservation and enhancement of historic structures contributing to the unique character of the Downtown.

Mitigation

None required.

3.11-B New and redevelopment activities may directly or indirectly destroy an archaeological or paleontological resource. (Less than Significant Impact)

Due to the geology of the area, there are few fossils or paleontological resources in the city. However, the City of San Bruno has a high possibility of containing Native American resources due to its location between the San Francisco Bay margins and the coastal mountain range. Because the locations of archaeological resource sites in the city are unknown, construction-related excavation for buildings, infrastructure, or other projects, could result in the disruption or destruction of these resources prior to their identification and/or assessment

for uniqueness. Any direct or indirect damage to an archaeological resource could have adverse effects on the city's cultural resources. However, the following policy in the Proposed General Plan will ensure protection of resources during the course of new construction.

Applicable General Plan Policies:

ERC-39 Continue to protect archaeological sites and resources from damage. Require that areas found to contain significant indigenous artifacts be examined by a qualified archaeologist for recommendations concerning protection and preservation.

Mitigation

None required.

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3.12 GEOLOGY

This section examines geologic and seismic conditions in the planning area in relation to implementing the provisions of the Proposed General Plan. Specific hazards addressed include effects of potential earthquake groundshaking and liquefaction, surface fault rupture, and geologic hazards such as landslides, expansive soils, differential settlement, and erosion.

ENVIRONMENTAL SETTING

The City of San Bruno is situated between the upland foothills of the Santa Cruz Mountains and the low-lying flatlands of the San Francisco Bay margin. Elevations range from 700 feet above mean sea level (msl) west of Skyline Boulevard to approximately 20 feet msl at Highway 101. The City of San Bruno can be divided into three topographic areas:

- The upland areas west of Skyline Boulevard range in elevation from 500 to 700 feet msl. Slopes in this area are generally greater than 50-percent (Ellen and Wentworth, 1995). This area is west of the San Andreas Fault Zone and includes Skyline College and the San Francisco Jail site.
- The upland area between Skyline Boulevard and I-280, including Junipero Serra County Park, ranges in elevation from 200 to 500 feet msl. Slopes in this area are moderate, typically between 15 and 50-percent. This area is primarily residential, with some commercial properties along Skyline Boulevard.
- East of I-280 and Junipero Serra County Park, the elevations range from 150 feet msl to 20 feet msl at the Bayshore Freeway (Highway 101). Slopes in this area are gentle and range from 0 to 15-percent.

Geology

The City of San Bruno lies within the physiographic region of California referred to as the Coast Ranges geomorphic province. Much of the Coast Range province is composed of marine sedimentary and volcanic rocks that form the Franciscan Assemblage. The Franciscan Assemblage in this region of California contains primarily greenstone (altered volcanic rocks), basalt, chert (ancient silica-rich ocean deposits), and sandstone that originated as ancient sea floor sediments. These rocks occur in northwest-trending ridges and valleys and extend along the Pacific Coast from Oregon 400 miles south into Southern California (Oakeshott, 1978).

Franciscan Assemblage bedrock consisting of sheared shale, greenstone, and conglomerate make up the Santa Cruz Mountains west of Skyline Boulevard. Erosion of the bedrock material results in deposition of ravine fill, slope wash, and colluvium. East of Skyline Boulevard and extending eastward to about I-280, the rocks consist predominantly of sedimentary deposits known as the Merced Formation (see Figure 3.12-1). The Merced Formation, deposited in an ancient shallow-water environment, is composed of sandstone, claystone, and siltstone. Ravine areas, especially along streambeds within the Merced Formation, are underlain by younger slope wash and ravine fill composed of silt sand and gravel.

Sheared Franciscan sandstone crops out in various locations within the Merced Formation (Pampeyan, 1994). In San Bruno, these rocks consist predominantly of soft sheared shale and siltstone and are found in a small portion of the southwestern area of the City.

East of the Merced Formation lies the Colma Formation, which is weakly consolidated and consists of gravel, sand, silt, and clay. Deposition of the Colma Formation occurred while the Colma Valley north of San Bruno was an ancient passageway connecting the Bay to the Pacific Ocean (Helley and LaJoie, 1979). Historic streams that flowed towards the Bay from the western uplands of San Bruno deposited younger alluvial sediments

consisting of sand and gravel over the Colma Formation. These deposits have been identified in the downtown area at Crystal Springs Road and El Camino Real. Similar deposits are present in the southern portion of San Bruno, beneath the Capuchino High School (Pampeyan 1994).

The area from the Southern Pacific Railroad tracks towards the San Francisco Bay is underlain by artificial fill material used to reclaim the Bay marginal tideland. Two types of fill are mapped in the San Bruno area (Pampeyan, 1994). The first type consists of gravel sand, silt, and rock fragments in various combinations used for highways, airports, reservoir embankments, and building site grades. In San Bruno, these materials exist primarily in the areas of the reclaimed marshland, especially beneath the San Francisco International Airport. The second type of fill material consists of locally derived earth materials placed during operations in urban areas and subsequently covered by residential development. In San Bruno, these materials are in the residential areas located between I-280 and Skyline Boulevard.

Soils

Three major soil associations, as defined by the United States Department of Agriculture (USDA) Soil Conservation Service, characterize surface soil in the City of San Bruno. The Sunnyvale-Castro association underlies the eastern side of San Bruno, west of the San Francisco International Airport. These soils occur on nearly level, low portions of the valley and originally developed from fine-textured alluvium. They drain slowly due to clay content and have developed under surface water runoff and high groundwater levels. In general, these soils have dark clay surface layers with calcareous or lime-cemented subsoils. The Elkhorn-Colma association underlies San Bruno between El Camino Real and I-280. These soils, which were developed from old marine sediments, occur on 5 to 15-percent slopes in areas of San Mateo County where urban development covers most of the land area. and were developed from old marine sediments. These soils drain well due to sand-clay mixtures, and erosion can be a problem on steeper slopes. Soils of the Sweeney-Mindego association occur on slopes ranging from 30 to 70-percent and underlie the upland areas on the western side of San Bruno. These soils developed from igneous rock and can be well-drained due to silt-sand-clay mixtures. In developed areas, construction cutting and filling have altered the Sweeney-Mindego association so as to conceal soil characteristics. These soils are referred to as "Made Soils" (USDA NRCS, 1991).

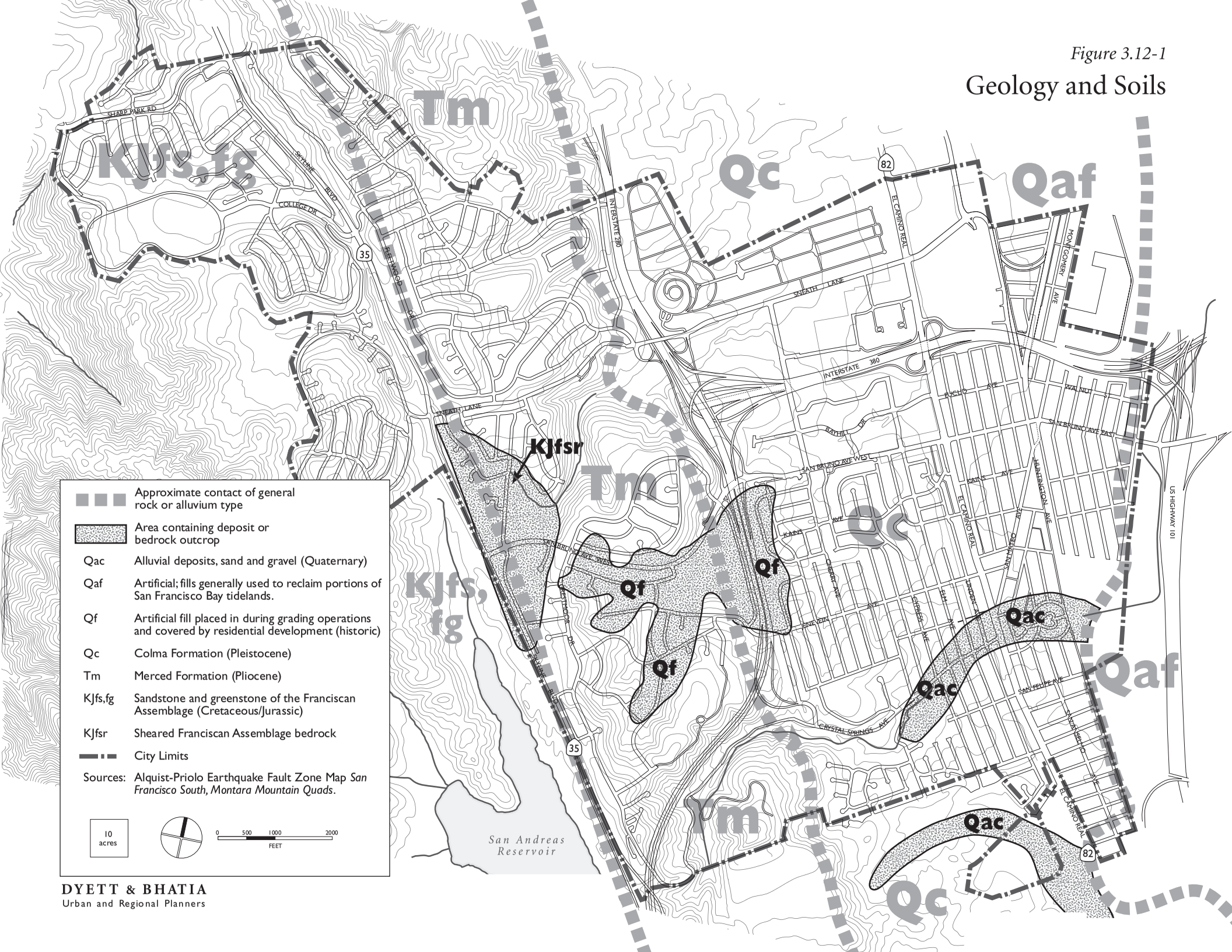
Mineral Resources

The California Geological Survey (CGS) (formerly the California Division of Mines and Geology [CDMG]) has classified lands within the San Francisco-Monterey Bay region into Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act (SMARA) of 1975 (Stinson et al., 1983). The CGS classified urbanizing lands within the South San Francisco Bay Production-Consumption Region according to the presence or absence of significant sand, gravel, or stone deposits that are suitable as sources of aggregate. Areas classified as MRZ-1 are areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little or no likelihood exists for their presence. MRZ-2 areas are those where adequate information indicates that significant deposits are present. Areas classified as MRZ-3 contain mineral deposits, but their significance cannot be evaluated from available data. Areas are classified as MRZ-4 where available information is inadequate for assignment to any other MRZ category.

The City of San Bruno west of Highway 101 and east of I-280 is classified as MRZ-1. Upland areas between I-280 and Skyline Boulevard are classified as MRZ-3 for deposits of Merced Formation sand and gravel. Although test data are lacking, the material may be suitable for aggregate other than artificial fill. The area west

Figure 3.12-1

Geology and Soils



- Approximate contact of general rock or alluvium type
- Area containing deposit or bedrock outcrop
- Qac — Alluvial deposits, sand and gravel (Quaternary)
- Qaf — Artificial; fills generally used to reclaim portions of San Francisco Bay tidelands.
- Qf — Artificial fill placed in during grading operations and covered by residential development (historic)
- Qc — Colma Formation (Pleistocene)
- Tm — Merced Formation (Pliocene)
- KJfs,fg — Sandstone and greenstone of the Franciscan Assemblage (Cretaceous/Jurassic)
- KJfsr — Sheared Franciscan Assemblage bedrock
- City Limits

Sources: Alquist-Priolo Earthquake Fault Zone Map *San Francisco South, Montara Mountain Quads*.

10 acres

0 500 1000 2000 FEET

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of I-280, within the San Bruno city limits, is classified as MRZ-3 for Franciscan Assemblage greenstone and limestone. These deposits lack sufficient material to reach suggested threshold values or have no previous quarry activity. There are no data concerning the quality of the material (Stinson, et al., 1983).

Geologic Hazards

The geology of San Bruno can vary from upland areas underlain by bedrock to alluvial flatlands. Because of this varied geology, geologic hazards that could affect the City of San Bruno include expansive soils, slope instability (landsliding), settlement, and erosion.

Expansive Soils

Expansive soils possess a "shrink-swell" characteristic. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may result over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. The Colma Formation, underlying the east side of San Bruno, is described as moderately expansive (Leighton and Associates, 1976).

Landsliding

The susceptibility of land (slope) failure is dependent on the slope and geology as well as the amount of rainfall, excavation, or seismic activities. A landslide is a mass of rock, soil, or debris displaced down-slope by sliding, flowing, or falling. Areas most susceptible to landsliding are characterized by steep slopes and down-slope creep of surface materials. Landslides are least likely in topographically low alluvial fans and at the margin of the San Francisco Bay.

The highest susceptibility to landsliding in San Bruno exists in the upland area east of Skyline Boulevard and west of I-280, including Junipero Serra Park (see Figure 3.12-2). The potential for landslides in this area is considered low to moderate with areas of higher potential, especially in the Crestmoor and Rollingswood/Monte Verde neighborhoods. Landsliding activity occurs most frequently during El Nino seasons, when heavy rains saturate soils and cause sliding on steep slopes. During El Nino seasons, such as the 1997-98 winter season, the Public Works Department monitors areas of concern.[1]

Susceptibility to landsliding could be greater in the Junipero Serra Park area due to the presence of undeveloped, natural slopes. The Merced Formation in these areas is described as moderately stable, with severe landslides occurring in artificial cuts for roads or buildings (Leighton and Associates, 1976). The sheared Franciscan bedrock is considered to have poor slope stability (Leighton and Associates, 1976). Slope creep is possible in the Merced Formation due to the expansive behavior of the surficial soil mantle.[2]

Settlement

Settlement is the depression of the bearing soil when a load, such as that of a building or new fill material, is placed upon it. Soils tend to settle at different rates and by varying amounts depending on the load weight, which is referred to as differential settlement. Differential settlement presents a greater hazard than total settlement in the San Bruno area because of variations in the thickness of previous and new fills, as well as natural variations in the thickness and compressibility of soils. Differential settlement has occurred and caused damage in the Crestmoor and Monte Verde neighborhoods. Areas are susceptible to differential settlement if

[1] Jerry Bradshaw, Deputy Public Works Director, City of San Bruno, personal communication, October 7, 2003.
[2] Slope creep is the slow, imperceptible movement of rock or soil under gravity down-slope (Bates and Jackson, 1984).

underlain by compressible sediments, such as poorly engineered artificial fill or the "Bay mud" present in the marshland on the San Francisco Bay margin.[3]

Erosion

Erosion is generally not a serious problem in San Bruno east of I-280 because the majority of the property is developed, and slopes are more gradual. During the winter storms in 1982-83, some erosion occurred along the eastern edge of Junipero Serra Park. Steeper hillside properties west of I-280 are subject to soil erosion, particularly where unnatural slope cuts and grading have occurred. Erosion has been a problem in the Crestmoor and Rollingswood/Monte Verde planning areas, including the lower Crestmoor Canyon (City of San Bruno, 1984).

Seismicity

The San Francisco Bay Area region contains both active and potentially active faults and is considered a region of high seismic activity.[4] The 1997 Uniform Building Code (UBC) locates the entire Bay Area within Seismic Risk Zone 4. Areas within Zone 4 are expected to experience maximum magnitudes and damage in the event of an earthquake (Lindeburg, 1998).

Earthquakes pose especially high risks to San Bruno because of the City's close proximity to active faults with relatively frequent past movements. A study assessing the probability of earthquakes in the San Francisco Bay Area was released in April, 2003 by the USGS Working Group on California Earthquake Probabilities (Working Group, or WGCEP). This is the latest report in an on-going effort to quantify earthquake hazards in the San Francisco Bay Area. The Working Group is led by the USGS, and consists of scientists from the USGS, California Geological Survey, major universities, and private companies. Previous studies were released in 1988, 1990 (reflecting changes following the 1989 Loma Prieta earthquake), and 1999. The most recent report on earthquake probabilities determined that the probability of a magnitude 6.7 earthquake occurring on a major fault in the Bay Area in the next 30 years is about 62-percent (WGCEP, 2003).

Regional Faults

The City of San Bruno straddles the San Andreas Fault Zone and approximately 18 miles southwest of the Hayward fault. The San Andreas and the Hayward faults are the two principally active, strike-slip-type faults[5] in the Bay Area and have experienced movement within the last 150 years. The San Andreas fault is a major structural feature in the region and forms a boundary between the North American and Pacific tectonic plates.

Other principal faults capable of producing significant groundshaking in San Bruno are listed in Table 3.12-1 and include the San Gregorio–Hosgri Fault Zone, the Rodger's Creek–Healdsburg fault, the Calaveras fault, and the Concord–Green Valley fault (see Figure 3.12-2). A major seismic event on any of these active faults could cause significant groundshaking in the San Bruno area, as was experienced during earthquakes in recent history, namely the 1906 San Francisco earthquake, the 1868 Hayward earthquake, and the 1989 Loma Prieta

[3] "Bay mud" is unconsolidated, water-saturated, dark, plastic, organic-rich, clay, and locally containing lenses of sand (Leighton and Associates, 1976).

[4] 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, of course, 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 (Hart, 1997).

[5] "Strike-slip" faults primarily exhibit displacement in a horizontal direction, but may have a vertical component.

earthquake. The Serra Fault Zone, San Bruno fault, and Pilarcitos fault are regarded as potentially active. Failure along these potentially active faults could possibly be triggered by activity on the San Andreas fault (Wakabayashi, 1998). Table 3.12-1 lists the activity status, historical seismicity, and maximum moment magnitudes for principal regional faults.

Table 3.12-1: Faults In The Vicinity Of The City Of San Bruno

Fault Zone	*Location Relative to San Bruno*	*Recency of Faulting* [a]	*Historical Seismicity* [b]	*Slip Rate* [c] *(mm/year)*	*Maximum Moment Magnitude* [d]
San Andreas (Peninsula and Golden Gate segments)	Adjacent	Historic	M 7.1: 1989 M 8.25: 1906 M 7.0: 1838 Many <M 6	17.0	7.3
San Gregorio–Hosgri Fault Zone	8 miles southwest	Holocene; Late Quaternary	Many M 3-6.4	5.0	7.3
Hayward	18 miles east	Historic	M 6.8: 1868 M 7.0: 1838 Many <M 4.5	9.0	6.9
Calaveras	25 miles east	Historic	M 6.1: 1984 M 5.9: 1979 Many <M 6.5	15.0 (Maximum)	6.8
Concord–Green Valley	30 miles northeast	Historic	Active Creep[e]	6.0	6.9
Healdsburg– Rodgers Creek	36 miles north	Holocene	NA	9.0	7.0
Serra	1 mile east	Quaternary	NA	NA	NA
Pilarcitos	5 miles west	Quaternary	NA	NA	NA
San Bruno	Within San Bruno	Quaternary	NA	NA	NA

[a] Recency of faulting from Jennings, 1994. Historic: displacement during historic time (within last 200 years), including areas of known fault creep; Holocene: evidence of displacement during the last 10,000 years; Quaternary: evidence of displacement during the last 1.6 million years; Pre-Quaternary: no recognized displacement during the last 1.6 million years (but not necessarily inactive).

[b] Richter magnitude (M) and year for recent and/or large events.

[c] Slip Rate = Long-term average total of fault movement including earthquake movement, slip, expressed in millimeters.

[d] The Maximum Moment Magnitude is an estimate of the size of a characteristic earthquake capable of occurring on a particular fault. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event (CDMG, 1997b). Richter magnitude estimations can be generally higher than moment magnitude estimations.

[e] Slow fault movement that occurs over time without producing an earthquake.

NA = Not applicable and/or not available.

Sources: Jennings, C.W. 1994, Fault Activity Map of California (with Appendix), California Division of Mines and Geology, Geologic Data Map No. 6; Peterson, M.D., Bryant, W.A., Cramer, C.H., 1996, Probabilistic Seismic Hazard Assessment for the State of California by the California Department of Conservation, Division of Mines and Geology, Open File Report 96-08, USGS Open-File Report 96-706.

The Serra Fault Zone is a zone of reverse faulting that trends to the northwest, approximately 3,500 feet east of the San Andreas Fault (Figure 3.12-2)[6]. The Serra fault was proposed for zonation as an active fault, but was later removed from consideration due to insufficient evidence of historic or Holocene displacement. However,

[6] Reverse faults primarily exhibit vertical displacement where the rocks above the fault plane move upward relative to the rock below. When the fault is at a low angle and the rock above the fault plane overrides the rock below, it is referred to as a thrust fault. The major faults in the region (San Andreas, Hayward, Rodgers Creek) are "strike-slip" faults that exhibit displacement in a relatively horizontal direction.

recent fault trenching and additional study determined that the Serra Fault Zone exhibits evidence of Holocene-aged displacement and thus could potentially be considered active. The Serra Fault Zone is possibly connected as a branch to the San Andreas Fault Zone (Wakabayashi, 1998). The Serra fault represents the contact between the Merced and Colma Formations and marks a topographic boundary between the upland area west of I-280 (inclusive of Junipero Serra Park) and the flatland area in the eastern portion of San Bruno (Pampeyan, 1994).

The Pilarcitos fault trends northwest and extends through the Santa Cruz Mountains approximately 5 miles west of San Bruno. Previous studies suggest that the Pilarcitos fault is an ancestral trace of the San Andreas fault and that it exhibits vertical as well as horizontal movement. The vertical movement could possibly represent the western San Andreas Fault counterpart of the Serra fault (Pampeyan, 1994). The Pilarcitos fault is considered potentially active because there is evidence of displacement within the last 1.6 million years (Jennings, 1994).

Existence of the San Bruno fault was first proposed in the early 1900s to explain the contact between Merced Formation bedrock and Franciscan Assemblage sandstone of San Bruno Mountain. The structure of the Merced Formation, however, offers evidence to suggest that the San Bruno fault may not exist, or at least that it is not as significant as initially proposed (Brabb and Olsen, 1986). There are a few epicenters near the San Bruno fault north of San Mateo County; however, these cannot be differentiated from San Andreas fault activity.[7] Activity northeast of the San Bruno fault may be associated with another potentially active fault referred to as the Hillside fault. There is not enough seismic information to determine the present activity of the San Bruno fault or the Hillside fault (Brabb and Olsen, 1986).

Shaking Intensity

Earthquakes on the various active and potentially active San Francisco Bay Area fault systems are expected to produce a wide range of groundshaking intensities within the City of San Bruno. The estimated maximum (moment) magnitudes (Table 3.12-1) represent characteristic earthquakes on particular faults.[8]

While the magnitude is a measure of the energy released in an earthquake, intensity is a measure of the groundshaking effects at a particular location. Shaking intensity can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The Modified Mercalli (MM) intensity scale (Table 3.12-2) is commonly used to measure earthquake effects due to groundshaking. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total). MM intensities ranging from IV to X could cause moderate to significant structural damage.[9]

[7] An epicenter is the point on the earth surface directly above the subsurface location that fault rupture commences.

[8] Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event (CDMG, 1997b).

[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 (ABAG, 1998a).

Figure 3.12-2

Faults and Landslide Potential

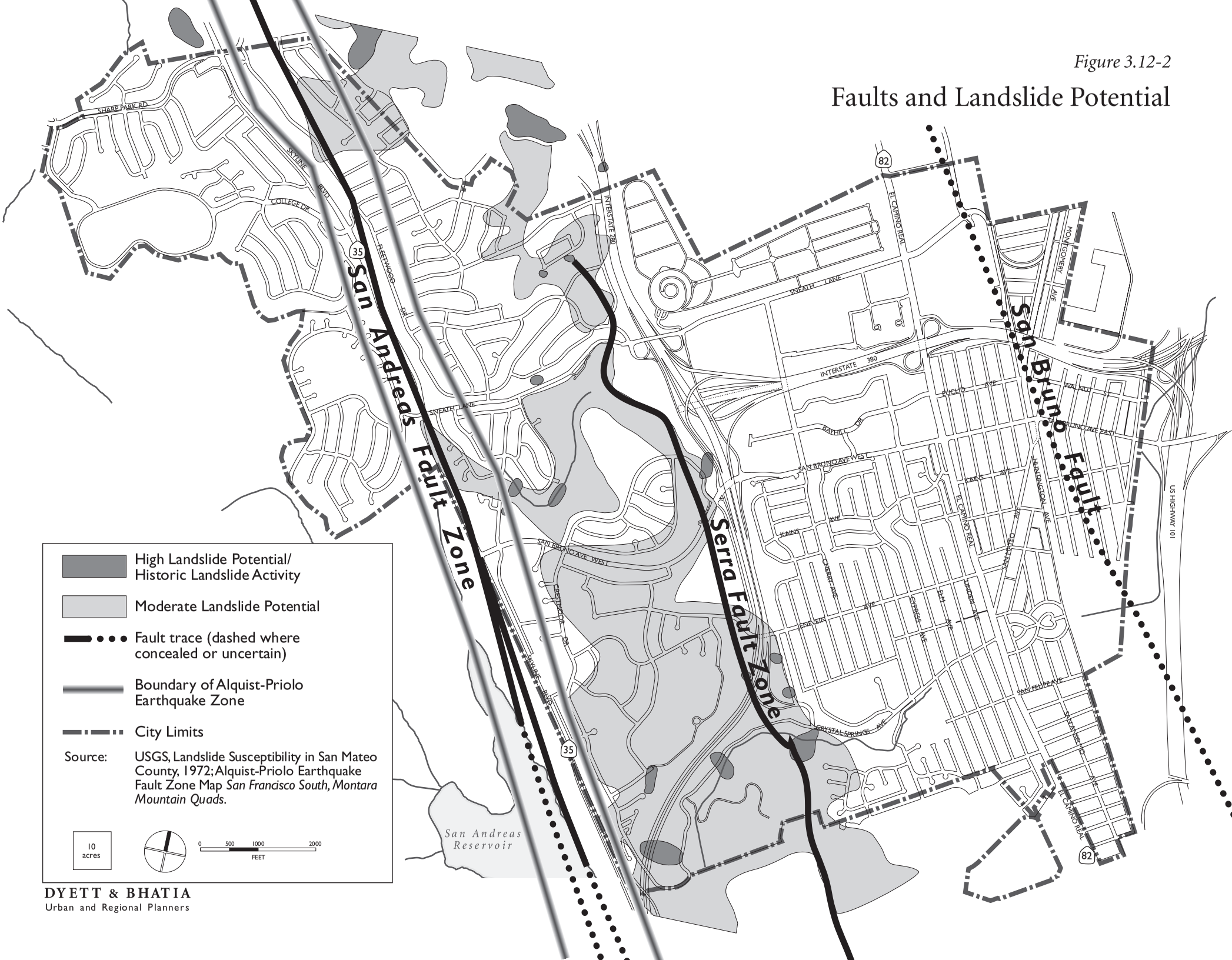

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Table 3.12-2: Modified Mercalli Intensity Scale

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.	0.014–0.04 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.	0.04–0.09 g
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; and fallen plaster or damaged chimneys. Damage slight.	0.09–0.18 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: Bolt, Bruce A., 1988.

San Andreas Fault

In the vicinity of San Bruno, a characteristic earthquake on the San Andreas fault with estimated moment magnitude of 7.3 could produce MM intensities ranging from very strong (MM-VII) to very violent shaking (MM-X) (ABAG, 1998b). The range of effects typically associated with these intensities could include some structural damage, such as cracks in walls and chimneys, to total building collapse (Table 3.12-2). As a comparison, the 1906 San Francisco earthquake, with a moment magnitude of 7.8 located 36 miles north on the San Andreas Fault produced shaking intensities ranging from violent (MM-IX) to very violent (MM-X) within the City of San Bruno. The 1989 Loma Prieta earthquake, with a moment magnitude of 6.9 located 48 miles south on the San Andreas fault, produced moderate (MM-VI) to strong (MM-VII) shaking intensities (ABAG, 1998c).[10]

Hayward Fault/San Gregorio–Hosgri Fault Zone

Shaking intensities ranging from strong (MM-VII) to very strong (MM-VIII) would be expected from a characteristic earthquake (moment magnitude 6.9) on the Hayward fault, located 18 miles east of San Bruno. Similar shaking intensities would be expected on the San Gregorio–Hosgri Fault Zone located 8 miles to the southwest. Earthquakes within this range of intensities are felt by everyone and can cause furniture to overturn, structural damage, and partial collapse in some buildings (ABAG, 1995). As a comparison, the 1868 earthquake on the Hayward fault (approximate magnitude 7) produced shaking intensities ranging from MM-VII to MM-VIII in Redwood City, south of San Bruno, and caused some structural damage and partial building collapse. San Francisco sustained building collapse and underground utility failure.

Landsliding occurred in the City of Colma, located just north of San Bruno, but no building collapse was reported (Steinbrugge, et al., 1987).[11]

Other Regional Active Faults

Characteristic earthquakes on the Calaveras, Concord–Green Valley, Rodger's Creek–Healdsburg, and Greenville faults would be expected to produce intensities from light (V) to moderate (VI). An earthquake with these MM intensities would likely be felt by most people but would result in little or no structural damage (ABAG, 1998b).

Seismic Hazards

The City of San Bruno could experience the effects of a major earthquake from one of the active or potentially active faults on the San Francisco Peninsula or in the greater Bay Area. The four major hazards associated with earthquakes are fault surface rupture (ground displacement), groundshaking, ground failure, and settlement.

Groundshaking

As noted above in the discussion of faults, the City of San Bruno could be affected by strong groundshaking caused by a major earthquake during the next 30 years. Groundshaking may affect areas hundreds of miles distant from the earthquake's epicenter. Historic earthquakes have caused strong groundshaking and damage in the San Francisco Bay Area, the most recent being the 6.9 (moment magnitude) Loma Prieta earthquake in October 1989. The epicenter for this event was approximately 44 miles southeast of San Bruno; the earthquake

[10] Intensities for the San Francisco and Loma Prieta earthquakes are based on a model of the San Francisco earthquake and do not represent actual measurements (ABAG, 1998c).

[11] It is important to note that in 1868, the population density and level of development in San Mateo County were considerably less than at present.

caused strong groundshaking for about 20 seconds and resulted in varying degrees of structural damage throughout the Bay Area.

The composition of underlying soils in areas located relatively distant from faults can intensify groundshaking. Portions of the Bay Area that experienced the worst structural damage were not those closest to the fault, but rather those with soils that magnified the effects of groundshaking.[12] Peak acceleration, peak velocity, and peak displacement values were measured by strong-motion detectors during the Loma Prieta earthquake in several ground and structure strong-motion stations in the Bay Area. For comparison purposes, the maximum peak acceleration value recorded was in the vicinity of the epicenter, near Santa Cruz, at 0.64 g ("g" is the force of gravity). The highest value measured on the San Francisco Peninsula was 0.33 g, recorded at the San Francisco International Airport. The soils at the airport are mapped as artificial fill over Bay mud. The lowest values were recorded in the bedrock on Yerba Buena Island at 0.06 g (CDMG, 1990). Two structure strong-motion detectors placed near the I-280/I-380 interchange in San Bruno recorded peak ground accelerations of 0.16 g and 0.14 g. The accelerations are comparable to MM intensities of MM-VII and MM-VIII (see Table 3.12-1). These detectors probably recorded peak ground accelerations in material representative of Colma Formation alluvium.

Surface Fault Rupture

Surface expression of fault rupture is typically observed and is expected on or within close proximity to the causative fault.[13] The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Future faulting is generally expected along different strands of the same fault (CDMG, 1997a). The San Andreas fault is the closest fault to San Bruno with the highest potential for significant fault rupture. Surface fault rupture occurred on the San Andreas fault during the Richter magnitude 7 earthquake in 1838 and was observed to extend from the vicinity of Daly City/Pacifica south to the Town of Woodside (Jennings, 1994). Evidence of fault offset, possibly surface rupture, was identified west of San Bruno on the San Andreas fault following the San Francisco earthquake in 1906. Other faults within close proximity to San Bruno, such as the Serra Fault Zone, the Pilarcitos fault, and San Bruno fault, are considered potentially active, and although surface rupture cannot be ruled out on these faults, it is more likely to occur along a trace of an active fault. Failure along these potentially active faults could possibly be triggered by activity on the San Andreas fault (Wakabayashi, 1998).

The Alquist-Priolo Earthquake Fault Zoning Act (discussed below under Regulatory Background) requires the zonation of 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. It is important to note, however, that surface fault rupture is not necessarily restricted to the area within the Alquist-Priolo Zone.

The main trace of the San Andreas fault runs along the western side of the City of San Bruno, just northeast of Skyline Boulevard. Active "splinter" traces have been accurately located within the southwestern portion of the City (see Figure 3.12-2). The designated Alquist-Priolo "Earthquake Fault Zone" for fault rupture hazard extends approximately 800 feet on either side of the San Andreas Fault, and lies within the City of San Bruno (CDMG, 1982).

[12] Groundshaking can be described in terms of peak acceleration, peak velocity, and displacement of the ground. Areas that are underlain by bedrock tend to experience less groundshaking than those underlain by unconsolidated sediments such as artificial fill.

[13] Fault rupture is displacement at the earth's surface resulting from fault movement associated with an earthquake (Steinbrugge, et al., 1987).

Liquefaction

Liquefaction is the process by which water-saturated soil materials lose strength and become susceptible to failure during strong groundshaking in an earthquake. The shaking causes the pore-water pressure in the soil to increase, thus transforming the soil from a solid to a liquid. Liquefaction has been responsible for ground failures during almost all of California's great earthquakes. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular materials at depths less than 40 feet (ABAG, 1996). Liquefaction can occur in unconsolidated native or artificial fill sediments located in reclaimed areas along the margin of San Francisco Bay. The depth to groundwater also controls the potential for liquefaction in this area; the shallower the groundwater, the higher potential for liquefaction.

Four kinds of ground failure commonly result from liquefaction: lateral spread, flow failure, ground oscillation, and loss of bearing strength (ABAG, 1996). A lateral spread is a horizontal displacement of surficial blocks of sediments resulting from liquefaction in a subsurface layer. Lateral spread occurs on slopes ranging between 0.3 and 3-percent and commonly displaces the surface by several meters to tens of meters. Lateral spreads of only a few feet damaged every major pipeline that broke during the 1906 San Francisco earthquake. Flow failures occur on slopes greater than 3 degrees and are primarily liquefied soil or blocks of intact material riding on a liquefied subsurface zone. Ground oscillation occurs on gentle slopes when liquefaction occurs at depth and no lateral displacement takes place. Soil units that are not liquefied may pull apart from each other and oscillate on the liquefied zone. Ground fissures can accompany ground oscillation and sand boils and damage underground structures and utilities. The loss of bearing pressure can occur beneath a structure when the underlying soil loses strength and liquefies. When this occurs, the structure can settle, tip, or even become buoyant and "float" upwards. Liquefaction and associated failures could damage foundations, disrupt utility service, and cause damage to roadways.

Liquefaction potential is highest in the areas underlain by Bay fills, Bay mud, and unconsolidated alluvium. In San Bruno, soils with the potential to liquefy exist along the eastern edge of the City, within the Belle Air Park neighborhood, due to the presence of variable artificial fill material overlying the Bay mud. Liquefiable soils also exist within the San Bruno Park area. This area is underlain by potentially liquefiable, coarse-grained alluvial material. Similar conditions also exist south of the Lomita Park neighborhood and in the vicinity of Capuchino High School.

Earthquake-Induced Settlement

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, noncompacted, and variable sandy sediments) due to the rearrangement of soil particles during prolonged groundshaking. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). In San Bruno, areas susceptible to this type of settlement include areas underlain by artificial fills, unconsolidated alluvial sediments, and slope wash, and areas with improperly engineered construction fills.

REGULATORY FRAMEWORK

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazard of fault rupture and to prohibit the location of most structures for human occupancy across these traces.[14] Cities and counties must regulate certain development projects within the zones, which includes withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement (Hart, 1997). The San Andreas Fault Zone, designated by the Alquist-Priolo Earthquake Fault Zoning Act, is shown in Figure 3.12-2.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong groundshaking, 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 has to be conducted and appropriate mitigation measures incorporated into the project design. Preparation of a Seismic Hazards Map for the San Francisco South quadrangle, which includes portions of the City of San Bruno, has not been completed by the California Geological Survey (CGS); however a Seismic Hazards Map for Montara Mountain is planned (CGS, 2003).

Hospital Facilities Seismic Safety Act of 1973

Hospitals, unlike most other buildings, must not only be safe for patients but also be able to provide care to the community in the event of a major disaster, including earthquakes. The 1971 San Fernando earthquake severely damaged four major modern hospitals in Southern California. To ensure that hospitals in California conform to high construction standards, the Alfred E. Alquist Hospital Facilities Seismic Safety Act (HSSA) was passed in 1973. The intent of the HSSA is to assure that hospitals 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.

Seismic Evaluation and Retrofit Regulations (Senate bill 1953)

Senate Bill (SB) 1953, passed in 1994, requires that all existing hospital buildings providing general acute care as licensed under provisions of §1250 of the California Health and Safety Code, be in compliance with the intent of the Hospital Seismic Facilities Safety Act by the year 2030.

California Building Code

The California Building Code is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code (CBSC, 1995). Title 24 is assigned to 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 (Bolt, 1988).

[14] A "structure for human occupancy" is defined by the Alquist-Priolo Act as any structure used or intended for supporting or sheltering any use or occupancy that has an occupancy rate of more than 2,000 person-hours per year.

Published by the International Conference of Building Officials, the Uniform Building Code is a widely adopted model building code in the United States. The California Building Code incorporates by reference the Uniform Building Code (UBC) with necessary California amendments. About one-third of the text within the California Building Code has been tailored for California earthquake conditions (ICBO, 1997).

SIGNIFICANCE CRITERIA

The City of San Bruno Proposed General Plan would result in significant impacts if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42).
  - Strong seismic ground shaking.
  - Seismic-related ground failure, including liquefaction.
  - Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

IMPACT ANALYSIS

3.12-A In the event of a major earthquake in the San Bruno area, development under the Proposed General Plan could be exposed to damage and destruction resulting from surface fault rupture, groundshaking, localized liquefaction, and/or seismic-related landsliding. (Less than Significant Impact)

The City of San Bruno would likely experience at least one major earthquake (magnitude 6.7 or greater) within the next 30 years. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the moment magnitude, and the duration of shaking. Portions of San Bruno are located adjacent to the active traces of the San Andreas Fault Zone. Active fault traces of the San Andreas Fault have been accurately located within the City. In the event of an earthquake on the San Andreas Fault, fault surface rupture may occur and affect buildings, pavement, utilities, and roads. When fault rupture occurs on a fault such as the San Andreas, the surface displaces not only laterally, but also sometimes vertically. 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 could become uninhabitable, roads would be closed, and utility service disrupted for an undeterminable length of time.

In the event of an earthquake in the San Francisco Bay region, groundshaking could cause significant damage, if not collapse of the existing buildings in areas underlain by sheared Franciscan bedrock with relatively poor

stability (City of San Bruno, 1984). The amount of damage could be higher in areas of higher density of development and with a greater number of older structures. Unreinforced masonry buildings and those constructed prior to 1933 would be expected to incur the greatest structural damage. Damage could be high in buildings constructed on improperly engineered fills or artificial fills at the Bay margin.

Seismic hazards related to groundshaking could occur in susceptible areas within San Bruno. Cut slopes could be susceptible to failure during excessive groundshaking, and areas where construction fills are present could experience differential settlement. Landslides could damage property and expose people to rockfall hazards. Differential settlement could cause structural damage to foundations. Liquefaction potential is highest in the areas underlain by Bay fills, Bay mud and unconsolidated alluvium. Areas underlain by variable artificial fill material overlying Bay mud could be susceptible to liquefaction failures. Failures could include lateral spreads, ground oscillation, and loss of bearing pressure. Areas underlain by potentially liquefiable, coarse-grained alluvial material and could be susceptible to failures including lateral spreads, ground oscillation, flow failures, and loss of bearing pressure. Liquefaction-related failures could damage foundations, disrupt utility service, and cause damage to roadways.

The Proposed General Plan includes the following policies that are intended to minimize potential seismic-related hazards. Implementation of these policies will reduce geologic and seismic hazards to *Less than Significant* level.

Applicable General Plan Policies:

HS-1 Regulate development, including remodeling or structural rehabilitation, to assure adequate mitigation of safety hazards on sites having a history or threat of slope instability, erosion, subsidence, seismic dangers (including those resulting from liquefactions, ground failure, ground rupture), flooding, and/or fire hazards (Figure 7-2).

HS-2 Review and revise the City's Building Code, Zoning Ordinance, and Subdivision requirements to safeguard against seismic, geologic, and safety hazards. Mitigation should include:

- Minimal grading and removal of natural vegetation to prevent erosion and slope instability. Cleared slopes should be replanted with vegetation.
- Proper drainage control to prevent erosion of the site and affected properties.
- Careful siting and structural engineering in unstable areas.
- Consideration of flooding and fire hazards in siting and designing new development.

HS-3 Require geotechnical investigation of all sites, except single family dwellings, proposed for development in areas where geologic conditions or soil types are subject to landslide risk, slippage, erosion, liquefaction, or expansive soils (Figure 7-2). Require submission of geotechnical investigation and demonstration that the project conforms to all recommended mitigation measures prior to city approval.

HS-4 Prevent soi1 erosion by retaining and replanting vegetation, and by siting development to minimize grading and land form alteration.

HS-5 Require preparation of a drainage and erosion control plan for land alteration and vegetation removal on sites greater than one acre in size.

HS-6 Restrict development of critical facilities—such as hospitals, fire stations, emergency management headquarters, and utility lifelines—in areas determined as high-risk geologic hazard zones (Figure 7-2).

HS-7 Development in areas subject to seismic hazards, including ground shaking, liquefaction, and seismically-induced landslides (Figure 7-2) to comply with guidelines set forth in the most recent version of the California Division of Mines and Geology Special Publication 117.

HS-8 Identify existing structural hazards related to un-reinforced masonry, poor or outdated construction techniques, and lack of seismic retrofit. Coordinate with the Redevelopment Agency to provide assistance to property owners to abate or remove structural hazards that create an unacceptable level of risk.

HS-9 In accordance with the Alquist-Priolo Special Studies Zones Act, do not permit structures across an active fault (Figure 7-2) or within 50 feet of an active fault, except single-family wood frame dwellings where no other location on a lot is feasible. Require any new development to contract with geo-technical engineers to reduce potential damage from seismic activity.

HS-10 Recommend a geologic report by a qualified geologist for construction or remodeling of all structures, including all single-family dwellings, proposed within 100 feet of a historically active or known active fault (Figure 7-2). Geologic reports should recommend minimum setbacks, siting and structural safety standards, to reduce potential seismic hazards. Geologic reports must be filed with the State Geologist by the City within 30 days of receipt.

HS-11 Coordinate with surrounding cities, agencies, and San Mateo County in planning for recovery after a major seismic event. Determine appropriate emergency management and rebuilding strategies.

HS-12 Develop and provide incentives for property owners to conduct preventive maintenance of structures and to perform foundation and other seismic retrofit improvements.

PFS-42 Conduct emergency drills in public buildings, large office developments, and in coordination with local schools. Hold post-drill training seminars to identify needed improvements to emergency preparedness.

PFS-43 Work with critical use facilities (i.e., hospitals, schools, public assembly facilities, transportation services) to assure that they can provide alternate sources of electricity, water, and sewage disposal in the event that regular utilities are interrupted in a disaster.

Mitigation

None required.

3.12-B New development under the Proposed General Plan may be subject to geologic hazards, including landslides, expansive soils, differential settlement, and erosion. (Less than Significant Impact)

The varied geologic materials and settings distributed throughout San Bruno result in potential for landslides, expansive soils, differential settlement, and erosion.

Landsliding due to static forces (not seismically induced) could occur in areas with steep slopes. The Merced Formation has been described as vulnerable to landsliding, especially in areas underlain by the sheared Franciscan sandstone bedrock. This occurs primarily in the hillside and canyon areas of San Bruno's Crestmoor neighborhood (see Figure 3.12-1). Landslide potential increases in areas where construction activity, such as road building or grading for building sites, reduces slope support. Over-steepened slopes, slope saturation in areas of heavy rainfall, and removal of slope vegetation can also increase landslide potential. Landsliding of existing slopes could expose people to rockfall hazards and property damage. Landsliding in cut slopes produced during grading could cause damage and disrupt construction projects.

Expansive soils could be encountered in various locations underlain by the Colma Formation, which is bounded generally on the west along the I-280 corridor (see Figure 3.12-1). Typically, soils that exhibit expansive characteristics comprise the upper five feet of the surface. The effects of expansive soils could damage foundations of aboveground structures, paved roads and streets, and concrete slabs. Expansion and contraction of soils, depending on the season and the amount of surface water infiltration, could exert enough pressure on structures to result in cracking, settlement, and uplift.

Differential settlement could occur in areas underlain by the Colma Formation or less consolidated alluvial material and artificial fill. Alluvial deposits are found along the San Francisco Bay margins east of Highway 101, while artificial fill is found in various pockets throughout the City (see Figure 3.12-1). Differential settlement could damage building foundations, affect underground utilities, and cause settlement in streets and roads. Settlement could be reduced or eliminated in areas that support buildings, because the soils have been allowed to settle over time. Settlement would be a concern in redevelopment areas that have not previously supported structures and where new structures would place loads heavier than the soils could tolerate.

Erosion would be likely in sloped areas in exposed hillsides and in poorly engineered slope cuts and fills. Construction erosion is further discussed in section 3.13, *Hydrology and Water Quality*.

The Proposed General Plan includes the following policies that are intended to minimize potential geologic hazards. Implementation of these policies will reduce geologic hazards to *Less than Significant* level.

Applicable General Plan Policies:

Policies HS-1 and HS-3 through HS-6 listed under Impact 3.12-A are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

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3.13 HYDROLOGY AND WATER QUALITY

This section addresses both surface water and groundwater issues in the San Bruno area. Also, water quality, drainage, and flooding are described and evaluated. Proposed General Plan policies that mitigate potential flooding and water quality impacts are identified.

ENVIRONMENTAL SETTING

The City of San Bruno is located in a highly urbanized area west of San Francisco Bay (City of San Bruno, 2003). Due to historic development, most surface water resulting from precipitation goes directly into a storm drain system. Three surface water channels within the City – San Bruno, Huntington, and Crystal Springs Creeks – are incorporated into the system and largely have been channelized into underground storm drain piping, although the upper portions of San Bruno and Crystal Springs Creeks are in a natural state. These drainages flow west to east, with those areas that remain surface water channels characterized by riparian woodlands in the upper reaches and willow riparian habitat in the lower, slower-moving reaches prior to eventually draining into San Francisco Bay.

Drainage and Flood Control

San Bruno's system of storm drains collects and channels surface water (mostly from rainfall) into a series of pipes, trenches, culverts, detention basins, and open channels, managed by the San Mateo County Flood Control District, that transport and empty it into San Francisco Bay. The system is based upon the natural drainage pattern determined by topography. Because of the high relief (steep slopes) in the western third of San Bruno and the more gradual slope east of I-280, a gravity-flow system is used. Its main artery carries water along a course that was formerly San Bruno Creek.

Figure 3.13-1 illustrates the six watersheds that drain the City of San Bruno. The northern portion of San Bruno drains toward South San Francisco and into Colma Creek watershed. Despite ultimate drainage into the South San Francisco system, the City of San Bruno maintains all storm drainage facilities within the city limits. The City's primary drainage basins—Crystal Springs Creek, Huntington Creek, and San Bruno Creek—encompass 80-percent of the City's land area. These highly modified, intermittent channels are part of the storm drain system maintained by the San Bruno Public Works Department, which oversees maintenance of all storm drain piping within city limits, including those which ultimately convey water to South San Francisco's and Millbrae's storm drain systems. The discharge point for these watersheds is the San Bruno Channel located next to the South San Francisco-San Bruno Water Quality Control Plant just north of San Francisco International Airport. Several smaller watersheds that are delineated in the eastern portion of the City reflect the pattern of existing storm drain trunks.

The San Bruno Creek drainage basin (Watershed A) encompasses an area of 1,186 acres (1.85 square miles) of mostly urbanized land, sloping steeply toward the east. It is bounded on the north by the Colma Creek drainage basin and on the south by the Huntington Creek drainage basin. The western edge of the San Bruno Creek drainage basin begins in the coastal range at the boundary with the City of Pacifica, and continues eastward. This basin is heavily urbanized, with approximately 50-percent or more of the creek running underground through culverts. San Bruno Creek is not a natural creek but is composed of a series of channels, pipes, and detention basins. Both Huntington and Crystal Springs Creeks are tributaries of San Bruno Creek.

According to the San Mateo County Flood Control District, the San Bruno Creek Flood Control Zone was established in 1967 to finance the construction of channel and culvert improvements in the lower reach of San Bruno Creek. The Zone also contributed to the financing of drainage improvements in the City of San Bruno

below El Camino Real. The Zone finances the maintenance of the channels and contracts with the City of San Bruno for pump station maintenance. The Zone recently removed accumulated silt and vegetation from the open channel area known as "Cupid Row" located between the Caltrain tracks and U.S. 101. Complex Federal and State permits are required to maintain this channel as the area is habitat for the California Red Legged Frog and the San Francisco Garter Snake, both listed as Federal Endangered Species.

Huntington Creek Watershed (C) encompasses approximately one square mile, with a total stream length of more than 3 miles (Bissell & Karn, 1991). Huntington Creek begins just east of Skyline Boulevard and flows through storm drain pipes and culverts to its subsurface juncture with San Bruno Creek drainage system near the intersection of San Bruno and San Mateo Avenues.

Crystal Springs Creek originates in Junipero Serra County Park near I-280 and has a total stream length of approximately 4 miles. This small, upland creek supports portions of a natural channel within the park boundaries. The Crystal Springs Creek drainage basin (Watershed B) drains approximately 1 square mile of the southern part of the City. From the eastside of Junipero Serra County Park, Crystal Springs Creek parallels Crystal Springs Road and passes through San Bruno City Park. Once through the park, the creek goes underground through the manmade storm drain system. It reappears above ground on the east side of the City after it passes below the Caltrain railroad tracks. The creek then turns north and joins with San Bruno Creek drainage system near the intersection of San Bruno Avenue and U.S. 101.

A Storm Drainage Master Plan was developed for the City in 1991 by Bissell & Karn, Inc. and an update analysis of that plan was prepared by Brian Kangas Foulk in 1999/2000. San Bruno's drainage system has a 25-year storm capacity, but much of the City's storm drain infrastructure is aging and should be replaced. Although adequate under average conditions, there are problem spots where flooding occurs during heavy storms and high tides. Development in San Bruno's low-lying areas could be subject to flooding unless adequate measures are taken to improve the drainage system. Improvements have been made to the three existing trunk lines, and points of constricted flow have been identified. Recommendations made in the more recent study would increase the diameter of mains in problem locations, add parallel box culverts in key locations to increase flow capacity, and add a storm drain bypass to redirect discharge overflows from the San Mateo Avenue area southward. Proposed improvements would significantly reduce the flooding problem, but inundation of problem areas can still be expected during a 25-year storm event.

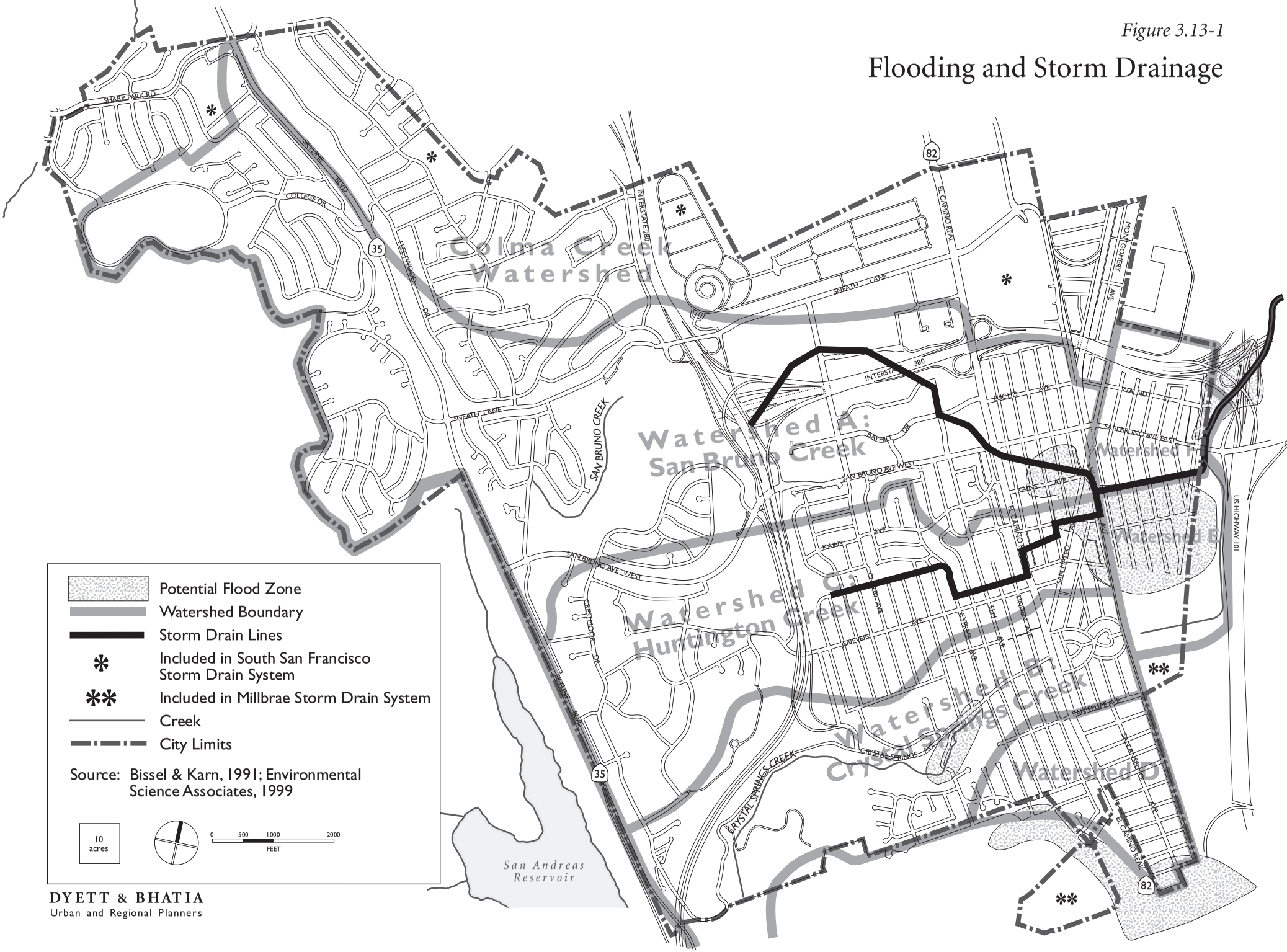
Existing Flood Risk

The risk of flooding in urban areas is dependent on the following variables: preceding soil conditions, amount and intensity of rainfall, and capabilities of the storm drain system. It is the function of the storm drain system to move surface runoff into gutters, storm drain inlets, channels, creeks, collection basins, and eventually to the receiving body (San Francisco Bay). Although San Bruno contains no areas designated by Federal Emergency Management Agency (FEMA) as 100-year floodplains, the City has identified several areas below, and in Figure 3.13-1, which occasionally flood due to the combined high tides and heavy rain:

- Central Business District's San Mateo and Mastick Avenues, north of Sylvan Avenue,
- Kains Avenue, east of Green Avenue,
- First through Seventh Avenues, south of Pine Street,
- City Park, along with portions of Crystal Springs Road,
- Magnolia Avenue, adjacent to Capuchino High School, and
- Santa Helena and San Juan Avenues, as well as Millbrae neighborhoods to the south.

Figure 3.13-1

Flooding and Storm Drainage



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Flooding occurs in these areas because of inadequate storm drains and low elevation, which subjects the areas to tidal influences. The City's storm drain system does not operate effectively at times of high tide combined with heavy rain. Significant flood events occurred in January 1982, January 1983, October 1989, and February 1991 (Bissell & Karn, 1991). However, no areas of the City are located within the 100-year flood plain as determined by the Federal Emergency Management Agency (FEMA) flood hazard mapping (ESRI-FEMA, 2003).

Additionally, silt and debris in the storm drain system can sometimes cause water to back up and flood surrounding areas. Leaves, branches, household trash, and other debris must be removed regularly in order for the storm drain system to function effectively. The City of San Bruno's Public Works Department, Street Division, provides street cleaning and sweeping service on a scheduled basis (and otherwise, as necessary), and maintains and repairs the municipal storm water drain system, which includes catch basins, open ditches and channels, hillside valley-gutters, box culverts, and subsurface drains. Annually, the department is responsible for cleaning more than 1,000 catch basins, flushing plugged storm drain culverts, inspecting and cleaning several thousand feet of valley-gutters, upstream open channels, box culverts, invert and outfall structures, removing accumulated trash, and installing and repairing storm drain facilities.

The San Bruno Public Works Department also administers ongoing inspection and recordkeeping systems for compliance with the National Pollutant Discharge Elimination System, as discussed below; coordinates major maintenance with San Mateo County Flood Control District, California Department of Transportation, AMTRAK, and BART for cleaning flood-control channels; and maintains complete inventory of the storm drain system design. The Street Division within the Public Works Department is currently responsible for maintaining approximately 87 miles of streets throughout the City, including all storm drains. In addition, the Street Division routinely performs flood-control and geotechnical maintenance work on public lands other than public parks.

Groundwater

The City of San Bruno derives approximately half of its water supply from groundwater wells within the city limits. The source aquifer for the City of San Bruno supply wells is the southernmost portion of the Westside Basin, which is made up of a porous sand formation. This basin is part of the San Mateo Plain Aquifer (RWQCB designation, Department of Water Resources Basin No. 2-9A) (RWQCB, 1995). The San Mateo Aquifer is 32.5 square miles in size, with depth to water ranging from 100 to 500 feet. This drinking water aquifer actually sits below a second, shallow aquifer that is hydrologically connected to San Francisco Bay. The lower San Mateo Aquifer is disconnected from the shallow water table by an impervious clay layer.

This aquifer has existing beneficial uses of municipal and domestic water supply, industrial water supply, industrial service water supply, and has the potential beneficial use for agricultural water supply (RWQCB, 1995). The San Mateo Aquifer is also considered part of the larger Santa Clara Valley Basin, which is a 580-square-mile basin located in four counties in the San Francisco Bay Area. This larger basin stretches south from Daly City to Menlo Park in the County of San Mateo. The RWQCB has set water quality objectives for bacteria, organic and inorganic chemical constituents, radioactivity, and taste and odor for groundwater in this area.

Water Quality

Residents of San Bruno generate approximately 4.2 million gallons per day of sewage. This effluent is pumped to the jointly owned South San Francisco-San Bruno Water Quality Control Facility. The effluent is dechlorinated, and then discharged into lower San Francisco Bay. The combination of point source

(wastewater treatment plant) and non-point source (surface runoff) pollutants from San Bruno result in deteriorated water quality levels.

Water pollution is a critical problem associated with urban runoff. San Bruno's storm drain system prevents flooding by channeling stormwater runoff into San Francisco Bay. However, this runoff is not treated, and can deliver pollutants to the Bay from any impermeable surface within the City. Stormwater runoff accounts for up to 80-percent of the pollution entering San Francisco Bay, and can contain the following pollutants: oil, grease, or antifreeze from leaking cars or trucks; paint or paint products; leaves or yard waste; pesticides, herbicides, or fertilizers from yards and gardens; solvents and household chemicals; animal wastes, litter, or sewer leakage; and construction debris such as fresh concrete, mortar, or cement.

Groundwater drawn from the San Mateo Aquifer is generally good quality potable water. The deep San Mateo Aquifer is capped by a 100- to 150-foot clay layer that acts as a barrier to vertical flow from an upper shallow aquifer. This clay layer protects the lower aquifer from surface infiltration and entrained containments. The lower aquifer receives recharge from the areas generally west of 1-280, where the lower aquifer formation is exposed to percolation (San Mateo County, 1995). Due to the depth of the aquifer and the overlying clay layer, this aquifer is protected from saltwater intrusion from the adjacent and overlying San Francisco Bay.

REGULATORY FRAMEWORK

Regulatory authorities exist on both the state and federal levels for the control of water quality in California. The major federal legislation governing the water quality aspects of the project is the Clean Water Act, as amended by the Water Quality Act of 1987. The objective of the act is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." The State of California's Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. The State Water Resources Control Board (SWRCB) administers water rights, water pollution control, and water quality functions throughout the state, while the Regional Water Quality Control Boards (RWQCBs) conduct planning, permitting, and enforcement activities.

State and Regional Water Quality Control Boards

The project area lies within the jurisdiction of the San Francisco Bay RWQCB which has adopted the Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) to implement plans, policies, and provisions for water quality management. Beneficial uses of surface waters within the San Francisco Bay Region are described in the Basin Plan and are designated for major surface waters and their tributaries. Beneficial uses of the Lower San Francisco Bay include ocean, commercial, and sport fishing, estuarine habitat, industrial service supply, fish migration, navigation, preservation of rare and endangered species, recreation, shellfish harvesting, and wildlife habitat. San Bruno's remaining surface water bodies (San Bruno and Crystal Springs Creeks) do not have any designated beneficial uses in the Basin Plan.

Both the SWRCB and EPA Region IX have been in the process of developing new water quality objectives and numeric criteria for toxic pollutants for California surface waters since 1994, when a State court overturned the SWRCB's water control plans containing water quality criteria for priority toxic pollutants. The EPA's draft California Toxics Rule (CTR) was published in the August 5, 1997 Federal Register [62 FR 42159], with the Final Rule recently promulgated on May 18, 2000. The proposed criteria largely reflect the existing criteria contained in the EPA's 304(a) Gold Book (WQ Criteria 1986) and its National Toxics Rule (NTR) adopted in December 1992 [57 Federal Register 60848], and those of earlier state plans (the *Inland Surface Waters Plan* and the *Enclosed Bays and Estuaries Plan* of April 1991, since rescinded). With promulgation of the Final CTR,

these federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the Clean Water Act.

Total Maximum Daily Load (TMDL) – §303d of the Clean Water Act

California has identified waters that are polluted and need further attention to support their beneficial uses. These water bodies are listed under the Clean Water Act §303(d) list, which requires States to identify these polluted waters. Specifically, §303(d) requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., not meeting one or more of the water quality standards established by the state). Approximately 500 water bodies or segments have been listed in California. Once the water body or segment is listed, the state is required to establish "Total Maximum Daily Load" or TMDL for the pollutant causing the conditions of impairment. The TMDL is the quantity of a pollutant that can be safely assimilated by a water body without violating water quality standards. Listing of a water body as impaired does not necessarily suggest that the pollutants are at levels considered hazardous to humans or aquatic life or that the water body segment cannot support the beneficial uses. The intent of the 303(d) list is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for continued water quality degradation.

In accordance with §303(d) of the Water Code, the San Francisco Bay RWQCB has identified impaired water bodies within its jurisdiction, the pollutant or stressor impairing water quality, and prioritized the urgency for developing a TMDL. While San Francisco Bay is included on the §303(d) list, surface water bodies within San Bruno are not. Pollutants or stressors identified on the §303(d) list for Lower San Francisco Bay include chlordane, dichlorodiphenyltrichloroethane (DDT), diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, polychlorinated biphenyls (PCBs), and PCBs (dioxin-like) (RWQCB, 2003).

Construction Activity Permitting

The San Francisco Bay RWQCB monitors and enforces the National Pollution Discharge Elimination System (NPDES) storm water permitting for the region. The SWRCB administers the NPDES Permit Program through its General NPDES Permit. Construction activities of one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The project sponsor must submit a Notice of Intent to the SWRCB in order to be covered by the General Permit prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of a storm water pollution prevention plan (SWPPP), which must be prepared before construction begins. Components of SWPPPs typically include specifications for best management practices (BMPs) to be implemented during project construction for the purpose of minimizing the discharge of pollutants in storm water from the construction area. In addition, a SWPPP includes measures to minimize the amount of pollutants in runoff after construction is completed, and identifies a plan to inspect and maintain project BMPs and facilities.

Municipal Storm Water Permitting

Federal regulations authorize the issuance of system-wide municipal permits by the RWQCB. The RWQCB regulates municipalities for control of stormwater runoff pollution under the NPDES. Participants in the program are responsible for development and implementation of storm water management plans (SWMP) to prevent the pollution of surface runoff. Discharge of storm water from the City of San Bruno is permitted through a Municipal Storm Water NPDES Permit issued to the City/County Association of Governments of San Mateo County. The permit incorporates specific requirements to limit storm water pollutant discharges associated with certain new development and significant redevelopment projects. The requirements apply to

the City of San Bruno as the Discharger of storm water, the City/County Association of Governments as the permit holder, and specific new development and redevelopment projects. Therefore, San Bruno is part of the countywide Storm water Pollution Prevention Program (STOPPP) implemented by the San Mateo County Health Services Agency, Environmental Health Division in compliance with NPDES permit requirements, (STOPPP, 2003).

In February 2003, the California RWQCBs for the San Francisco Bay Region and the Central Valley Region revised the STOPPP NPDES permit to add Provision C.3, which governs discharges from the municipal storm drain systems of San Mateo County and cities and towns within the County. The new permit provision is being phased in from 2004 through 2006. The new "C.3" provisions include more specific requirements for municipalities to control storm water from new development and redevelopment projects.

San Mateo County Flood Control District

The San Mateo County Flood Control District is a Countywide Special District that was created by State legislation in order to provide a mechanism to finance flood control projects. The legislation requires that a flood control zone be formed over an entire watershed and a proposed funding source be determined before a flood control project is undertaken. Recent changes in the State Constitution require an election if a flood control zone is to be financed with property assessments or taxes. There are currently three active flood control zones: Colma Creek, San Bruno Creek, and San Francisquito Creek.

SIGNIFICANCE CRITERIA

The San Bruno Proposed General Plan would result in significant impacts to hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements.
- 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 substantial erosion, siltation, or flooding on- or off-site.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

IMPACT ANALYSIS

3.13-A New development activities under the Proposed General Plan could result in increases in local storm runoff volumes and/or rates due to increased impervious surface area, thereby exceeding capacity of the local storm drainage system resulting in flooding and the need for new or expanded storm drainage facilities. This increase in impervious surface could also decrease groundwater recharge. (Less than Significant Impact)

The City of San Bruno is a highly developed urban area, but further reduction of overall watershed infiltration capabilities is still possible. Streets, roofs, parking lots, and driveways all add to the amount of impervious surfaces that prevent rainfall from percolating into the groundwater, and thereby increase storm water runoff. Increased storm runoff changes the character of the receiving channels and streams by increasing the peak flow during and immediately after storms, and decreases the amount of stream recharge from groundwater between storms and during the summer.

Although development under the Proposed General Plan would not substantially alter the overall drainage patterns in the City, development could create impervious surfaces (streets, curbs, roofs, concrete, and asphalt) where permeable soils currently exist. Impervious surfaces would prevent precipitation from infiltrating, causing it to pond or run off. Storm water runoff from developed sites may concentrate and cause increases in volume of runoff for the area. Discharge of the concentrated runoff may cause localized flooding at storm drain connections or downstream of the discharge location. In addition, increases in impervious surface area could further decrease recharge of underlying aquifers that provide the majority of San Bruno's water supply.

The Proposed General Plan includes the following policies that are intended to minimize potential hydrology-related issues. Compliance with these Proposed General Plan policies will reduce potential impacts associated with increased impervious surfaces and drainage capacity, and groundwater recharge to a *Less than Significant* level.

Applicable General Plan Policies:

HS-13 With cooperation from the San Mateo County Flood Control District, continue maintenance, early warning, and clean up activities for storm drains throughout San Bruno. Upgrade or replace storm drains where needed to reduce potential flooding, particularly in the neighborhoods east of El Camino Real.

HS-14 Coordinate with the Federal Emergency Management Agency (FEMA) to ensure appropriate designation and mapping of floodplains.

HS-15 Actively engage the San Mateo County Flood Control District to address long-term solutions to potential flood hazards. Solutions advocated will include but are not limited to: greater pumping capacity, deeper flow channels, or detention ponds.

HS-16 Design and engineer new or redevelopment projects in potential flood hazard areas (e.g., Belle Air Park) to withstand known flood risk..

HS-17 Require upgrade of the City's storm drain infrastructure proportionate with new development's fair share of demand. Require that storm water management capacity and infrastructure be in place prior to occupancy of new development.

HS-18 Require developers to implement erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity, and protect water quality.

HS-19 Maintain on-going communication and coordination with surrounding cities, San Mateo County, and agencies—primarily the San Mateo County Flood Control District, but also the San Francisco International Airport and California Department of Fish and Game—to ensure proper maintenance of storm drain channels and pipes that carry surface water runoff away from San Bruno.

HS-20 Retain existing open space areas that serve as detention ponds in order to retain storm water, recharge aquifers, and prevent flooding.

ERC-23 Regulate new development to minimize stormwater runoff rates and volumes generated by impervious surfaces, and maximize recharge of local groundwater aquifers when feasible. Utilize the recommendations provided in the Bay Area Stormwater Management Agency's Start at the Source Design Guidance Manual for Stormwater Quality Protection.

ERC-24 Require that new development incorporate features into site drainage plans that reduce impermeable surface area and surface runoff volumes. Such features may include:

- Additional landscaped areas including canopy trees and shrubs;
- Reducing building footprint;
- Removing curbs and gutters from streets and parking areas where appropriate to allow stormwater sheet flow into vegetated areas;
- Permeable paving and parking area design;
- Stormwater detention basins to facilitate infiltration; and
- Building integrated or subsurface water retention facilities to capture rainwater for use in landscape irrigation and other non-potable uses.

Mitigation

None required.

3.13-B New development activities may result in construction-related erosion or release of hazardous materials on construction sites, ultimately causing adverse impacts to water quality. (Less than Significant Impact)

Future construction within the City of San Bruno could result in soil erosion associated with grading, trenching, excavation, or other earth-moving activities. In addition, the use of chemicals or hazardous materials associated with construction, such as petroleum products and paints, could result in spills or leaks of hazardous substances. Construction activities could subsequently result in increased sediment and pollutant levels in storm water runoff generated within construction sites, adversely impacting water quality in local receiving waters such as San Bruno Creek, and ultimately, San Francisco Bay.

Construction sites equal to or over one acre in size are required to apply for coverage under the State General Construction NPDES permit and develop and implement a project-specific SWPPP. The identification and use of best management practices (BMPs) to control erosion and sedimentation, and minimizing the discharge of pollutants in storm water from the construction area is an integral part of a SWPPP. Relevant BMPs could include, but are not limited to, the covering of excavated materials, installation of silt traps,

fencing, and use of filter fabric as measures to control erosion and sedimentation, truck and construction equipment maintenance and storage, construction and hazardous materials storage, and general housekeeping to minimize pollutants. These requirements would apply to any construction project occurring within or partially within the City of San Bruno that meets or exceeds one acre in size.

In addition to the above General Construction NPDES permit requirements, development within San Bruno is regulated by the municipal Countywide NPDES permit under which storm water flows generated within the City are discharged into surface water bodies. Therefore, development within San Bruno is required to comply with San Mateo County's SWMP and STOPPP regulations.

The Proposed General Plan includes the following policies that are intended to minimize potential construction-related water quality impacts. Compliance with the NPDES regulations and these policies will reduce potential water quality impacts associated with construction-related erosion and pollutants to a *Less than Significant* level.

Applicable General Plan Policies:

ERC-19 Regulate new development—specifically industrial uses—as well as construction and demolition practices to minimize pollutant and sediment concentrations in receiving waters and ensure water bodies within San Bruno and surface water discharged into San Francisco Bay meets or exceeds relevant regulatory water quality standards.

ERC-20 Require implementation of Best Management Practices to reduce accumulation of non-point source pollutants in the drainage system originating from streets, parking lots, residential areas, businesses, and industrial operations.

ERC-22 Regularly measure and monitor water quality in San Bruno's surface water to ensure maintenance of high water quality for consumption by humans and other species throughout the region.

HS-1 Regulate development, including remodeling or structural rehabilitation, to assure adequate mitigation of safety hazards on sites having a history or threat of slope instability, erosion, subsidence, seismic dangers (including those resulting from liquefactions, ground failure, ground rupture), flooding, and/or fire hazards (Figure 7-2).

HS-2 Review and revise the City's Building Code, Zoning Ordinance, and Subdivision requirements to safeguard against seismic, geologic, and safety hazards. Mitigation should include:

- Minimal grading and removal of natural vegetation to prevent erosion and slope instability. Cleared slopes should be replanted with vegetation.
- Proper drainage control to prevent erosion of the site and affected properties.
- Careful siting and structural engineering in unstable areas.
- Consideration of flooding and fire hazards in siting and designing new development.

HS-4 Prevent soil erosion by retaining and replanting vegetation, and by siting development to minimize grading and land form alteration.

HS-5 Require preparation of a drainage and erosion control plan for land alteration and vegetation removal in hillside areas and vegetation removal on sites greater than one acre in size.

HS-22 Require that construction-related grading and other activities comply with the Association of Bay Area Governments' (ABAG) Manual of Standards for Erosion and Sediment Control Measures and with the California Storm water Quality Association (CASQA), Storm water Best Management Practice Handbook for Construction.

HS-23 Ensure appropriate clean-up of all former commercial and industrial sites according to relevant regulatory standards prior to reuse.

HS-24 Review and revise City regulations regarding manufacturing, storage, and usage of hazardous materials as necessary to minimize potential hazards.

These policies, as well as policy HS-17 listed under Impact 3.13-A above, reduce this impact to a *Less than Significant* level.

Mitigation

None required.

3.13-C New development under the Proposed General Plan may result in increased non-point pollution in storm runoff entering the regional storm drain system and eventually San Francisco Bay. (Less than Significant Impact)

Urban development adds to the amount of nonpoint-source pollution that may find its way into waterways. Use of landscaping chemicals (pesticides, fungicides, fertilizers, and herbicides), cleaning solvents, paint, litter or other debris, and accumulation of petroleum products and metals in parking lots are all sources of polluted runoff. Landscaping chemicals can infiltrate to groundwater, enter surface water through interaction with surface runoff, or migrate through subsurface flow into surface water bodies from their application onto open space areas and transport through storm water runoff or irrigation. Cleaning solvents and other chemicals that are applied outside can enter storm water runoff due to the presence of impervious areas. Urban debris tends to accumulate in drainage channels by deposition from wind or people. Parking lots are known to develop layers of petroleum products from leaking cars as well as metal compounds from brakes. These products and metals can easily enter surface runoff and be moved off site due to the impervious nature of the parking lots. Nonpoint-source pollution has by nature a cumulative negative impact on water quality in receiving waters in urban areas. Widespread implementation of several positive measures, however, can have an equally beneficial impact on the quality of those waters.

Construction sites equal to or over one acre are required by NPDES regulations to develop a SWPPP that includes measures to minimize the amount of pollutants in runoff after construction is completed, and identifies a plan to inspect and maintain project BMPs and facilities. Additionally, development within San Bruno is regulated by the municipal Countywide NPDES permit under which storm water flows generated within the City are discharged into surface water bodies. Therefore, development within San Bruno is required to comply with San Mateo County's SWMP and STOPPP regulations.

The Proposed General Plan includes the following policies that are intended to minimize non-point source pollution and associated water quality issues. Compliance with the NPDES regulations (including Provision C.3 requirements) and these policies will reduce potential water quality impacts associated with non-point source pollutants to a *Less than Significant* level.

Applicable General Plan Policies:

ERC-21 Continue programs to inform residents of the environmental effects of dumping household waste, such as motor oil, into storm drains that eventually discharge into San Francisco Bay.

HS-27 Initiate a public awareness campaign—through flyers, website, and mailings—about household hazardous waste management, control, and recycling through San Mateo County programs and San Bruno Garbage.

These policies, in addition to those listed under Impacts 3.13-A and B above, are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

3.13-D Residential and mixed use development allowed by the Proposed General Plan may expose people or structures to flooding and to the 100-year flood hazard area. (Less than Significant Impact)

Portions of the City are located in flood-prone areas are shown on Figure 3.13-1, most of which are already developed and located within the City's Redevelopment Project Area. There are no areas of the City located within the 100-year flood-plain, as designated by the Federal Emergency Management Agency (FEMA). Therefore, the risk of potential development within the 100-year flood plain under the Proposed General Plan is considered *Less than Significant*.

Flooding hazards throughout the City, such as those areas subject to occasional flooding due to storm drain capacity restrictions, would be minimized by compliance with the Proposed General Plan. Plan policies which are intended to minimize flooding issues include:

Applicable General Plan Policies:

Policies listed previously under Impacts 3.13-A, B, and C, are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

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3.14 HAZARDOUS MATERIALS AND AIRPORT SAFETY

This section addresses the hazardous materials issues in the City of San Bruno, including existing and future potential sources of hazardous materials and soil contamination. In addition, this section includes an analysis of airport safety issues present in or near the city.

ENVIRONMENTAL SETTING

The City of San Bruno has a long history of industrial, commercial, and residential development. Releases, leaks, or disposal of hazardous materials, such as petroleum hydrocarbons,[1] on or below the ground surface have led to contamination of underlying soil and groundwater. Additionally, historic building materials such as lead-based paint and asbestos are likely present in many of the City's older structures.

Hazardous Material Use in the City of San Bruno

Hazardous materials are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped 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 gases).[2] Hazardous materials have been and are commonly used in commercial, agricultural, and industrial applications, as well as in residential areas to a limited extent. A hazardous waste is any hazardous material that is discarded, abandoned, or is to be recycled. The criteria that render a material hazardous also make a waste hazardous.[3] Hazardous materials and wastes can result in public health hazards if released to the soil, groundwater, or air.

The use of hazardous materials in the City of San Bruno occurs most often in commercial and industrial areas. Historic and on-going use of chemicals and hazardous materials has resulted in impacts to subsurface soil and groundwater in portions of the city. Figure 3.14-1 indicates known areas of potential soil or groundwater contamination in San Bruno caused by leaking underground storage tanks or other potential sources of hazardous materials.[4] Sites that generate hazardous waste can include auto body shops due to the use of solvents and petroleum products, dry cleaners which use solvents, machine shops that utilize cutting oils and heavy metals, and auto dismantlers due to the solvents and petroleum fluids within automobiles. In cooperation with the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the California Department of Toxic Substance Control, the San Mateo County Health Services Agency's Environmental Health Division coordinates investigation and remediation of sites that have been affected by leaking underground storage tanks or hazardous waste. As shown on Figure 3.14-1, sites with potentially contaminated soil are largely clustered around industrial areas near El Camino Real. Depending upon the potential extent of contamination in these areas, reuse may be complicated by petroleum hydrocarbon or hazardous materials impacts to soil or groundwater.

[1] Petroleum products range from gasoline (the lightest) to motor oil (the heaviest). A common term for the carbon-based compounds that petroleum products are composed of is petroleum hydrocarbons.

[2] Title 22 of the California Code of Regulations, Division 4.5, Chapter 11, Article 3.

[3] California Health and Safety Code, §25151.

[4] The locations of potential soil contamination shown on Figure 3.14-1 are approximate, as facility addresses do not always precisely correspond to the geographic location of tanks or other hazardous materials.

Lead-Based Paint and Asbestos

Based on the age and nature of existing buildings in San Bruno, lead-based paint or asbestos may be present. In general, structures constructed before December 31, 1978 are at-risk for lead-based paint. In addition, asbestos-containing materials (ACMs) can be present in thermal systems insulation, as well as wall and floor materials. Asbestos is a naturally occurring fibrous material used as a fireproofing and insulating agent in building construction before such uses were banned by the Environmental Protection Agency (EPA) in the late 1970s. Asbestos and lead-based paint can seep into the soil and/or be released into the air, providing a potential threat to the health of workers, as well as persons in the vicinity. Asbestos clean-up is regulated by federal and State laws that include the Clean Air Act and California Occupational Safety and Health Administration (Cal-OSHA). Cal-OSHA is a division of the State Department of Industrial Relations. Both the federal OSHA and Cal-OSHA regulate worker exposure during construction activities that affect lead-based paint, including demolition, removal, surface preparation for repainting, renovation, cleanup, and routine maintenance. All sites with existing structures built prior to the 1980s could be at-risk for asbestos and lead-based paint contamination, and therefore require individual surveys.

Airport Safety

San Francisco International Airport (SFO) is located adjacent to San Bruno, just east of Highway 101. SFO has a total of four runways, of which two are east-west (SE-NW) and two are north-south (NE-SW). Approximately 90-percent of arrivals at SFO occur on the east-west runways, with approaches over San Francisco Bay. Approximately 70-percent of departures occur on the north-south runways. Portions of San Bruno are situated under the approaches to the east-west runways.

The Federal Aviation Administration (FAA) is the federal agency charged with regulating air commerce and achieving efficient use of navigable airspace. The FAA has established Federal Aviation Regulations (FAR) Part 77 criteria which are imaginary surfaces that extend outward from the end of each runway and define the maximum heights of structures within the airport vicinity that cannot be exceeded without creating a hazard to aircraft navigation. The imaginary surfaces defined by FAR Part 77 include "primary surfaces" (which encompass the runway), "horizontal surfaces," "approach surfaces," "transitional surfaces," and "conical surfaces." The size of each imaginary surface is based on the category of runway and the type of approach available or planned for that runway. Permissible building heights are equal to the difference between the height of the horizontal plane (or imaginary surface of flight pattern) and the ground elevation above mean sea level. Figure 3.14-2 illustrates the FAR Part 77 criteria applicable to San Bruno.

REGULATORY FRAMEWORK

Hazardous Materials

The California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. In San Bruno, investigation or remediation of contaminated sites are conducted under the direction of the local oversight agency, the San Mateo County Health Department. The County Health Department oversees sites in cooperation with the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), and Cal-EPA.

Site remediation or development may also be subject to regulation by other agencies. For example, if dewatering of a site were required during construction, subsequent discharge to the storm water system or sewer system could require a permit from the San Bruno Office of Public Works.

Figure 3.14-1

Potential Contamination Sites

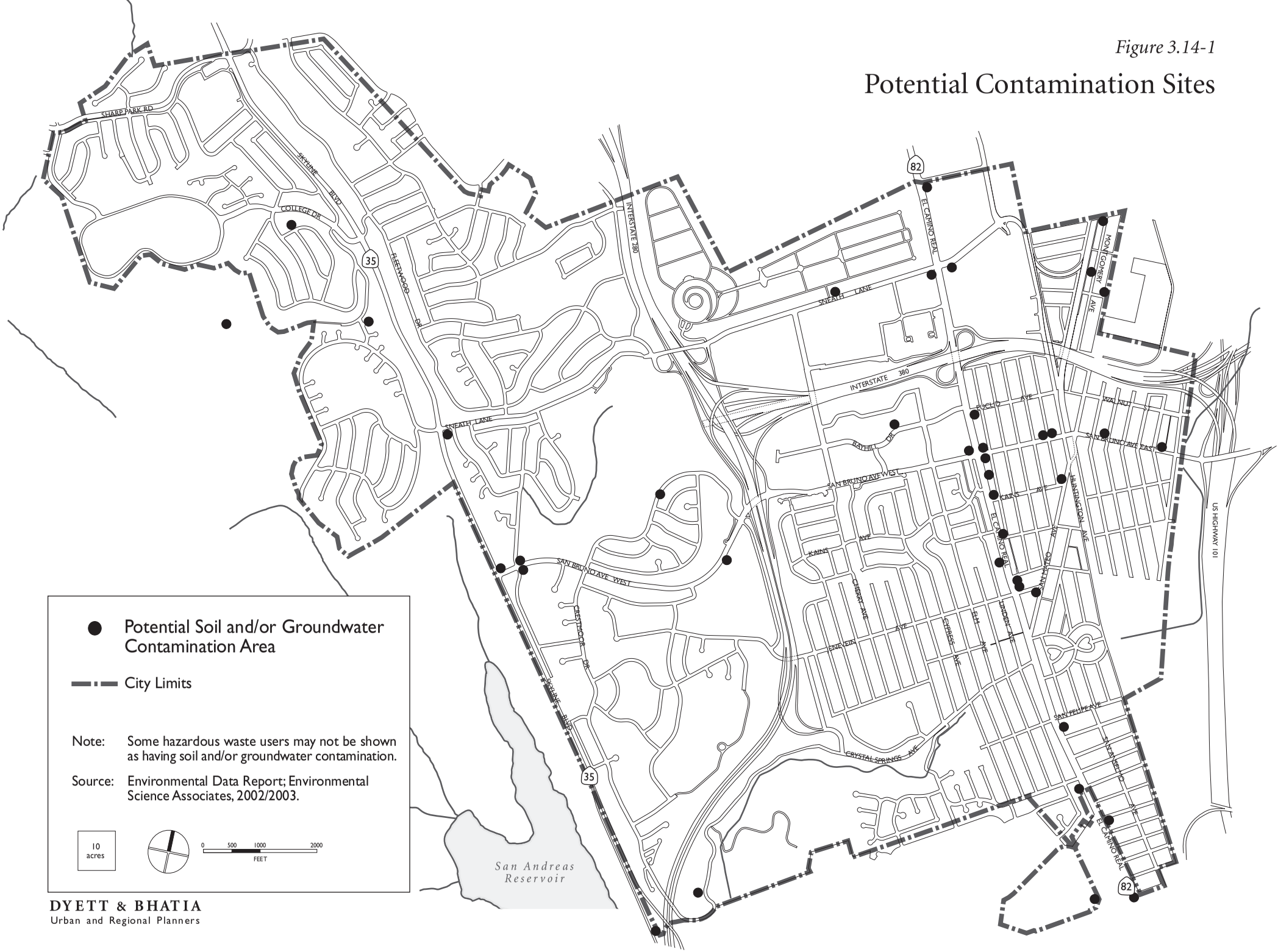

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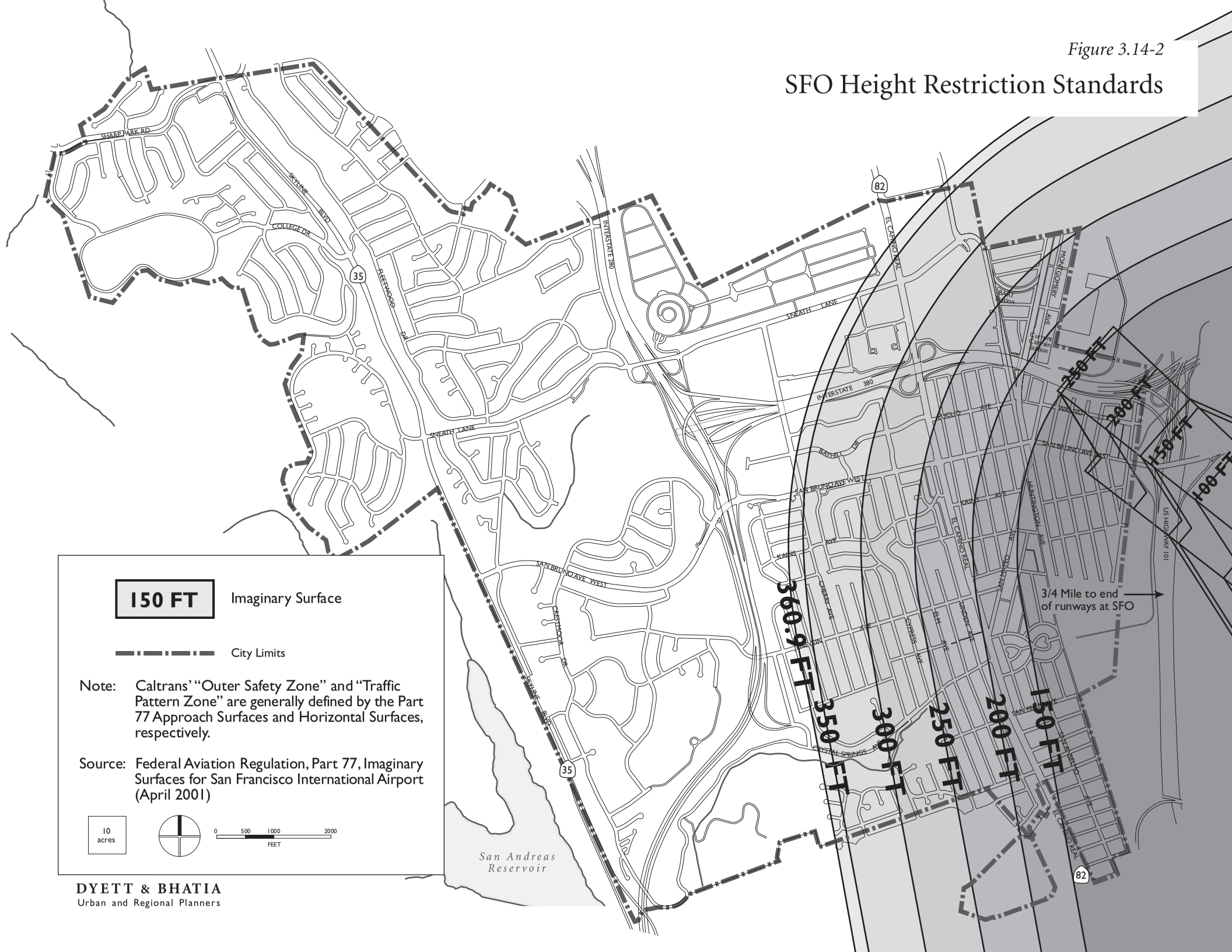
Figure 3.14-2

SFO Height Restriction Standards



150 FT Imaginary Surface

City Limits

Note: Caltrans' "Outer Safety Zone" and "Traffic Pattern Zone" are generally defined by the Part 77 Approach Surfaces and Horizontal Surfaces, respectively.

Source: Federal Aviation Regulation, Part 77, Imaginary Surfaces for San Francisco International Airport (April 2001)

10 acres

0 500 1000 2000 FEET

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Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety Health (Cal-OSHA) and agencies responsible assuring worker safety in workplace. Cal-OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices.

Airport Safety

Federal Aviation Administration

The FAA is the agency of the U.S. Department of Transportation that is charged with (1) regulating air commerce to promote its safety and development; (2) achieving the efficient use of navigable airspace of the United States; (3) promoting, encouraging, and developing civil aviation; (4) developing and operating a common system of air traffic control and air navigation for both civilian and military aircraft; and (5) promoting the development of a national system of airports. As part of its mission, the FAA has established FAR Part 77 obstruction criteria discussed earlier. Figure 3.14-2 shows FAR Part 77 imaginary surfaces and height restrictions associated with SFO that extend across the City of San Bruno.

The purpose of FAR Part 77 criteria is to limit the location and height of structures both on and off airport property. These criteria are intended to prevent buildings and other objects from penetrating the airspace required for safe aircraft takeoffs and landings. The determination of obstruction standards depends on the operating characteristics of each specific airport. The FAA does not have approval authority over the Proposed General Plan; however, it does have control over SFO operations that may be affected or limited by development in surrounding communities.

Airport Land Use Commission

The Airport Land Use Commission of Santa Mateo County (ALUCSMC) is the designated Airport Land Use Commission (ALUC) for SFO. According to state law, ALUCs are authorized to: (1) specify how land near airports is to be used, based on safety and aircraft noise considerations; (2) develop height restrictions for proposed construction; and (3) set construction standards for buildings near airports, including soundproofing requirements. The ALUCs, however, are not given authority over airport operations.

ALUCSMC published and adopted the most recent *San Mateo County Comprehensive Airport Land Use Plan* (San Mateo County CALUP) in 1996. The purpose of the San Mateo County CALUP is to minimize the public's exposure to excessive noise and safety hazards while providing for orderly growth around public airports through use of a comprehensive land use plan. To accomplish this, the ALUCSMC reviews general and specific plans prepared by local agencies for consistency with the ALUC plan, and individual proposed land use actions in areas near publicly owned airports (ALUCSMC, 1996).

Airport planning boundaries define where height, noise, hazards, and safety standards, policies, and criteria are applied to certain proposed land use policy actions. ALUC height standards for determining obstructions to air navigation are defined in FAR Part 77, Objects Affecting Navigable Airspace. Airport noise levels are governed by California Administrative Code, Title 21, Subchapter 6, Noise Standards (ALUCSMC, 1996). The San Mateo County CALUP endorses these noise standards, and establishes noise compatibility standards for various land uses. Noise compatibility issues for the proposed project are addressed in §3.15, *Noise*, of this EIR.

The primary objective of San Mateo County ALUC's safety compatibility guidelines is to minimize the risks associated with potential aircraft accidents and to keep immediate approach zones free of structures. Certain

types of land uses are recognized by the San Mateo County ALUC as hazards to air navigation in the vicinity of SFO. These include:

- Any use that would direct a steady or flashing light of white, red, green, or amber color toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing, other than an FAA-approved navigational signal light or visual approach landing;
- Any use that would cause sunlight to be reflected toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing;
- Any use that would generate smoke or rising columns of air;
- Any use that would attract large concentrations of birds within approach-climbout areas;
- Any use that would generate electrical interference that may interfere with aircraft communications or aircraft instrumentation.

As discussed above, San Mateo County CALUP would require that the Proposed General Plan and zoning amendment be compatible with height and land use requirements for the ALUCSMC to determine that the proposed action is consistent with relevant policies, standards, and/or other criteria contained in the San Mateo CALUP (ALUCSMC, 1996). Pursuant to Public Utilities Code §21676, all city and county general plans and other local land use and building regulations must be made consistent with the adopted airport land use plan, unless the City or county legislative body votes by two-thirds majority to overrule the airport plan and makes specific findings to justify not amending their regulations and general plans.

ALUC Height Referral Areas

The ALUC designates Height Referral Areas to preserve unimpeded air space required for safe operations in the vicinity of the airport. The ALUC Height Referral Areas for each airport parallels the notification required by the FAA for new construction or alteration of structures. However, whereas the FAA notification procedures require that a developer notify the FAA for specific construction projects, the ALUC Height Referral Areas require that local public agencies refer Proposed General Plan amendments and rezoning to the ALUC (ALUCSMC, 1996).

ALUC Height Referral Areas for SFO are shown on Figure 3.14-2. Buildings that exceed a given height as defined by the ALUC Height Referral Area must be referred to the FAA for an Aeronautical Study to determine whether the building would have an adverse physical or electromagnetic interference effect in the navigable airspace or air navigation facilities.

SIGNIFICANCE CRITERIA

The Proposed General Plan would result in significant impacts to hazardous materials, airport safety and fire hazards if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would result in a safety hazard for people residing or working in the project area.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, both in areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

IMPACT ANALYSIS

3.14-A New development under the Proposed General Plan could expose the public or the environment to hazardous materials. (Less than Significant Impact)

Development activities on properties that have been impacted with hazardous materials through historic or on-going operations either on-site or on nearby properties may result in exposure of the environment, construction workers, the public, and future occupants to hazards. For example, disturbance of a previously contaminated area through grading or excavation operations could expose construction workers and 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 downgradient, potentially contaminating subsurface areas of surrounding properties.

Under the San Bruno Proposed General Plan, demolition or renovation of existing buildings for commercial or residential use is anticipated. Assessments for the presence of lead-based paint or asbestos in these structures have not occurred. Based on the age and nature of these structures, existing buildings may contain these substances. Asbestos is 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. Lead-based paint is classified as a hazardous waste if the lead content exceeds 1,000 parts per million. Additionally, lead-based paint chips can pose a hazard to workers and adjacent sensitive land uses.

In addition to potential impacts on sites where hazardous materials are present due to historic uses, new development (e.g., dry cleaners, retail gasoline stations, etc.) under the Proposed General Plan could introduce the use and handling of hazardous materials onsite, as well as the transportation of hazardous materials through the City. These uses would have the potential to expose the public to health risks, if improper storage, use, or transportation of hazardous materials or wastes occurred.

The Proposed General Plan includes the following policies that are intended to minimize potential hazardous materials-related hazards. Compliance with these policies would ensure that potential impacts associated with exposure of the public or the environment to hazardous materials would be less than significant:

Applicable General Plan Policies:

HS-23 Ensure appropriate clean-up of all former commercial and industrial sites according to relevant regulatory standards prior to reuse.

HS-24 Control the transport of hazardous substances to minimize potential hazards to the local population. Identify appropriate regional and local routes for transportation of hazardous materials, and require that fire and emergency personnel can easily access these routes for response to spill incidents.

HS-25 Review and revise City regulations regarding manufacturing, storage, and usage of hazardous materials as necessary to minimize potential hazards.

HS-26 Restrict siting of businesses that use, store, process, or dispose of large quantities of hazardous materials in areas subject to seismic fault rupture or strong ground shaking (Figure 7-2).

HS-27 Initiate a public awareness campaign—through flyers, website, and mailings—about household hazardous waste management, control, and recycling through San Mateo County programs and San Bruno Garbage.

HS-28 Require that lead-based paint and asbestos surveys be conducted by qualified personnel prior to structural demolition or renovation, in buildings constructed prior to 1980.

HS-29 Require abatement of lead-based paint and asbestos prior to structural renovation and demolition, and compliance with all State, Federal, OSHA, Bay Area Air Quality Management District, and San Mateo County Health, Environmental Health Division rules and regulations.

HS-30 Regulate development on sites with known or suspected contamination of soil and/or groundwater to ensure that construction workers, the public, future occupants, and the environment are adequately protected from hazards associated with contamination, in accordance with Federal, State, and local rules, regulations, policies, and guidelines.

Mitigation

None required.

3.14-B Land uses proposed by the General Plan could potentially result in the handling or accidental release of hazardous materials, substances, or waste within ¼ mile of an existing school. (Less than Significant Impact)

The Proposed General Plan does not propose construction of new schools within the City. However, as described above in Impact 3.14-A, new commercial development or redevelopment under the Proposed General Plan could include businesses such as dry cleaners, retail gasoline stations, or automobile repair shops that would involve the use of hazardous materials. There are numerous properties located within ¼ mile of a school zoned for redevelopment uses that may involve the use of hazardous materials. These and other businesses that involve the handling, storage, use, or disposal of hazardous materials or hazardous waste are currently regulated within the City of San Bruno by the San Mateo County Health Department, Environmental Health Division, Cal-EPA, DTSC, and Cal-OSHA. These regulations would continue under the Proposed General Plan, minimizing potential hazards. Redevelopment under the Proposed General Plan could also

potentially result in the handling of hazardous materials during structural renovation and demolition, the use of hazardous materials during construction activities, or the disturbance of contaminated soil or groundwater. Continued regulation of businesses that involve hazardous materials and compliance with the Proposed General Plan policies HS-23 through HS-31 listed under Impact 3.14-A above and hydrology policies ERC-19 through ERC-24, as listed below, of the Proposed General Plan would reduce potential hazards associated with hazardous materials exposure to schools located within ¼ mile of new or redevelopment to a less than significant level.

Applicable General Plan Policies:

ERC-19 Regulate new development—specifically industrial uses—as well as construction and demolition practices to minimize pollutant and sediment concentrations in receiving waters and ensure waterbodies within San Bruno and surface water discharged into San Francisco Bay meets or exceeds relevant regulatory water quality standards.

ERC-20 Require implementation of Best Management Practices to reduce accumulation of non-point source pollutants in the drainage system originating from streets, parking lots, residential areas, businesses, and industrial operations.

ERC-21 Continue programs to inform residents of the environmental effects of dumping household waste, such as motor oil, into storm drains that eventually discharge into San Francisco Bay.

.ERC-22 Regularly measure and monitor water quality in San Bruno's surface water to ensure maintenance of high quality water for consumption by humans and other species throughout the region.

ERC-23 Regulate new development to minimize stormwater runoff rates and volumes generated by impervious surfaces, and maximize recharge of local groundwater aquifers when feasible. Utilize the recommendations provided in the Bay Area Stormwater Management Agency's *Start at the Source Design Guidance Manual for Stormwater Quality Protection.*

ERC-24 Require that new development incorporate features into site drainage plans that reduce impermeable surface area and surface runoff volumes. Such features may include:

- Additional landscaped areas including canopy trees and shrubs;
- Reducing building footprint;
- Removing curbs and gutters from streets and parking areas where appropriate to allow stormwater sheet flow into vegetated areas;
- Permeable paving and parking area design;
- Stormwater detention basins to facilitate infiltration; and
- Building integrated or subsurface water retention facilities to capture rainwater for use in landscape irrigation and other non-potable uses.

Mitigation

None required.

3.14-C New development proposed by the General Plan could potentially result in the exposure of people living and working in San Bruno to safety hazards associated with operations at San Francisco International Airport. (Less than Significant Impact)

As described in the environmental setting, the City of San Bruno is located within the San Mateo County CALUP boundary, and falls within the SFO Imaginary Surfaces Height Restrictions Map. Development under the Proposed General Plan that exceeds FAR Part 77 standards or do not meet safety compatibility guidelines may potentially expose people living or working in these structures to airport-related hazards.

The Proposed General Plan includes the following policies that are intended to minimize potential air safety hazards. Compliance with these policies would ensure compliance with FAR Part 77 Obstruction Criteria or the San Mateo County CALUP associated with the SFO, thereby reducing potential impacts associated with airport safety to a less than significant level:

Applicable General Plan Policies:

HS-37 Require that all sponsors of new housing (residential and senior housing units) record a notice of Fair Disclosure, regarding the proximity of the proposed development to San Francisco International Airport and of the potential impacts of aircraft operation, including noise impacts, per Ordinance 1646 and AB 2776.

HS-39 Pursue mitigation of noise impacts from the San Francisco International Airport to the fullest extent possible. Support and advocate for operational practices, changes to aircraft, new technologies, and physical improvements that would reduce the area in San Bruno impacted by aircraft noise.

HS-40 Prohibit new residential development in 70+CNEL areas, as dictated by Airport Land Use Commission infill criteria.

HS-48 Work together with other affected cities, the Airport Land Use Commission, and San Mateo County to achieve further reduction of SFO airport-generated noise and safety concerns

HS-49 Require all new development to comply with FAR Part 77 and San Mateo County CALUP height restriction and safety compatibility standards, in accordance with Airport Land Use Commission guidelines.

HS-50 Actively and aggressively participate in forums and discussions regarding operations and expansion plans for San Francisco International Airport. Seek local representation on task forces, commissions, and advisory boards established to guide airport policies and programs.

Mitigation

None required.

3.15 NOISE

This section defines noise measurement, describes existing noise sources in the City of San Bruno, and summarizes ambient noise levels. Effects of the proposed General Plan on ambient noise levels are assessed by evaluating new noise sources or increased noise that may occur as a result of build-out of the new General Plan.

ENVIRONMENTAL SETTING

Noise Descriptors and Principles

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Some representative noise sources and their corresponding noise levels (in dBA) are shown in Figure 3.15-1.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA).[1] Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the person over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long time period. Rather, noise varies continuously over time, with respect to the contributing sound sources of the community. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the

[1] All noise levels reported herein reflect A-weighted decibels unless otherwise stated.

addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment vary the noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq}: The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max}: The instantaneous maximum noise level measured during the measurement period of interest.

L_x: The sound level that is equaled or exceeded x-percent of a specified time period. The L_{50} represents the median sound level. L_{90} represents the background noise level.

DNL: The energy average of the A-weighted sound levels occurring during a 24-hour period, and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

CNEL: Similar to the DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dBA "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

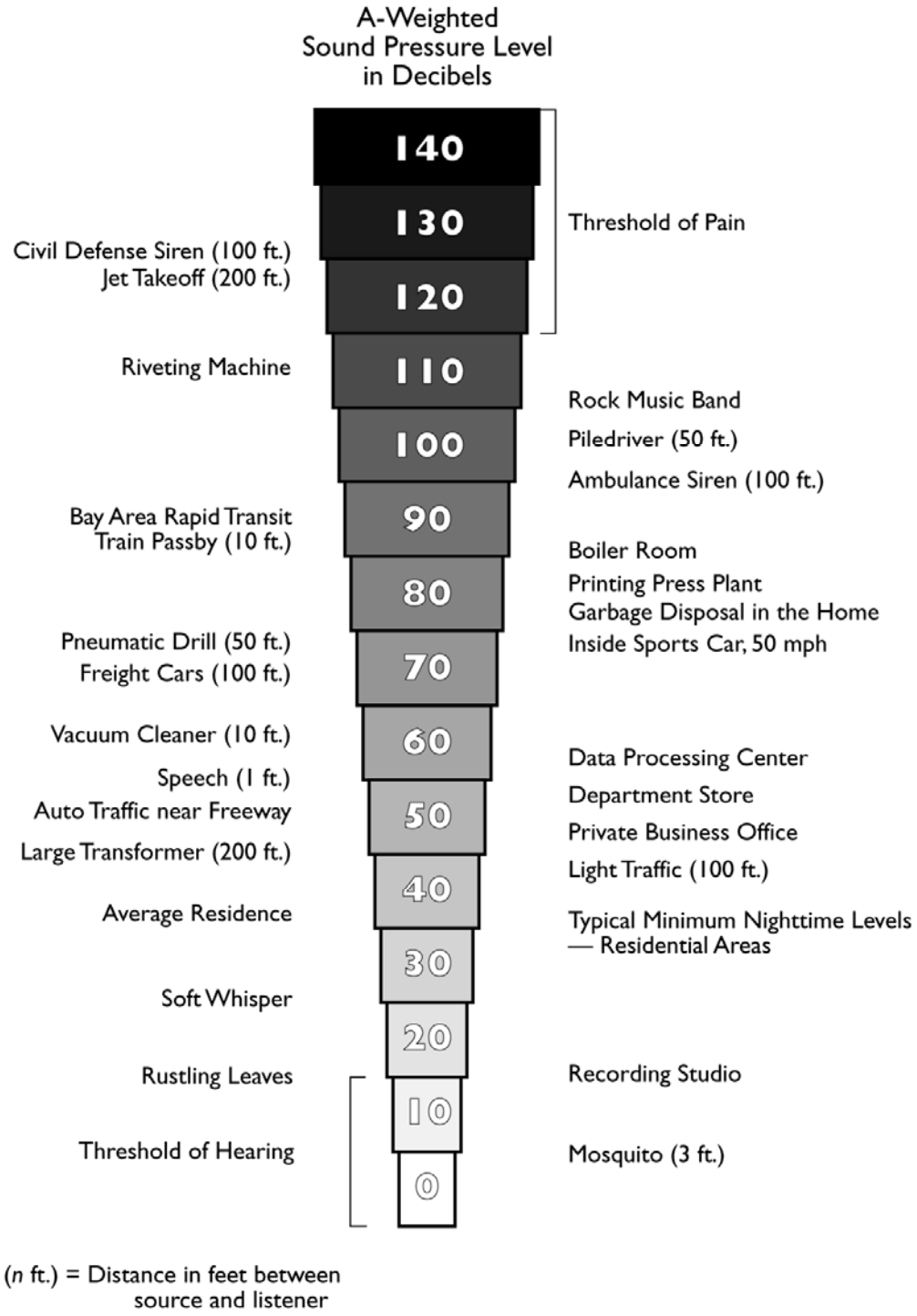
Effects of Noise on People

Factors that can influence human response to noise include intensity, frequency, and time pattern of noise sources; the amount of background noise present prior to the intruding noise; and the nature of work or human activity that is exposed to the noise. The noise level experienced depends on the distance between the source and the receptor; presence or absence of noise barriers and other shielding features; and the amount of noise attenuation (lessening) provided by the intervening terrain.

The effects of noise on people can be placed into three categories:

- Interference with activities such as speech, sleep, and learning – The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors, the thresholds are about 15 dBA higher. Interior residential standards for multi-family dwellings are set by the State of California at 45 DNL. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses.
- Subjective effects of annoyance, nuisance, and dissatisfaction – Based on attitude surveys used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas, the main causes for annoyance are interference with speech, radio and television, house vibrations, and interference with sleep and rest. The DNL as a measure has been found to provide a

Figure 3.15-1: Typical Noise Levels



valid correlation of noise level and the percentage of people annoyed. Three aspects of community noise are most important in determining subjective response – the level of sound, the frequency composition or spectrum of the sound, and the variation of sound level with time.

- Physiological effects such as hearing loss or sudden startling – While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants generally experience noise in the last category. There is no universal measure for the subjective effects of noise, nor does a measure exist for the corresponding human reactions from noise annoyance. This is due to the wide variation in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. Therefore a new noise source will be judged more annoying in a quiet area than it would be in a noisier area. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- a change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- a 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse community response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on the topography of the area and environmental conditions (i.e., atmospheric conditions and noise barriers, vegetative or manufactured, etc.). Widely distributed noise, such as a large industrial facility spread over many acres or a street with moving vehicles, would typically attenuate at a lower rate, approximately 4 to 6 dBA.

Noise Sources in San Bruno

As in most urban areas, transportation sources generate the bulk of noise in San Bruno. Aircraft departures from SFO are the primary source of transportation noise in San Bruno. Other noise sources in the city include roadways, railways, and industrial activities. Traffic along I-280, I-380, and Highway 101 generate the most roadway noise adjacent to neighborhoods and commercial areas. Caltrain and freight trains operating on the

Southern Pacific Transportation Company tracks through San Bruno affect the noise environment in surrounding residential areas. Light industrial and heavy service uses in the northeastern portion of the city also generate noise.

Aircraft Noise

Aircraft overflight noise is an important issue in San Bruno due to the city's proximity to San Francisco International Airport (SFO). SFO is located to the east of San Bruno, across U.S. 101. The airport has a total of four runways, of which two are east-west runways (10R-28L and 10L-28R) and two are north-south runways (1L-19R and 1R-19L). Northeastern portions of San Bruno are situated beneath flight tracks for arrivals and departures on runways 10R-28L and 10L-28R.

Aircraft noise contour maps are the principal tool used in analyzing airport/land use compatibility in the vicinity of airports. Each contour reflects linear bands subject to similar average noise levels. Two types of noise contour maps have been generated for SFO, one of which is based on computer modeling, while the other is based on actual measured noise levels. The Federal Aviation Administration (FAA), the agency charged with ensuring air safety, generates noise contour maps based on its Integrated Noise Model (INM). SFO received FAA approval for its original Federal Aviation Regulation (FAR) Part 150 Noise Exposure Maps (NEM) and Noise Compatibility Program in 1983. FAA acceptance of the 150 NEM allowed the San Francisco Airport Commission to participate with the FAA in a program that provides noise insulation for structures within the 65 dB noise boundary, as it existed in 1983. In 1993, the FAA advised SFO that it would no longer fund noise insulation projects without the NEMs being revised to reflect existing conditions. The most recent FAA-approved noise contour maps are contained in the *2001 Noise Exposure Map Update* ('01 NEM), which includes 2001 baseline and projected 2006 noise contour lines. The portions of these noise contours that cross San Bruno are shown in Figure 3.15-2**.** Because of the federally mandated replacement of Stage 2 aircraft with Stage 3 aircraft by 2000, noise contours at SFO have continued to shrink in recent years.

As required by state law, airports that have been designated as noise problem airports (such as SFIA) must install and maintain a noise monitoring system that identifies and defines the airport's noise impact boundary (generally the 65 CNEL noise contour), based upon the aircraft noise levels recorded by noise monitoring equipment. Airport noise monitoring requirements are defined in the California Code of Regulations, Title 21, Chapter 2.5, Subchapter 6, Noise Standards. SFO's noise monitoring system contains 28 off-airport noise meters and two on-airport meters. Four of the 28 off-airport noise meters are located within San Bruno. In accordance with Title 21 requirements, SFO staff compiles noise monitoring data and generate 65 CNEL noise contour maps on a quarterly basis.

Roadway Noise

Areas of San Bruno are exposed to noise generated by traffic on I-280, I-380, and U.S. 101. El Camino Real is another heavily traveled roadway in the city. Traffic noise depends primarily on traffic speed (high frequency tire noise increases with speed) and the proportion of truck traffic which generates engine, exhaust and wind noise. The proximity of freeways and major streets, and the large amount of truck traffic serving industrial, warehousing, and freight forwarding uses in the area make San Bruno susceptible to traffic noise.

Railway Noise

Trains operating on the Southern Pacific Railroad Line through San Bruno affect the noise environment of nearby residential areas. These tracks run adjacent to Huntington Avenue. Currently, 92 Caltrain trains and two freight trains pass through San Bruno each weekday. The freight trains operate six times a week between 7 to 10 p.m. from Sunday to Friday. The trains originate from South San Francisco and travel to San Jose and back each evening. Currently, there is no Caltrain activity on the weekends.

In June 2003, BART completed the SFO Airport Extension Project that included extension of the Bay Area Rapid Transit (BART) tracks by 8.7 miles and four new stations, including a new station in San Bruno and a station inside the new International Terminal at SFIA. The new station in San Bruno, the associated parking structure, and the BART/City of San Bruno Joint Police Station is located on Huntington Avenue adjacent to the existing Tanforan Shopping Center. The BART tracks run along Huntington Avenue through San Bruno. Since BART runs underground, they do not significantly affect the city's ambient noise environment.

Industrial Noise

Industrial land uses in San Bruno are limited primarily to light industrial operations (manufacturing, distribution, storage) and semi-industrial uses (car repair) (City of San Bruno, 1984). These types of uses are concentrated in the North Belle Air neighborhood in the northeastern part of the city. This area is largely located within the 65 dB CNEL contour for aircraft noise.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others are, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas generally are more sensitive to noise than are commercial and industrial land uses.

REGULATORY SETTING

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources associated with industrial, commercial and construction activities is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities.

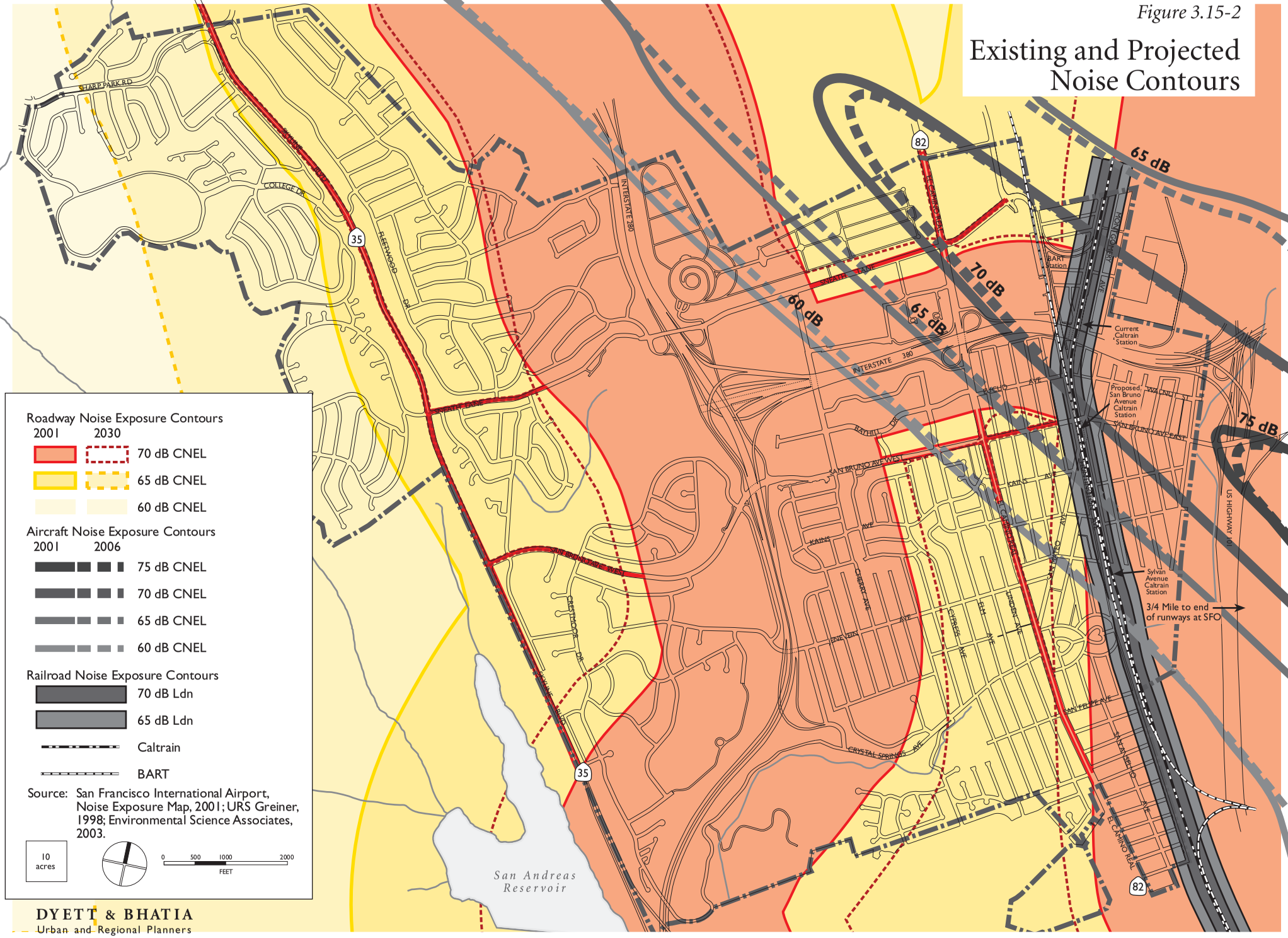
Federal Regulations

Federal regulations for railroad noise are contained in 40 CFR, Part 201 and 49 CFR, Part 210. Noise limits for locomotives manufactured during or after 1980 are as follows: stationary locomotives (at idle throttle setting) are not to exceed 70 dB at 15 meters (approximately 50 feet) from the track pathway centerline. Stationary locomotives (at all other throttle settings) are not to exceed 87 dB at 15 meters; and moving locomotives are not to exceed 90 dB at 15 meters. These noise limits are implemented through regulatory controls on locomotive manufacturers.

The sounding of 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 directs the Federal Railroad Administration (FRA) to develop rules addressing this issue. On April 27, 2005, the final rule on the use of locomotive horns at highway-rail grade crossings was published in the Federal Register. The rule is intended to maintain a high level of public safety, to respond to varied concerns of many communities that have sought relief from unwanted horn noise, and to take into consideration the interest of the localities with existing whistle bans. The rule addressed loudness of train horns and quiet zones.

Figure 3.15-2

Existing and Projected Noise Contours



back

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR, Part 205, Subpart B. The federal truck passby noise standard is 80 dB at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers. In addition to noise standards for individual vehicles, under regulations established by the U.S. Department of Transportation's Federal Highway Administration, noise abatement must be considered for certain federal or federally-funded projects. Abatement is an issue for new highways or significant modification of an existing freeway. The agency must determine if the project would create a substantial noise increase or if the predicted noise levels approach or exceed the Noise Abatement Criteria. Under the regulations, a substantial increase is defined as an increase in L_{eq} 12 dB during the peak hour of traffic noise. The Noise Abatement Criteria differ among various activity categories. For sensitive uses, such as residences, schools, churches, parks, and playgrounds, the Noise Abatement Criteria is L_{eq} 57 (interior) and 67 dB (exterior) during the peak hour of traffic noise.

The National Environmental Policy Act (NEPA), signed into law January 1, 1970, directs federal agencies to carry out their regulations, policies and programs in accordance with NEPA's environmental protection policies. Although NEPA does not establish specific noise standards, the noise impacts of projects are routinely considered as one of the potential environmental consequences of federal actions subject to NEPA (such as certain federally funded highway or rail projects).

State Regulations

The State of California is preempted under federal law from establishing noise standards for aircraft, but it does have the authority to establish regulations requiring airports to address aircraft noise impacts on land uses in their vicinities. The State of California's Airport Noise Standards, which are found in Title 21 of the *California Code of Regulations*, identify a noise exposure level of CNEL 65 dB as the noise impact boundary around airports. Within the noise impact boundary, airport proprietors are required to ensure that all land uses are compatible with the aircraft noise environment or the airport proprietor must secure a variance from the California Department of Transportation.

Public Resources Code Section 21096 requires that the California Airport Land Use Planning Handbook be used as a resource in preparation of environmental documents for projects within airport land use compatibility plan boundaries, or, if such a plan has not been adopted, within 2 miles of an airport. Published by the California Department of Transportation Division of Aeronautics, the Handbook provides compatibility planning guidance to airport land use commissions (ALUCs), their staff and consultants, the counties and cities having jurisdiction over airport area land uses, and airport proprietors.

The State also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State passby standard is consistent with the federal limit of 80 dB. The State passby standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dB at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials. For new roadway projects, the California Department of Transportation employs the Noise Abatement Criteria, discussed above in connection with the Federal Highway Administration.

The State has also established noise insulation standards for new 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, (California Code of Regulations, Title 24). The noise insulation standards set forth an interior standard of DNL 45 dB in any habitable room. They

require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than DNL 60 dB. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

Local Regulations

General plans recognize that different types of land uses have different sensitivities toward the surrounding noise environment. Residential areas are generally considered to be the most noise sensitive type of land use, and industrial/commercial areas are generally considered to be the least sensitive. Local noise ordinances typically set forth standards related to construction activities, nuisance-type noise sources, and industrial property-line noise levels. San Bruno's 1984 General Plan contains a Noise Element in which land use compatibility standards are outlined to reduce noise impacts in the City. The city's General Plan Noise Element is implemented through the Noise Ordinance.

Noise Ordinance

San Bruno's Noise Ordinance is contained in Title 6 of the San Bruno Municipal Code. The Noise Ordinance is designed to reduce nuisance noise in the community. The ordinance places limits on noise levels in residential zones, limits construction activity noise levels and hours near residential zones, establishes machinery noise level limits, and addresses amplified sounds (City of San Bruno, no date).

San Mateo County Comprehensive Airport Land Use Plan

The San Mateo County Airport Land Use Commission (ALUC) develops and implements the *San Mateo County Comprehensive Airport Land Use Plan* (San Mateo County CLUP). The current San Mateo CLUP was adopted in December 1996. In San Mateo County, the City/County Association of Governments of San Mateo County (C/CAG) is the designated ALUC. The San Mateo County CLUP establishes the procedures that C/CAG uses in reviewing proposed local agency actions that affect land use decisions in the vicinity of San Mateo County's airports. Airport planning boundaries define where height, noise and safety standards, policies, and criteria are applied to certain proposed land use policy actions. San Bruno is located within the jurisdiction of the SFO Land Use Plan, a subchapter of the San Mateo County CLUP. This noise section focuses on the San Mateo County CLUP and its relationship to noise/land use compatibility issues in San Bruno. For the purposes of review under the SFO Land Use Plan, the '01 NEM, the most recent federally accepted NEM is the noise contour map that C/CAG uses in making its determination of the consistency of a proposed local agency land use policy action with the SFO Land Use Plan (Carboni, 2003). The northeastern corner of San Bruno is within the 2001 65 and 70 CNEL noise contours (see Figure 3.15-2); the noise/land use compatibility standards shown in Table 3.15-1 apply to the areas within these noise contours.

Since 1983, the FAA and the City and County of San Francisco Airports Commission, the owner and operator of SFO, have jointly funded local aircraft noise insulation projects in communities near the airport. The goal of these programs is to achieve an interior noise level of 45 dB during an aircraft noise event, consistent with the Title 24 noise standards described above. The Aircraft Noise Insulation Program includes all noise-impacted dwelling units within the 65 CNEL noise contour, as shown on the FAR Part 150 Noise Exposure Maps (NEMs). The program now applies to the '01 NEM. Though not all dwellings included in the 1983 program have been sound insulated, the airport is in compliance with this requirement since noise contours have shrunk greatly in recent years and the number of aircraft noise-impacted dwellings has reduced significantly.

Table 3.15-1: San Mateo County ALUP Noise/Land Use Compatibility Standards

In 1996, San Bruno received a grant from the Airport Improvement Program (AIP) for airport noise insulation projects within San Bruno. As a condition of the grant, San Bruno provided assurances that it would maintain zoning and land uses within its jurisdiction that would not reduce the compatibility of the airport or federally financed noise compatibility measures (Rodriguez, 1998). Land uses and zoning proposed under the new General Plan would be consistent with this condition.

	General Land Use Criteria, CNEL[a]		
Land Use	*I*	*II*	*III*
RESIDENTIAL – single- and multi-family, mobile homes, schools, libraries, churches, hospitals, nursing homes, and auditoriums	less than 65	65 to 70	more than 70
COMMERCIAL – retail, restaurants, office buildings, hotels, motels, movie theaters, sports arenas, playgrounds, cemeteries, and golf courses	less than 70	70 to 80	more than 80
INDUSTRIAL – manufacturing, transportation, communications, and utilities	less than 75	75 to 85	more than 85
OPEN SPACE – agriculture, mining, fishing	less than 75	NA	more than 75

[a] General Land Use Criteria:

I Compatible, with little noise impact and requiring no special noise insulation requirements for new construction.

II Conditionally compatible, new construction or development should be undertaken only after an analysis of noise reduction requirements is made and needed noise insulation features included in the design.

III Incompatible, new construction or development should not be undertaken unless related to airport activities or services. Conventi construction will generally be inadequate, and special noise insulation features should be included in construction.

Source: San Mateo County Airport Land Use Commission, San Mateo County Comprehensive Airport Land Use Plan, December 1996.

SIGNIFICANCE CRITERIA

The General Plan would result in significant impacts on the noise environment if it would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial temporary, permanent, or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

A change in noise levels of less than 3 dBA is not discernible to the general population; an increase in average noise levels of 3 to 5 dBA is clearly discernible to most people (California Department of Transportation, 1991). An increase in the noise environment of 5 dBA or greater is considered to be the minimum required increase for a change in community reaction (U.S. Department of Transportation, 1990) and, for the purposes

of this analysis, constitutes a significant noise impact.

With temporary noise impacts, identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, as well as the absolute change in dBA levels. For operational impacts, noise that would exceed the "compatible" land use compatibility noise range of the ALUP standards in the jurisdiction where a project element is proposed would be considered a significant noise impact. If a land use already exists in a "conditionally compatible" noise environment, as designated by the ALUP, then an increase in operational noise that would result in a change of land use compatibility category to "incompatible" would be considered a significant noise impact. For land uses designated as already within an "incompatible" noise environment, operational noise that would result in a 3-dBA or greater increase to the existing noise environment would be considered significant, if sensitive receptors are present. If sensitive receptors are not present but the land use is considered sensitive to noise, then a 5-dBA increase would be considered significant. Otherwise, an increase would only be considered significant if it violated a local noise ordinance or substantially contributed to an existing violation of a noise ordinance.

A project would also be considered to have a significant impact if it would introduce new noise-sensitive uses into an area that does, or would have, unacceptable noise levels. Unacceptable noise levels would be those that would exceed the "compatible" noise/land use compatibility standards presented in Table 3-15.1.

IMPACT ANALYSIS

This analysis evaluates the aggregate noise effects of full implementation of the proposed General Plan. Because noise is a highly localized impact, specific, detailed analyses are more appropriate at the project level. Individual projects that may be proposed in the future under the new General Plan would undergo project level environmental review to determine whether they could generate noise impacts specific to their site, time and project description. These project-specific environmental assessments would determine the magnitude of noise and vibration impacts and potential mitigations for each project.

3.15-A Increased vehicle traffic resulting from proposed General Plan land uses will result in increased ambient noise levels on local roadways. (Less than Significant Impact)

Based on the traffic analysis presented in Section 3.4, the proposed General Plan is expected to generate approximately 68,742 additional daily vehicle trips upon buildout in 2025. These trips would be distributed over the entire San Bruno street network and would affect noise levels along those streets.

To assess the impact of traffic from development envisioned under the General Plan on roadside noise levels, noise level projections were made using the Federal Highway Administration (FHWA) noise prediction model for sixteen roadway segments throughout San Bruno that would experience the greatest increase in traffic volumes. The results of the noise modeling effort are shown in Table 3.15-2. Estimated noise levels shown in Table 3.15-2 correspond to a distance of approximately 50 feet from the centerline of the applicable roadway segment.

As seen in Table 3.15-2, except along portions of 3rd Avenue north of San Bruno Avenue, the addition of traffic would not significantly increase noise levels on local roadways. This finding means that the increase in noise level would be less than 5 dBA, the minimum required increase for a change in community reaction. Along the segment of 3rd Avenue north of San Bruno Avenue, the increase in traffic-related noise would be approximately 6.7 dBA. The noise environment along this roadway segment is affected most by aircraft flyovers from SFO, as it is located within the 70 dB CNEL noise contour for the airport. Therefore, though the

Table 3.15-2: Traffic Noise Level Estimates during PM Peak Hour, dBA

Roadway Segment	*Existing (2000)*	*Future No Project (2025)*	*Change from Existing*	*Future With Project (2025)*	*Change from Existing*
3rd Ave. (north of San Bruno Ave.)	52.7	52.8	0.1	59.1	+6.5
3rd Ave. (south of San Bruno Ave.)	54.0	54.1	0.1	55.5	+1.5
Cherry Lane (south of Sneath Ln.)	61.2	61.8	0.6	63.2	+2
San Bruno Ave. (west of NB I-280 Ramp)	65.6	66.3	0.7	64.5	-1.1
NB I-280 Ramp (south of San Bruno Ave.)	61.9	63.2	1.3	63.2	+1.3
Sneath Lane (west of NB I-280 Ramp)	66.2	66.4	0.2	67.3	+1.1
NB I-280 Ramp (north of Sneath Lane)	41.0	41	0	47.8	+6.8
NB I-280 Ramp (south of Sneath Lane)	62.6	62.8	0.2	63.9	+1.1
NB US 101 Ramp (north of San Bruno Ave.)	60.4	60.6	0.2	61.8	+1.2
College Dr. (west of Skyline Blvd.)	61.5	61.6	0.1	63.9	+2.3
Sneath Lane (east of Skyline Blvd.)	63.1	63.3	0.2	65.1	+2
Sneath Lane (west of SB I-280 Ramp)	64.1	64.3	0.2	65.8	+1.7
Commodore Dr. (south of Sneath Lane)	52.5	52.6	0.1	54	+1.5
Pacific Heights Blvd. (north of Sharp Park Rd.)	51.1	50.8	-0.3	55.2	+4.1
Sneath Lane (east of Sequoia Ave.)	62.9	64.9	2	64.7	+1.8
Sneath Lane (west of Sequoia Ave.)	62.7	62.8	0.1	64.4	+1.7

Source: Environmental Science Associates, 2008.

6.7 dBA increase in noise would be perceivable on its own, in combination with noise from aircraft activity, this increase would not be perceivable in the area. Increases in noise levels along most other roadway segments analyzed would even be less than 3 dBA, the smallest noise level detectable to the average person and would likely be unnoticed. Because the addition of project-related traffic would not substantially increase noise levels along modeled roadway segments, this impact would be less than significant.

Table 3.15-3 shows the change in traffic volumes on freeway segments of San Bruno (U.S. 101, I-280 and I-380) between the year 2000 and with the implementation of the proposed General Plan in 2025. As shown in the table, the increase in traffic along all segments would be less than 50-percent. It should be noted that this increase is not entirely due to development envisioned under the General Plan. Rather, it represents a cumulative condition including development outside San Bruno that could lead to increased traffic volumes. Table 3.15-3 also shows the change in noise levels associated with the traffic increase in 2025. The noise increase would be less than 3 dBA for all freeway segments analyzed. A 3 dBA change in noise level is considered to be barely perceivable. Therefore the noise impact from increased freeway traffic volumes due to the proposed General Plan would be less than significant.

In addition, implementation of the following policies in the Health and Safety Element of the proposed General plan would further reduce traffic-related noise impacts to sensitive receptors.

Table 3-15.3: Change in Freeway Traffic Volumes and Associated Noise Levels

	PM Peak Hour Traffic Volumes			
Highway Link	*Existing (2000)*	*Future With Proposed General Plan (2030)*	*% Change from Existing*	*Change in Noise Level Over Existing, dBA*
US 101 (SR-92 to 3rd Avenue)	24,698	22,977	-7.0%	-0.3
US 101 (3rd Avenue to Peninsula Avenue)	25,621	25,487	-0.5%	0.0
US 101 (Peninsula Avenue to Broadway)	24,734	24,390	-1.4%	-0.1
US 101 (Broadway to Millbrae)	27,908	24,110	-13.6%	-0.6
US 101 (Millbrae to SFIA)	26,389	22,285	-15.6%	-0.7
US 101 (SFIA to I-380)	23,392	24,866	6.3%	0.3
US 101 (I-380 to Grand Avenue)	20,362	23,415	15.0%	0.6
US 101 (Oyster Point to 3Com Park.)	22,146	21,690	-2.1%	-0.1
I-280 (Bunker Hill to Hayne Road)	23,075	25,108	8.8%	0.4
I-280 (Hayne Road to Trousdale)	24,916	27,010	8.4%	0.4
I-280 (Trousdale to Hillcrest)	24,834	25,416	2.3%	0.1
I-280 (Hillcrest to Larkspur)	22,568	24,589	9.0%	0.4
I-280 (Larkspur to Crystal Springs)	19,865	26,548	33.6%	1.3
I-280 (Crystal Springs to San Bruno Avenue)	21,114	18,732	-11.3%	-0.5
I-280 (Sneath Lane to Westborough)	24,085	23,478	-2.5%	-0.1
I-280 (Westborough to Hickey)	20,539	20,861	1.6%	0.1
I-280 (Hickey to Serramonte)	20,332	20,549	1.1%	0.0
I-280 (Serramonte to SR-1)	23,741	20,249	-14.7%	-0.7
I-380 (I-280 to El Camino Real)	11,996	14,088	17.4%	0.7
I-380 (El Camino Real to US 101)	13,432	16,755	24.7%	1.0

Source: DKS Associates, Environmental Science Associates, 2008.

Applicable General Plan Policies:

HS-32 Encourage developers to mitigate ambient noise levels adjacent to major noise sources by incorporating acoustical site planning into their projects. Utilize the City 's Building Code to implement mitigation measures, such as:

- Incorporating buffers and/or landscaped berms along high-noise roadways or railways;
- Incorporating traffic calming measures and alternative intersection design within and/or adjacent to the project;
- Using reduced-noise pavement (rubberized asphalt); and
- Incorporating state-of-the-art structural sound attenuation measures.

HS-33 Prevent the placement of new noise sensitive uses unless adequate mitigation is provided. Establish insulation requirements as mitigation measures for all development, per the standards in Table 7-1.

HS-34 Discourage noise-sensitive uses such as hospitals, schools, and rest homes from locating in areas with high noise levels. Conversely, discourage new uses likely to produce high levels of noise from locating in areas where noise sensitive uses would be impacted.

HS-35 Require developers to comply with relevant noise insulation standards contained in Title 24 of the California Code of Regulations (Part 2, Appendix Chapter 12A).

HS-36 Encourage developers of new residential projects to provide noise buffers other than sound walls, such as vegetation, storage areas, or parking, and site planning and locating bedrooms away from noise sources.

HS-44 Adopt traffic mitigations—including reduced speed limits, improved paving texture, and traffic signal controls—to reduce noise in areas where residential development may front on high-traffic arterials, such as El Camino Real.

HS-45 Where feasible and appropriate, develop and implement noise reduction measures when undertaking improvements, extensions, or design changes to San Bruno streets.

HS-47 Enforce Vehicle Code noise emission standards, as well as provisions which prohibit alteration of vehicular exhaust systems in ways that increases noise levels.

Mitigation

None required.

3.15-B Transit-oriented development proposed by the General Plan may expose a substantial number of people to increased ambient noise levels and vibrations along the Caltrain and BART tracks. (Less than Significant Impact)

Transit oriented development proposed by the General Plan would result in a greater population of San Bruno living close to transit stations. This could expose a substantial number of sensitive receptors to higher noise levels and groundborne vibration from Caltrain and BART activity. Since BART tracks through San Bruno are located underground, the impact of BART trains on the City's noise environment is less than significant. Implementation of the following policies contained in the Health & Safety element of the General Plan would further reduce noise and vibration impacts from transit vehicles.

Applicable General Plan Policies:

HS-46 Encourage transit vehicles to develop and apply noise reduction technologies to reduce the noise and vibration impacts of Caltrain, BART and bus traffic.

LUD-31 Develop a green buffer along Huntington Avenue, as illustrated in Figure 2-7 to buffer residents from BART and Caltrain activities.

These policies, as well as policies listed under Impact 3.15 A, are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

3.15-C New development under the General Plan may result in temporary noise impacts related to construction activities. (Less than Significant Impact)

Construction activities would occur intermittently at different sites in the project area throughout the period of implementation of the General Plan. Although the related noise impacts at any one location would be temporary, construction of individual projects could cause adverse localized effects on the ambient noise environment. Noise from construction activities would result primarily from the operation of equipment. Construction preparation activities such as excavation, grading, earth movement, stockpiling, and batch-dropping operations generate noise. Construction activities such as foundation laying, building construction, and finishing operations would also generate noise. Construction-related noise levels at and near the project site would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. In addition, certain types of construction equipment generate impulsive noises (such as pile driving), which can be particularly annoying. Standard demolition activities employ equipment similar to that used for construction activities and would have similar, but shorter duration, noise impacts. Table 3.15-4 shows typical noise levels produced by various types of construction equipment.

Construction activities would generate significant amounts of noise corresponding to the appropriate phase of building construction and the noise generating equipment used during those phases. Depending on the proximity of construction activities to sensitive receptors, the presence of intervening barriers, the number, types and duration of construction equipment used, sensitive receptors could be exposed to high noise levels during construction. Construction noise levels could be substantially greater than existing noise levels at nearby sensitive receptor locations and could increase day-night levels in close proximity to the construction site by greater than 5 DNL. The proposed General Plan recognizes that construction noise, although temporary, could lead to increased noise levels and could affect sensitive receptors. The Health and Safety Element of the proposed General Plan includes Policy 44 (stated below) that would be applicable to all proposed construction projects in the City of San Bruno. Compliance with this policy in subsequent project-level CEQA analyses for individual projects would ensure that construction noise impacts would be less than significant.

Applicable General Plan Policies:

HS-38 Require developers to mitigate noise exposure to sensitive receptors from construction activities. Mitigation may include a combination of techniques that reduce noise generated at the source, increase the noise insulation at the receptor, or increase the noise attenuation rate as noise travels from the source to the receptor.

Mitigation

None required.

Table 3.15-4: Typical Construction Noise Levels, dBA

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	81

Source: U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

3.15-D Future operation of the San Francisco International Airport may continue to expose San Bruno residents and workers to excessive noise levels. (Less than Significant Impact)

As shown in Figure 3.15-2, the northeastern portion of San Bruno is located within the 65 dB CNEL contour of the 2001 NEM for SFO. The proposed General Plan could result in the construction of noise-sensitive land uses. Development of noise-sensitive uses could occur where the ambient noise environment would be unacceptable for such uses, primarily due to noise on heavily traveled arterial streets and from SFO overflights (as indicated by the location within the 65 CNEL noise contours).

ALUC noise/land use compatibility standards consider residential development (see Table 3.15-1 for the broad spectrum of land uses that fall within this category) to be "compatible" or acceptable in areas where the exterior noise level is less than 65 CNEL. In such areas, no special noise insulation is required. Areas where noise levels range from 65 to 70 CNEL are considered to be conditionally compatible for residential uses, and may require special noise insulation features. In areas where the background noise level is above 70 CNEL, residential land uses are considered normally incompatible, even with noise insulation.

Because the proposed General Plan could locate residences and other noise-sensitive land uses in areas that exceed the "compatible" criteria, this would be considered a significant impact. However, with the implementation of the following policies included in the Health & Safety Element of the General Plan, this impact would be reduced to a *Less than Significant* level.

Applicable General Plan Policies:

HS-37 Require that all sponsors of new housing (residential and senior housing units) record a notice of Fair Disclosure, regarding the proximity of the proposed development to San Francisco International Airport and of the potential impacts of aircraft operation, including noise impacts, per Ordinance 1646 and AB 2776.

HS-39 Pursue mitigation of noise impacts from the San Francisco International Airport to the fullest extent possible. Support and advocate for operational practices, changes to aircraft, new technologies, and physical improvements that would reduce the area in San Bruno impacted by aircraft noise.

HS-40 Prohibit new residential development in 70+CNEL areas, as dictated by Airport Land Use Commission criteria.

HS-41 Encourage SFO Airport authorities to undertake noise abatement and mitigation programs that are based not only on the airport's noise contour maps, but that consider other factors such as the frequency of over-flights, altitude of aircraft, and hours of operation.

HS-42 Require new residential development within the 65 dBA CNEL SFO noise contour to provide an avigation easement to the airport prior to issuing occupancy permits.

HS-49 Actively and aggressively participate in forums and discussions regarding operations and expansion plans for San Francisco International Airport. Seek local representation on task forces, commissions, and advisory boards established to guide airport policies and programs.

These policies, as well as those listed under Impacts 3.15-A, B, and C, are sufficient to reduce this impact to a *Less than Significant* level.

Mitigation

None required.

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3.16 UTILITIES

This section addresses the impact of the Proposed General Plan on the provision of public utilities. Topics analyzed in this chapter include energy, including electricity and natural gas service, and telecommunications. This chapter focuses on the ability of the City of San Bruno and other service providers to effectively deliver these services to new development under the Proposed General Plan.

ENVIRONMENTAL SETTING

Electricity and Natural Gas

Regulatory Setting

The National Energy Policy, developed in May 2001, proposes recommendations on energy use and on the repair and expansion of the nation's energy infrastructure. The policy is based on the finding that growth in U.S. energy consumption is outpacing the current rate of production. Over the next 20 years, the growth in the consumption of oil is predicted to increase by 33-percent, natural gas by over 50-percent and electricity by 45-percent. While the federal policy promotes further improvements in energy use through conservation, it focuses on increased development of domestic oil, gas, and coal and the use of hydroelectric and nuclear power resources. To address the over-reliance on natural gas for new electric power plants, the federal policy proposes research in clean coal technology and expanded generation from landfill gas, wind, and biomass sources.

The California Constitution vests in the California Public Utilities Commission (CPUC or "the Commission") exclusive power and sole authority with respect to the regulation of privately owned or investor owned public utilities such as Pacific Gas & Electric (PG&E). This exclusive power extends to all aspects of the location, design, construction, maintenance, and operation of public utility facilities. Nevertheless, the CPUC has provisions for regulated utilities to work closely with local governments and give due consideration to their concerns. In March 1998, The State initiated deregulation of the electric utility industry and gave consumers/residents a choice of service providers. Then, in 1992, the CPUC re-directed electricity deregulation through AB 1890 and SB 90 to focus on renewable energy disclosure and research.

The State of California regulates energy consumption under Title 24 of the California Code of Regulations. The Title 24 Building Energy Efficiency Standards were developed by the California Energy Commission (CEC) and apply to energy consumed for heating, cooling, ventilation, water heating, and lighting in new residential and non-residential buildings. The CEC updates these standards periodically and adopted the latest standards in 2005. The amended Title 24 standards establish lighting zones that differentiate the amount of outdoor lighting by geographical location, and establish new performance standards for residential lighting. Under Assembly Bill 970, signed September 2000, the CEC will update and implement its appliance and building efficient standards to make "maximum feasible" reduction in unnecessary energy consumption.

Local Setting

The Pacific Gas & Electric Company (PG&E) is regulated by the CPUC and is the primary provider of gas and electrical power to the City of San Bruno. Deregulation of gas and electricity utilities allows PG&E to purchase both gas and electrical power from a variety of sources, including other utility companies. PG&E's service area extends from Eureka to Bakersfield (north to south), and from the Sierra Nevada to the Pacific Ocean (east to west). PG&E obtains its energy supplies from power plants and natural gas fields in northern California and from energy purchased outside its service area and delivered through high voltage transmission lines. To

promote the safe and reliable maintenance and operation of utility facilities, the CPUC has mandated specific clearance requirements between utility facilities and surrounding objects or construction activities.

Electrical power is provided to the City of San Bruno from eight different distribution feeders: four feeders are from the Sneath Lane substation in San Bruno, two feeders are from the East Grand substation in South San Francisco, one is fed from the Airport substation, and one originates from the Millbrae substation in Millbrae. Most of these feeders also serve other cities, including Pacifica, Millbrae, and South San Francisco, and are linked to other distribution feeders, assuring greater reliability. Natural gas is provided to the City of San Bruno by PG&E from three gas lines stretching from Milpitas to San Francisco. Gas is delivered from basins in Canada and/or Texas by transmission mains and deposited at PG&E's Milpitas Gas Terminal.

The City of San Bruno currently uses a peak load of electricity of approximately 29 to 30 megawatts (MW), which is about 383,794 kilowatt hours (KWH) per day (Poon, 2003). According to PG&E, residential uses comprise the majority of energy loads in San Bruno because the City has a very few large commercial or industrial customers. PG&E has no plans for infrastructure expansion; however it does have reliability projects planned. Reliability projects include the installation of protective devices such as fuses and the installation of tree wire in areas where trees have caused many outages (Poon, 2003).

Telecommunications

Regulatory Setting

Since the transition from monopoly to competition began in the telecommunications industry, the CPUC's focus has been on developing and implementing policies and procedures to facilitate competition in all telecommunications markets, addressing regulatory changes required by state and federal legislation, ensuring reasonably-priced essential services and providing consumer protections against abusive practices. The Commission's Telecommunications Division provides information relating to the Commission's telecommunications proceedings, utility compliance, consumer information, and information companies will need to begin or update service.

Local Setting

Businesses and residents within the City of San Bruno currently have access to a variety of telecommunications services. Over the past decades, communities such as San Bruno have been connected with hard wire and fiber optic systems to provide access to telephone, cable television, internet, and other digital services. Wireless communication systems, which include cellular phone service, paging systems, and Enhanced Specialized Mobile Radio (ESMR), are the newest form of telecommunications infrastructure.

San Bruno Cable TV provides service to all areas within the City of San Bruno. The customer service/business office is located at 398 El Camino Real in San Bruno. The San Bruno Cable TV system is one of the largest "City"-owned cable systems, and provides high speed cable internet and analog and digital cable television services.

SBC/Yahoo, MCI and several other companies provide local telephone and DSL[1] services to San Bruno.

[1] A Digital Subscriber Line (DSL) is a modem technology that transforms ordinary phone lines into high-speed digital lines for fast internet access.

SIGNIFICANCE CRITERIA

The Proposed General Plan would result in a significant impact on electricity and natural gas utilities if it would:

- Result in the wasteful, inefficient, or unnecessary consumption of energy;
- Result in an increased demand on available energy resources; or
- Fail to comply with existing established energy standards.

IMPACT ANALYSIS

3.16-A Reuse and intensification may result in increased demand for energy resources, with a potential for wasteful, inefficient, or unnecessary energy consumption. (Less than Significant Impact)

Potential development under the Proposed General Plan would result in an increased demand for electrical and natural gas service. Buildout under the Proposed General Plan could result in an increase in annual electricity consumption of approximately 1,445,000 kilowatts per year assuming 7,336 kilowatt hours are consumed each year per additional residence and 1.45 watts are consumed per square foot of commercial space. Implementation of energy conservation measures would also be important in order to ensure that this increase would not result in the wasteful, inefficient, or unnecessary consumption of energy. Energy conservation was a critical component in the successful effort to avoid blackouts during the energy crisis leading up to the summer of 2001. Californians averaged a 10-percent reduction in their electricity during peak summer hours in 2001 and reached a record of a 14-percent reduction in June of that year (CEC, 2003). The CEC forecasts that the conservation savings as a result of the 2001 Emergency Energy Efficiency Legislation, which included public awareness programs and rebate programs, amounted to over 3,000 MW in 2002. Energy conservation is necessary to ensure the responsible use of non-renewable resources. The following policies contained in the Proposed General Plan would help to ensure that potential development under the Proposed General Plan would not result in the wasteful, inefficient, or unnecessary consumption of electricity or natural gas:

Applicable General Plan Policies:

PFS-62 Develop and implement a Green Building Design Ordinance and design guidelines for climate-oriented site planning, building design, and landscape design to promote energy efficiency. These standards may include, but are not limited to, the following:

- Require the use of Energy Star® appliances and equipment in new residential and commercial development, and new City facilities;
- Require all new City facilities and new residential development to incorporate green building methods meeting the equivalent of LEED Certified "Silver" rating or better; and
- Require all new residential development to be pre-wired for optional photovoltaic roof energy systems and/or solar water heating.

The Ordinance will allow variances to site or building requirements—building setbacks, lot coverage, and building height—that will enable use of alternative energy sources, such as passive heating and/or cooling.

PFS-63 Require that all new development complies with California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6).

PFS-64 Provide incentives for retrofitting existing homes and businesses for improved energy efficiency, such as passive solar and/or cooling devices.

PFS-65 Require new development to incorporate passive heating and natural lighting strategies if feasible and practical. These strategies should include, but are not limited to, the following:

- Using building orientation, mass and form, including façade, roof, and choice of building materials, color, type of glazing, and insulation to minimize heat loss during winter months and heat gain during the summer months;
- Designing building openings to regulate internal climate and maximize natural lighting, while keeping glare to a minimum; and
- Reducing heat-island effect of large concrete roofs and parking surfaces.

PFS-66 Enforce landscape requirements that facilitate efficient energy use or conservation, such as drought-resistant landscaping and/or deciduous trees along southern exposures.

PFS-67 Require developers and builders to distribute information regarding energy efficiency (such as the Home Energy Guide available from the California Energy Commission) to all new homeowners.

PFS-68 Initiate a marketing campaign where energy efficiency information is distributed to all City employees and residents. Provide information on how, what type, and where to plant trees to reduce energy demand. Make such information available at all public locations such as City Hall and the Public Library.

PFS-69 Offer incentives (such as expedited permit processing, density bonuses, site variances) to support implementation of photovoltaic and other renewable energy technologies that provide a portion of the City's energy needs, or for projects that result in energy savings of at least 20-percent when compared to the energy consumption that would occur under similar projects built to meet the minimum standards of the energy code.

PFS-70 Facilitate environmentally sensitive construction practices by:

- Restricting use of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons in mechanical equipment and building materials;
- Promoting use of products that are durable and allow efficient end-of-life disposal (e.g. reusable, recyclable, biodegradable);
- Promoting the purchase of locally or regionally available materials; and
- Promoting the use of cost-effective design and construction strategies that reduce resource and environmental impacts.

PFS-71 Convert street lights and traffic signals to LED and other more efficient technologies as they become available.

Proposed General Plan buildout could result in an increased demand for transportation energy resources. Projected average vehicle trips under the Proposed General Plan would be approximately 68,742 per day, which would result in the consumption of approximately 37,000 gallons of petroleum each day assuming average trip length is 11.8 miles and average fuel economy is 22 miles per gallon. Efficient land use patterns and effective transit, bicycle, and pedestrian planning can ensure effective conservation of energy used for transportation. The following policies contained in the Proposed General Plan would help to ensure that

potential development under the Proposed General Plan would not result in the wasteful, inefficient, or unnecessary consumption of energy resources for transportation:

Applicable General Plan Policies:

LUD-26 During the Zoning Ordinance Update, create a transit-oriented zoning district surrounding the BART and Caltrain stations, and along the El Camino Real transit corridor. Within the district, reduce building setbacks, increase development intensities, require pedestrian connections, and reduce parking requirements, and consider establishment of minimum development intensities.

T-1 Develop incentives for San Bruno government and private employers to institute staggered working hours, compressed work week, home-based telecommuting, car pooling, use of transit, alternative fuel vehicles, and bicycling to employment centers to reduce vehicle miles travel and the associated traffic congestion and air pollution.

T-69 Continue to work toward dedication and/or installation of bicycle lanes throughout the city in accordance with Figure 4-4, to enhance recreational opportunities and make bicycling a more viable transportation alternative. Implement bicycle route improvements including signing, striping, paving, and provision of bicycle facilities at employment sites, shopping centers, schools, and public facilities.

Mitigation

None required.

3.16-B Reuse and intensification may result in the need for new or expanded PG&E service and related facilities. (Less than Significant Impact)

Potential development under the Proposed General Plan would require electrical and natural gas service, and would therefore require expansion of the existing utility infrastructure to serve the potential development. Although limited electricity and natural gas infrastructure presently exists at most vacant and underutilized sites within the City, existing infrastructure near potential development could be extended to provide needed services.

According to PG&E, continued development within the City would have an impact on PG&E's gas and electric systems and could require on- and off-site additions and improvements to the facilities which supply these services. Because utility facilities are operated as an integrated system, the presence of an existing gas or electric transmission or distribution facility does not necessarily mean the facility has capacity to connect new loads. Expansion of distribution and transmission lines and related facilities is a necessary consequence of growth and development. In addition to adding new distribution feeders, the range of electric system improvements needed to accommodate growth may include upgrading existing substation and transmission line equipment, expanding existing substations to their ultimate buildout capacity, and building new substations and interconnecting transmission lines. Comparable upgrades or additions needed to accommodate additional load on the gas system could include facilities such as regular stations, odorizer stations, valve lots, and distribution and transmission lines (Poon, 2003).

All modifications and improvements to the existing electrical and natural gas infrastructure required to accommodate the potential development would be determined in consultation with PG&E and would be subject to current installation charges. The following policies contained in the Proposed General Plan would help to ensure provision of adequate electricity and natural gas service and facilities:

Applicable General Plan Policies:

PFS-3 Require, as part of plan review, identification of needed public service improvement and maintenance costs for those projects that may have a significant impact on existing services.

PFS-72 Work with utility providers to ensure that adequate electrical and natural gas facilities and services are available to meet the demands of existing and future development.

PFS-73 Provide for utility access and prevent easement encroachments that might impair the safe and reliable maintenance and operation of utility facilities.

Mitigation

None required.

3.16-C Reuse and intensification may result in the need for new or expanded telecommunications infrastructure and facilities. (Less than Significant Impact)

Additional businesses, residents, and public uses allowed under the Proposed General Plan would necessitate the construction of new facilities, whether linear systems that connect a user with a transmission or reception source (wire and fiber optic) or wireless systems (transmitters, antenna, receivers/dishes, and other) are used. Although no telecommunications infrastructure presently exist at most vacant and underutilized sites, existing lines near the potential development could be extended to provide service. According to San Bruno Cable TV, their system could expand to serve a city with a population of one million at existing subscriber density, network usage, and protocol spec, without incurring any slowdowns due to shared bandwidth saturation on their cable plant. Therefore, they do not foresee normal operation of their cable network to approach a sustained condition due to oversubscription (San Bruno Cable TV, 2003). All modifications and improvements to the existing infrastructure required to accommodate future development would be determined in consultation with San Bruno Cable TV, SBC, and MCI, and would be subject to current installation charges. The following policies contained in the Proposed General Plan would help to ensure that telecommunications infrastructure and services are provided:

Applicable General Plan Policies:

PFS-74 Work with telecommunication providers to ensure that telecommunications service is available for existing and future development.

Mitigation

None required.

4 Impact Overview

This section presents analyses that are required under the California Environmental Quality Act (CEQA): significant unavoidable impacts, significant irreversible environmental changes, growth-inducing impacts, cumulative impacts, and impacts found not to be significant.

4.1 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

According to CEQA Guidelines §15126 (b), an EIR must discuss any significant environmental impacts that cannot be avoided under full implementation of the proposed project. In addition, this EIR must discuss why the project is being proposed, notwithstanding such impacts. Each issue area analysis in Chapter 3, *Environmental Setting, Impact Analysis & Mitigation* categorizes the significance of identified impacts. Policies of the Proposed General Plan that would avoid or minimize adverse effects are also identified in Chapter 3, by issue area. According to the analysis in Chapter 3, there are no significant unavoidable environmental impacts associated with the implementation of the Proposed General Plan.

4.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The EIR must examine significant irreversible changes to the environment. Pursuant to §15126.2 (c) of the CEQA Guidelines, significant irreversible environmental changes may include the following:

- Use of nonrenewable resources during the initial and continued phases of the project that would be irreversible since a large commitment of such resources takes removal or nonuse thereafter unlikely;
- Primary impacts and, particularly, secondary impacts which commit future generations to similar uses; and
- Irreversible damage that may result from environmental accidents associated with the project.

AIR QUALITY

Increases in vehicle trips and traffic resulting from implementation of the Proposed General Plan would potentially contribute to long-term degradation of air quality and atmospheric conditions in the Bay Area, other parts of California, and the western United States.

ENERGY SOURCES

Development under the Proposed General Plan would result in the commitment of nonrenewable energy sources, for daily use in new and redeveloped areas, as well as for increased transportation needs. Structures use electricity, natural gas, and petroleum products for power, lighting, and heating, while autos run on oil and gas. Additional development would result in an overall increase in energy use. However, technological improvements in automobiles, as well as commercial and industrial machinery, may increase energy efficiency and decrease energy consumption in the future.

WATER

New development consistent with the Proposed General Plan would require commitment of additional water sources to serve new residences and businesses. Regardless of the service provider's ability to meet this need, additional development will result in a permanent increase in water consumption, which represents a

significant irreversible environmental change. However, the implementation of water conservation and reclamation programs may assist in reducing the overall water demand.

CONSTRUCTION-RELATED IMPACTS

Construction of new development projects permitted by the Proposed General Plan would require an irretrievable commitment of natural resources, especially fossil fuels and building materials. Individual construction projects would need to be assessed through a detailed project-level environmental review in accordance with CEQA and city-specific policies. Construction of new development projects would also commit those lands to long-term urban development.

4.3 GROWTH-INDUCING IMPACTS

According to CEQA Guidelines, §15126.2 (d), an EIR must discuss ways in which the Proposed General Plan may directly or indirectly foster economic or population growth or the construction of additional housing in the surrounding environment. This discussion should include aspects of the Proposed General Plan that would remove obstacles to population growth, or which may encourage and facilitate other activities that may significantly affect the environment.

The basic premise of the Proposed General Plan is to accommodate economic growth by improving business, employment, and housing opportunities. Growth inducement by way of new employees from commercial development, and new populations from residential development, represent such forms of growth. While the Proposed General Plan will accommodate future growth projections, it does not, in and of itself, serve to induce future growth within the City of San Bruno beyond what is currently projected. According to the 2005 ABAG projections, in 2025, San Bruno is expected to have a population of 49,300 and 25,610 jobs. San Bruno's Proposed General Plan (Table 3.2-3) predicts a lower number for population (44,864) as well as for jobs (22,392) in 2025. Because the statistics in the 2005 ABAG Projections are higher than those in the Proposed General Plan, the Plan is not in itself a catalyst of growth.

POPULATION AND HOUSING

A key benefit associated with implementation of the Proposed General Plan is increased housing opportunities. The 1,560 new housing units projected by the Proposed General Plan would serve an unmet demand for housing without inducing significant growth in population, which is only predicted to increase by 2,649 people.

JOBS/HOUSING BALANCE

Job generation is a key benefit of the Proposed General Plan. Job growth anticipated under the Proposed General Plan, facilitated by its projects, programs, and other implementation activities, would result in approximately 4,882 new jobs, or an approximate 30-percent increase in current jobs. Persons who already reside in the region would most likely fill, and thus benefit, from these new employment opportunities. As a result, the types of new jobs projected in the Proposed General Plan are not anticipated to induce growth by attracting new employees from outside the Bay Area. In addition, because many of the new jobs created will be commercial in nature, they will provide a stable employment base for the younger San Bruno population.

According to the Proposed General Plan (Table 3.2-2), San Bruno currently has more employed residents than it has jobs. Because the ratio of jobs/employed residents is predicted to increase from 0.88 to 0.91 (Table 3.2-3) in 2025, this increase may impact the number of commuters, the amount of congestion, and overall

commuting times in the Bay Area. This jobs/housing deficit, however, is common in other Bay Area cities, which also serve as bedroom communities to employment centers in San Francisco and elsewhere. In addition, longer commutes and increased commute times depend almost entirely on larger economic forces that govern the technology industries in the Bay Area. The Proposed General Plan will therefore not significantly affect commute times.

PUBLIC SERVICES AND INFRASTRUCTURE

The modest amount of employment and housing projected for the Proposed General Plan would induce a commensurate modest increase in demand for infrastructure and public services (see Sections 3.6, *Parks*, 3.8, *Emergency Services*, and 3.9, *Water, Wastewater, and Solid Waste*). Further, new development projects proposed would be "infill" development already served by existing utilities and public services. While utilities and service systems may need to be upgraded to serve such growth and development, the upgrading of utilities and service systems would be designed to serve only the amount of growth and development as projected under the Proposed General Plan. Utilities and/or service improvements necessary to provide service to meet this projected demand would not be extended into undeveloped areas, nor would they include excess capacity that could allow additional growth beyond that envisioned in the Proposed General Plan. As such, the provision of additional infrastructure capacity to serve new development would not induce growth beyond that already planned, and would not be significant.

TRANSPORTATION

Implementation of the Proposed General Plan would also facilitate the intensification of land uses, resulting in the need to expand or improve upon existing transportation systems, including improved transit operations and intersection capacities (see Section 3.4, *Transportation*). These transportation improvements would substantially increase efficiencies within the City, but would also be offset by increased traffic and transit use demands. Therefore, the growth-inducing impact of transportation and transit improvements, which may be a part of the Proposed General Plan's implementation, or identified as necessary to mitigate impacts of growth and development, is considered less than significant.

4.4 CUMULATIVE IMPACTS

CEQA requires that the EIR examine cumulative impacts. As discussed in CEQA Guidelines §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." 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 §15130 (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. The Proposed General Plan is essentially a set of projects, representing the cumulative development scenario for the City for the reasonably foreseeable future. Projections for population and employment for the nearby cities of South San Francisco, Pacifica, Millbrae and Burlingame, based on the Association of Bay Area Government's (ABAG) Projections 2002, are used to estimate cumulative impacts of areas adjacent to San Bruno. However, it is important to note that because most of the development proposed by the General Plan is "infill," that is, in areas that have already been urbanized, cumulative impacts are less than significant.

TRANSPORTATION

Development under the Proposed General Plan, in combination with other growth in adjacent cities, may contribute to congestion along Routes of Regional Significance [Highway 101, I-280, I-380, El Camino Real (State Route 82), and Skyline Boulevard (State Route 35)] (as projected in the *San Mateo County Traffic Forecasting Model 2001*). Additionally, there are a number of proposed development projects that will affect future traffic conditions. These projects include the redevelopment of the U.S. Navy site, development at Skyline College, the BART extension, and any changes to The Shops at Tanforan. CalTrans also projects increases in traffic volumes on El Camino Real by an estimated 0.76-percent per year through the year 2020.[1] The intensification of uses along El Camino Real, Sneath Lane, I-380, San Bruno Avenue, I-280, and San Mateo Avenue, would also be expected to contribute to traffic congestion in the City.

AIR QUALITY

Emissions generated as the result of increased traffic and construction activity under the Proposed General Plan may potentially contribute to degraded air quality and total greenhouse gas emissions in the San Francisco Bay Area. Overall, projections indicate a net reduction in the emissions of ozone precursors and carbon monoxide, while total PM-10 emissions and total greenhouse gas emissions are expected to increase in the future with total miles traveled within the region.

FLOODING

Increased development proposed by the General Plan may increase the amount of impervious surfaces in the City. The inability for water to seep into the ground poses a heightened risk for flooding. However, most surface run-off empties into the Bay. A Storm Drainage Master Plan was developed for the City in 1991 and then updated in 1999/2000. Implementation of this Master Plan would considerably improve water flow within the City's drain system.

NOISE

The presence of Highway 101, local arterials, Caltrain, BART, and SFO all within or near the city provides the potential for significant cumulative noise impact related to implementation of the proposed General Plan. This potential cumulative impact is illustrated in Figure 3.15-2. However, building noise standards encompassed in policies HS-33 and HS-35, and the land use noise compatibility standard encompassed in policy HS-40, do not distinguish between noises from different sources and thus are appropriate policy responses to the cumulative impact. Therefore, due to the extensive policy requirements within the Plan for reducing interior noise levels (requirements which uphold existing State standards for interior building noise levels) and new policy requirements for excluding residential development from areas where the CNEL is 70dB or higher, the actual potential cumulative impact of noise is considered to be less than significant.

4.5 IMPACTS FOUND NOT TO BE SIGNIFICANT

CEQA Guidelines, §15128 requires EIRs to contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. For the issue areas addressed in Chapter 3, all potential impacts are identified, regardless of their magnitude. Other potential impact areas, listed below, have not been found to be significant and are not further analyzed in this EIR.

[1] North San Bruno Areawide Traffic Study Update, 1998.

AGRICULTURAL RESOURCES

There is no farmland, agricultural zoning, or agricultural-related use in San Bruno, thus the Proposed General Plan would have no impact on agricultural resources.

MINERAL RESOURCES

Because there are no mineral resources or recovery sites in San Bruno, the Proposed General Plan would have no impact on mineral resources.

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5 Analysis of Alternatives

This chapter describes the three alternatives the City considered during preparation of the Proposed General Plan and Draft EIR: No Project, Residential Infill, and Jobs/Housing Balance Alternatives. Key features and projected buildout of each of the alternatives is presented, and their potential environmental impacts are compared to the Proposed General Plan. The Proposed General Plan is fully described in Chapter 2 and analyzed in Chapter 3 of this EIR.

CEQA mandates consideration and analysis of alternatives to the proposed project. According to CEQA Guidelines, the range of alternatives "shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant impacts" (§15126(d) (2)). The alternatives may result in new impacts that do not result from the Proposed General Plan.

Environmental analysis precedents suggest that the discussion of alternatives need not be exhaustive and that the impacts of the alternatives may be discussed "in less detail than the significant effects of the project proposed" (CEQA Guidelines §15126(d)(3)). 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.

5.1 PROPOSED GENERAL PLAN

Developed through the General Plan Update Committee (GPUC), joint City Council/Planning Commission meetings, and public workshops, the Proposed General Plan emerged as vision for San Bruno's development in 2025. The Proposed General Plan is being recommended for adoption because it achieves the community's goals by strongly emphasizing the following benefits:

- Moderate housing and population growth;
- Employment growth balanced with housing availability;
- Reuse and intensification of Downtown;
- Development of mixed uses and transit-oriented development;
- Improved pedestrian, bicycle, and transit linkages; and
- Protection of natural assets along canyon areas.

Table 5.1-1 projects citywide buildout of population and jobs based on the Proposed Project. Pending development projects—buildout of the U.S. Navy Site Specific Plan, expansion of The Shops at Tanforan, and construction of new housing at Skyline College—are accounted for separately from buildout of General Plan land uses. Given the emphasis on residential development along the City's transit corridors—including El Camino Real and San Mateo Avenue—additional development projected by the General Plan 2025 totals 682 new housing units. Given incentives for infill on surface parking lots at The Shops at Tanforan, Towne Center, and Bayhill Office Park, buildout of commercial and industrial lands under the General Plan 2025 results in approximately 4,882 new jobs. A more thorough description of land use distribution and population projections are contained within *3.2, Land Use* section and *5.4, Cumulative Impacts* section. Figure 5.1-1

illustrates all parcels assumed to have potential for development, reuse, or intensification under the Proposed General Plan.

Table 5.1-1 Potential Citywide Buildout of Proposed General Plan

Buildout	Housing Units	Population	Employed Residents	Building Sq. Ft.	Jobs	Jobs/Employed Residents Ratio
Existing Development (2005)	15,776	42,215	19,150	n/a	16,910	0.88
Pending Development	878			202,500	600	
Additional Development under Proposed General Plan	682			1,654,400	4,882	
Total with Existing, Pending, and Additional Development	**17,336**	**44,864**	**24,496**	**n/a**	**22,392**	**0.91**

Source: Dyett & Bhatia, 2006.

5.2 NO PROJECT ALTERNATIVE

Consideration of the No Project Alternative is required by CEQA in all EIRs. The No Project Alternative supposes that the Proposed General Plan is not adopted or implemented, and the existing 1984 General Plan continues to guide development through 2025. The No Project Alternative applies 1984 General Plan land use classifications and policies toward future development.

The 1984 General Plan represented the first comprehensive General Plan for the City. The 1984 General Plan addressed the following major community issues:

- Preserving the City's suburban community character;
- Upgrading older, deteriorating areas;
- Strengthening the City's economic base;
- Developing vacant and reusable land; and
- Providing for the community's housing, social, and safety needs.

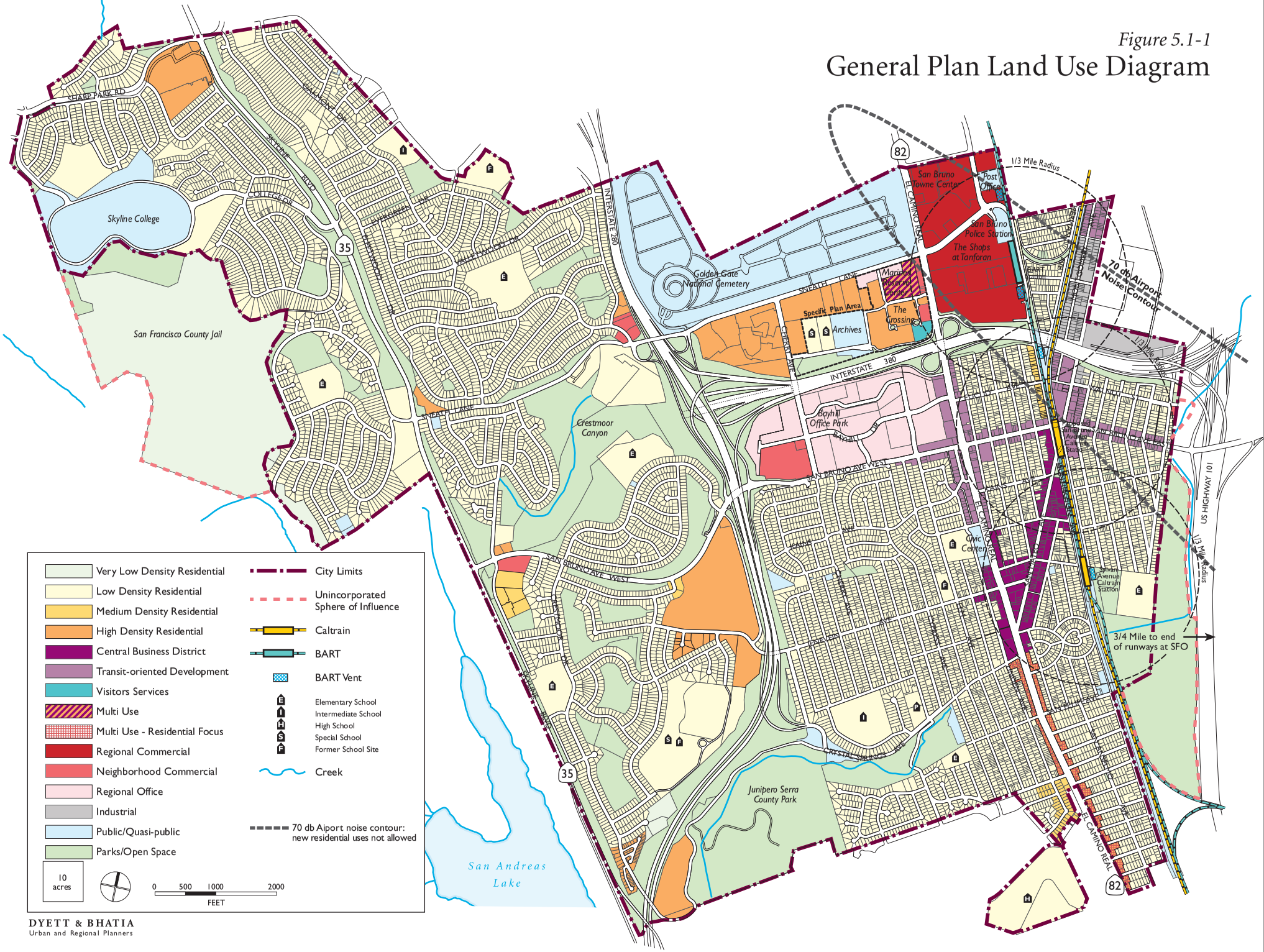
More specifically, land use policies focused on maintaining and enhancing existing commercial and industrial areas and preserving residential neighborhoods. The airport lands in the City's eastern SOI were targeted for new industrial development.

Many of the 1984 Plan policies, implementing actions, and recommendations have already been accomplished. For example, a new senior center has been built, the Pacific Heights Shopping Center has been redeveloped into multifamily housing (the Treetops Apartments), additional office and retail development has occurred in the Bayhill and Tanforan areas, Downtown Design Guidelines have been adopted, and other Downtown revitalization efforts have been initiated.

Table 5.2-1 projects citywide buildout of population and jobs based on the No Project Alternative. Pending development projects—buildout of the U.S. Navy Site Specific Plan, expansion of The Shops at Tanforan, and construction of new housing at Skyline College—are accounted for separately from buildout of Alternative land uses. These pending projects are assumed to occur under all of the alternatives, including the Proposed

Figure 5.1-1

General Plan Land Use Diagram



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General Plan. The No Project Alternative would generate only 20 new housing units on existing vacant sites. This analysis does not make assumptions regarding reuse or redevelopment. However, a slight increase in building square footage, primarily in the industrial category, would result in a 12 percent increase in jobs (18,892 total jobs). This modest job growth would decrease the City's jobs/employed residents' ratio from 0.88 to 0.80. Figure 5.2-1 illustrates available parcels under the No Project Alternative.

Table 5.2-1: No Project Alternative

	Housing Units	*Population*	*Employed Residents*	*Building Sq Ft*	*Jobs*	*Jobs/Employed Residents Ratio*
No Project Alternative	20	51	28	530,200	1,290	
Total with Existing, Pending and No Project Alternative	16,652	43,095	23,530	n/a	18,892	0.80

Source: Dyett & Bhatia, May 2002.

5.3 RESIDENTIAL INFILL ALTERNATIVE

The Residential Infill Alternative focuses on providing increased housing development (compared to the Proposed General Plan), thereby strengthening San Bruno's role as a bedroom community for the San Francisco peninsula. Both single and multi-family residential uses are designated on potential reuse sites throughout the City.

Land use concepts for specific areas are proposed as follows:

- *Downtown.* New multi-family housing development would be concentrated near Downtown. Existing surface parking lots east of San Mateo Avenue would be redeveloped with 2–3 story multi-family structures. However, the existing scale and character of commercial uses along San Mateo would be maintained. Mixed housing and retail structures would be built in the areas directly north and south of Downtown. A public plaza or park is proposed to serve nearby residents and Downtown visitors.
- *BART and Caltrain Station Areas.* North of San Bruno Avenue, new mixed commercial, office, and/or hotel uses would provide employment opportunities within walking distance of the Caltrain station. South of San Bruno Avenue, within 1/3-mile of the Caltrain station, this alternative offers potential for high-density and/or mixed housing and retail uses. New commercial, office, and/or hotel uses would be north of the BART station on existing surface parking lots in the Towne Center and adjacent to the former US Navy Site. These higher-intensity uses would provide a greater number of offices and shopping destinations near future transit stations.
- *Bayhill Office Park.* Mixed housing and retail uses are proposed on the surface parking lots within the Bayhill Office Park. Shared parking facilities (possibly incorporated into the grade) would be constructed to accommodate office commuters in the day and residents at night, and pedestrian paths would link new housing developments to surrounding shopping areas.
- *Montgomery Avenue.* A new Industrial Park is identified north of Highway 380 along Montgomery Avenue. This designation directs consolidation of small auto-oriented and heavy service parcels to spur reinvestment with higher-end employment uses.
- *Housing Infill Sites.* Multi-family housing would be designated at the Airport Trade Center along Sneath Lane, and the Skycrest area along western San Bruno Avenue. The City would retain

neighborhood commercial uses at the Skycrest Shopping Center site. In the western portion of San Bruno, former school sites would be designated for single family housing.

- *Crestmoor Canyon.* Crestmoor Canyon would provide increased recreational opportunities through a network of hiking and bicycling trails, as well as small tot lots.

Table 5.3-1 describes the potential increase in housing units, population, employed residents, and jobs beyond existing conditions, under the Residential Infill Alternative. The acreage reported in this table includes vacant, reuse, intensification, and/or preservation sites.

Table 5.3-1: Population and Job Increase: Residential Infill Alternative

Land Use	*Acreage*	*Potential Housing Units*	*Potential Population*	*Potential Employed Res.*	*Potential Jobs*[1]
Residential	180	520	1,339	731	–
Mixed Use	50	770	1,982	1,082	1,430
Commercial / Industrial	90	–	–	–	3,260
Parks / Open Space	110	–	–	–	–
Grand Total	**430**	**1,290**	**3,321**	**1,813**	**4,690**

[1] Assumptions: 250 sq ft/employee Mixed Use, 250 sq ft/employee Commercial, 350 sq ft/employee Office/Commercial, 450 sq ft/employee Industrial.

Source: Dyett & Bhatia, May 2002.

Table 5.3-2 projects citywide buildout of population and jobs based on the Residential Infill Alternative. Pending development projects—buildout of the U.S. Navy Site Specific Plan, expansion of The Shops at Tanforan, and construction of new housing at Skyline College—are accounted for separately from buildout of Alternative land uses. The Residential-Infill Alternative would generate an additional 1,290 housing units, which results in a 10 percent increase in population (3,321 new residents) to a total of 46,379. An increase of 4,690 jobs results in a 32 percent hike (22,294 total jobs) and maintains the City's jobs-employed residents' ratio of 0.88. Figure 5.3-1 illustrates proposed change parcels under the Residential Infill Alternative.

Table 5.3-2: Residential Infill Alternative

	Housing Units	*Population*[1]	*Employed Residents*[2]	*Building Sq Ft*	*Jobs*	*Jobs/Employed Residents Ratio*
Residential Infill Alterative	1,290	3,321	1,813	1,469,300	4,690	–
Total with Existing, Pending and Residential Infill Alternative	17,921	46,379	25,323	n/a	22,294	0.88

[1] Assumptions: 5% vacancy rate, 2.71 persons per single family household, group quarters=0.52% of total (same as in 2005)
[2] Assumptions: Employed residents=0.546 of total population. (Based on ABAG Projections 2005 for year 2025).

Source: Dyett & Bhatia, 2006.

Figure 5.2-1

No Project Alternative

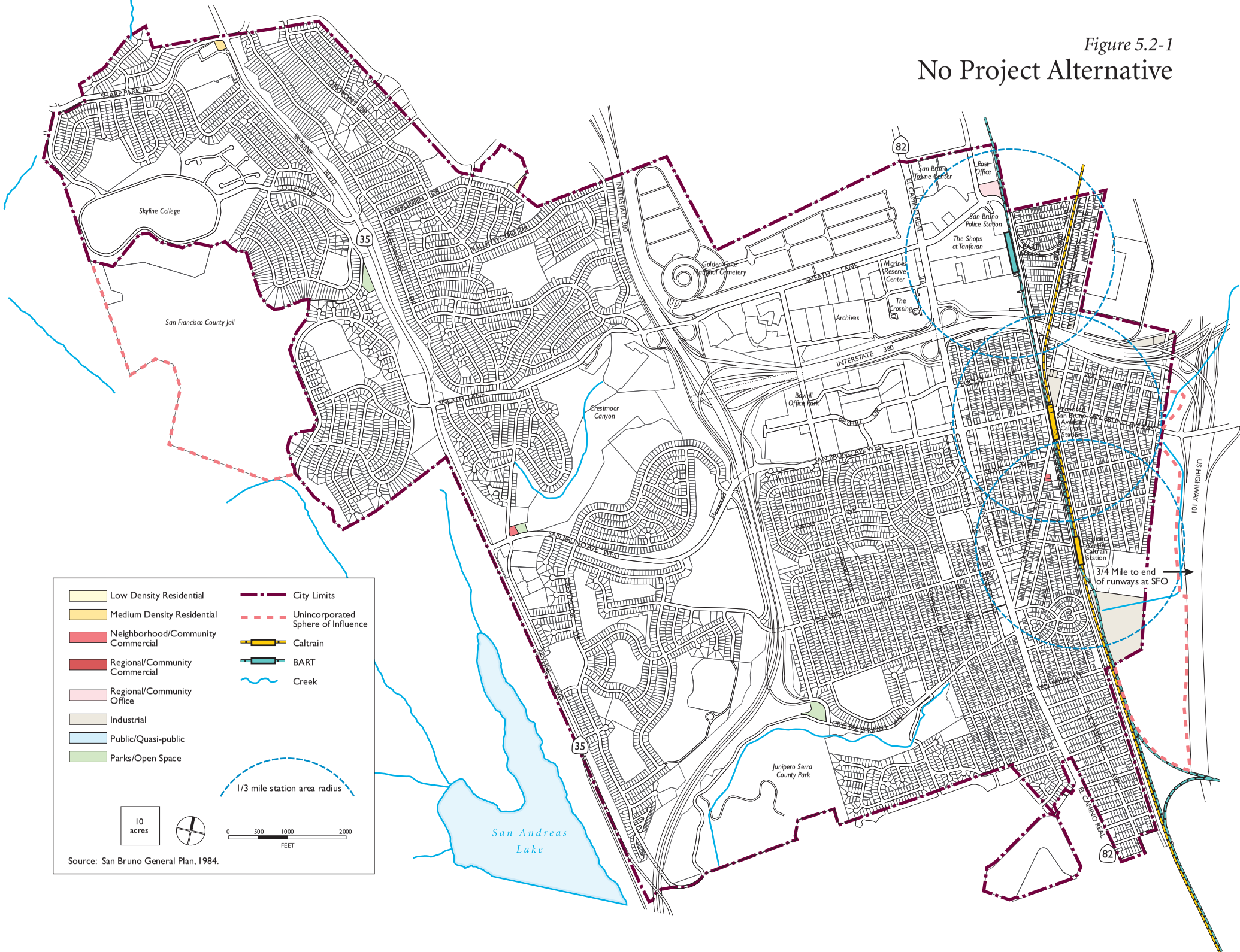

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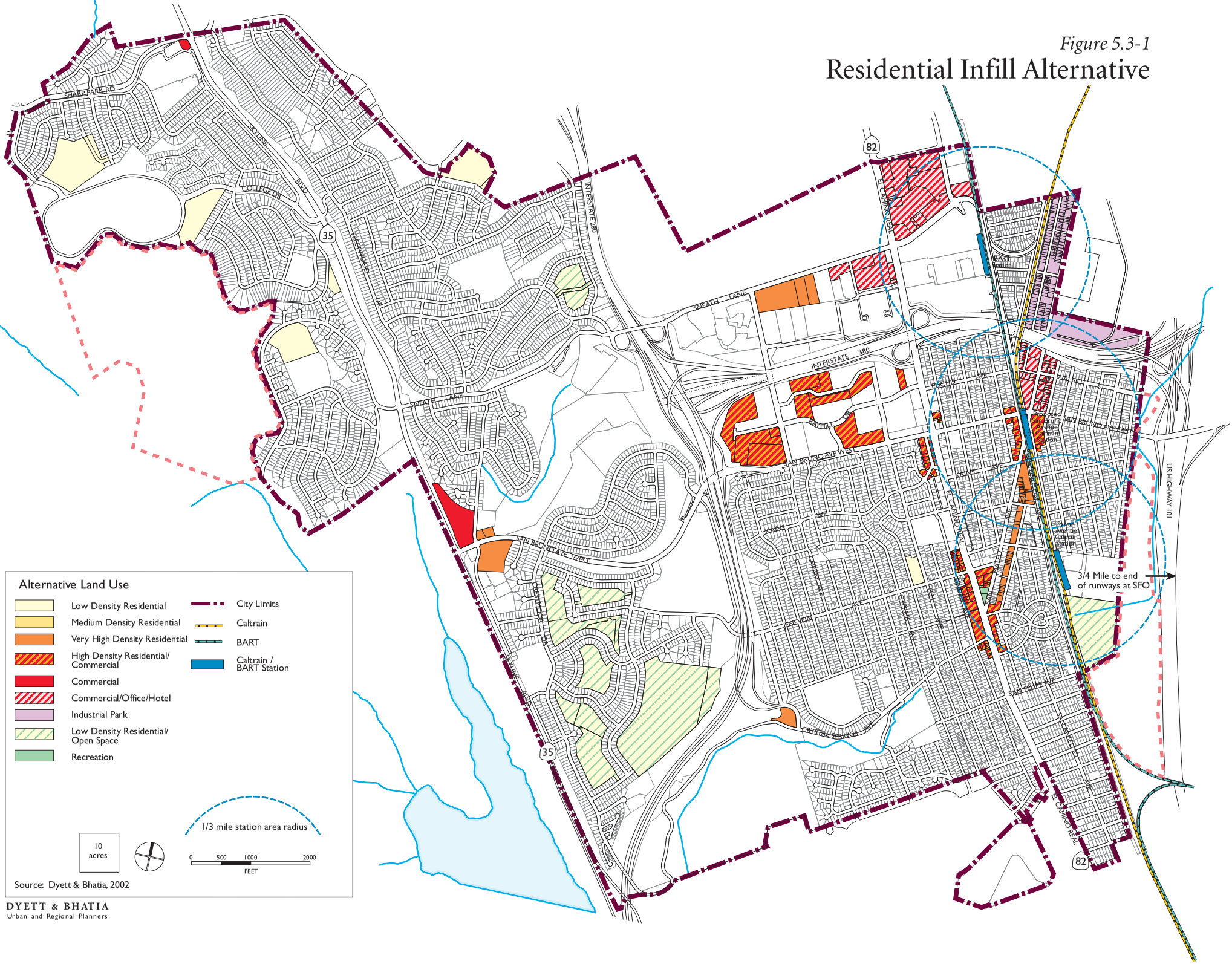
Figure 5.3-1

Residential Infill Alternative



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5.4 JOBS/HOUSING BALANCE ALTERNATIVE

The Jobs/Housing Balance Alternative emphasizes new non-residential development so that at build-out, the total number of jobs and employed residents in the City will be in balance. It capitalizes on business opportunities within a short distance of the new BART and Caltrain station areas.

Land use concepts for specific areas are proposed as follows:

- *Downtown.* Large blocks would be consolidated at the northern and southern ends of Downtown to provide commercial anchors for the Downtown. Between these two anchors, the parcels fronting San Mateo Avenue and the surface parking lots to the east would accommodate mixed multi-family housing and retail uses. With this construction, the scale of Downtown would be increased slightly.
- *BART and Caltrain Station Areas.* Commercial, office, and/or hotel uses are proposed surrounding the new BART station at The Shops at Tanforan and at a new grade-separated (elevated) Caltrain station relocated to San Bruno Avenue, to serve as an anchor for downtown. Small, underutilized parcels along Montgomery Avenue to the northern City limit would be consolidated and reused for larger-scale business development. These high-intensity areas would provide convenient access to business and visitor destinations near future transit centers.
- *Bayhill Office Park.* Commercial, office, and/or hotel uses would be developed on existing surface parking lots in the Bayhill Office Park. Shuttle systems from the new transit stations would serve business and shopping traffic.
- *El Camino Real.* Surrounding the Downtown's southern anchor on El Camino Real, mixed multi-family housing and retail uses would replace aging single-story commercial and restaurant structures. Along El Camino Real between Euclid and Angus avenues, automobile sales uses would be expanded into an "auto row" destination.
- *Housing Infill Sites.* The Airport Trade Center would be reused with mixed multi-family housing and retail development. Mixed housing and retail would also occur in the Skycrest area; however, the City desires to retain neighborhood commercial uses at the Skycrest Shopping Center site. Former school sites, located throughout the City, would be designated for single family residential development.
- *Crestmoor Canyon.* Crestmoor Canyon and other inaccessible open space areas within the western hills would be retained as open space. Per conditions of City purchase, Crestmoor Canyon would be limited to public use defined as parks or recreation, open space, or affordable senior housing.

Table 5.4-1 describes the potential increase in housing units, population, employed residents, and jobs beyond existing conditions, under this alternative. The acreage reported in this table includes vacant, reuse, intensification, and/or preservation sites.

Table 5.4-1: Population and Jobs Increase: Jobs/Housing Balance Alternative

Grand Total	*Acreage*	*Potential Housing Units*	*Potential Population*	*Potential Employed Res*	*Potential Jobs*[1]
Residential	80	110	283	155	–
Mixed Use	30	240	618	337	440
Commercial / Industrial	130	–	–	–	6890
Parks / Open Space	190	–	–	–	–
Grand Total	**430**	**350**	**901**	**492**	**7,330**

[1] Assumptions: 250 sq ft/employee Mixed Use, 250 sq ft/employee Commercial, 350 sq ft/employee Office/Commercial, 450 sq ft/employee Industrial.

Source: Dyett & Bhatia, May 2002.

Table 5.4-2 projects citywide buildout of population and jobs based on the Jobs/Housing Balance Alternative. Pending development projects—buildout of the U.S. Navy Site Specific Plan, expansion of The Shops at Tanforan, and construction of new housing at Skyline College—are accounted for separately from buildout of Alternative land uses. The Jobs/Housing Balance Alternative would result in a jobs-employed residents' ratio of 1.04 through a 47 percent increase in jobs (7,330 new jobs) to a total of 24,932. This significant increase in jobs is contrasted by a 4.1 percent population increase (901 new residents) to a total of 16,984 housing units and a population of 43,953 residents. Figure 5.4-1 illustrates change parcels under the Jobs/Housing Balance Alternative.

Table 5.4-2: Jobs/Housing Balance Alternative

	Housing Units	*Population*[1]	*Employed Residents*[2]	*Building Sq Ft*	*Jobs*	*Jobs/Employed Residents Ratio*
Jobs/Housing Balance Alternative	350	901	492	2,405,500	7,330	–
Total with Existing, Pending and Jobs/Housing Balance Alternative	16,984	43,953	23,998	n/a	24,932	1.04

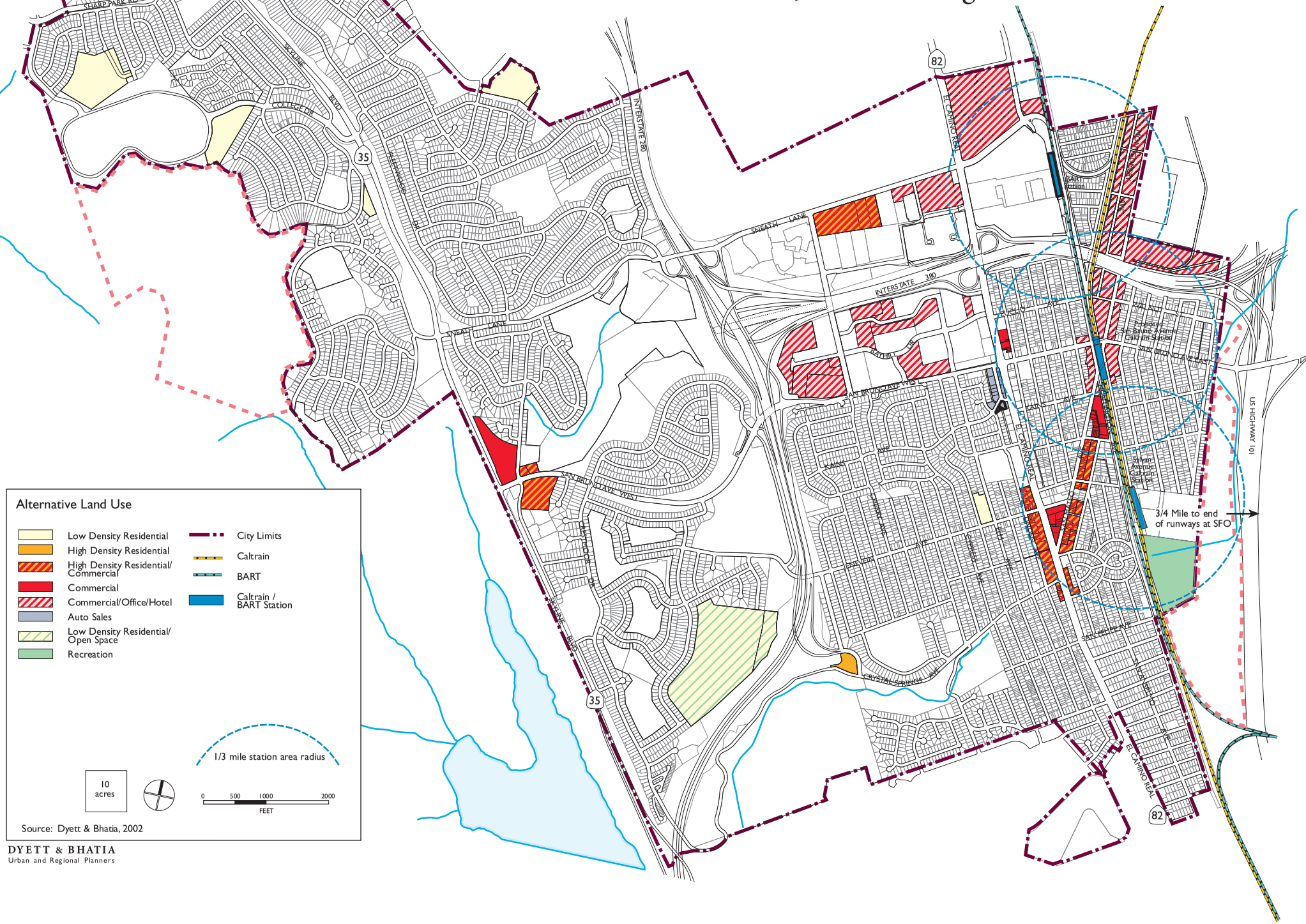
[1] Assumptions: 5% vacancy rate, 2.71 persons per single family household, group quarters=0.52% of total (same as in 2005)

[2] Assumptions: Employed residents=0.546 of total population. (Based on ABAG Projections 2005 for year 2025).

Source: Dyett & Bhatia, 2006.

Figure 5.4-1

Jobs / Housing Balance Alternative



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5.5 COMPARISON OF ALTERNATIVES

The following subsections provide a comparison of the environmental impacts for the Proposed General Plan, No Project Alternative, Residential Infill Alternative, and Jobs-Housing Balance Alternative. The full analysis of the Proposed General Plan's effects in each issue area is presented in Chapter 3.

LAND USE

There are only 60 acres of vacant land and surface parking lots in San Bruno. Therefore, all of the alternatives (except for No Project) rely on reuse and intensification of existing land uses to achieve desired residential, commercial, and industrial growth.

The comparison of alternatives with respect to land use distribution is summarized below in Table 5.5-1. The total amount of acreage for future development is different for each alternative because some alternatives project more redevelopment, reuse, and/or intensification than others. For example, the No Project Alternative assumes buildout of only the existing vacant parcels, whereas the Proposed General Plan, Residential Infill Alternative, and Jobs-Housing Balance Alternatives all assume reuse and intensification along El Camino Real, San Mateo Avenue, Montgomery Avenue, Bayhill Office Park, and The Shops at Tanforan. Each proposed alternative assumes a slightly different set of potentially developable lands. See Chapter 2, *Project Description*, for definitions of land use categories used in Table 5.5-1.

Table 5.5-1: Comparison of Proposed Alternative Land Use (Acres), Vacant and/or Reuse

	Proposed General Plan	*No Project*	*Residential Infill*	*Jobs/Housing*
Residential				
Very Low Density Residential	-	-	115.5	44.2
Low Density Residential	93.4	0.4	43.0	36.7
Medium Density Residential	-	0.6	-	-
High Density Residential	11.5	-	-	3.6
Very High Density Residential	-	-	25.3	-
Mixed Use				
Transit-Oriented Development/Multi Use	31.4	-	53.4	35.3
Multi Use - Residential Focus	17.0	-	-	-
Downtown Mixed Use	22.9	-	-	-
Non-Residential				
Regional Commercial	0.9	1.8	48.6	142.8
Neighborhood Commercial	10.6	0.8	7.8	23.5
Regional Office	28.9	-	-	-
Auto Sales	-	-	-	2.4
Industrial	20.6	22.2	27.8	-
Total	**237.2**	**25.7**	**321.4**	**288.4**

Source: Dyett & Bhatia, 2006.

- *Proposed General Plan*. The Proposed General Plan assumes the possibility of development or redevelopment activities on 93 acres of Low Density Residential, 12 acres of High Density Residential, and over 70 acres of Mixed Use development. The proposed project also provides 11 acres of Neighborhood Commercial, 29 acres of Regional Office, and 21 acres of Industrial.

Proposed uses that may be incompatible with adjacent low density residential uses include mixed use development along arterial corridors and intensification of Downtown neighborhoods. Existing city regulations, including the Zoning Code, will need to be revised in order to fulfill the goals and policies of the Proposed General Plan.

- *No Project Alternative*. The No Project Alternative allows substantially less development than the Proposed General Plan. Residential development in the No Project Alternative includes less than one acre of Low Density Residential and less than one acre of Medium Density Residential. In addition, the No Project Alternative allows less than two acres of Regional Commercial and less than one acre of Neighborhood Commercial. However, the No Project Alternative accommodates over 22 acres of Industrial, its largest potential growth area.

  Proposed uses that may create conflict with existing uses include commercial/office uses between I-380 and San Bruno Avenue West and industrial uses along Montgomery Avenue. Urban-interface conflicts would likely be similar to the Proposed General Plan. Overall, land use conflicts would be less than the Proposed General Plan because much less development would occur under the No Project Alternative. The City's current Zoning Code and other ordinances are consistent with the 1984 General Plan.

- *Residential Infill Alternative.* The Residential Infill Alternative accommodates 116 acres of Very Low Density Residential and 43 acres of Low Density Residential. This alternative also provides 25 acres of Very High Density Residential and 53 acres of Multi Use, significantly more multifamily construction than the Proposed General Plan. In the Residential Infill Alternative, nearly eight acres of Neighborhood Commercial, 49 acres of Regional Commercial, and 28 acres of Industrial are proposed for potential development or reuse.

  Potential land use conflicts in mixed use areas would be limited to intensification within the Bayhill Office Park and along El Camino Real. This alternative proposes less mixed use development than in the Proposed General Plan. However, potential land use conflicts due to the intensification of residential uses—such as Very High Density Residential within Downtown, the Airport Trade Center, and Skycrest Shopping Center—will likely be greater than the Proposed General Plan. The City's ordinances would need to be updated to reflect this alternative's goals and policies, comparable to the Proposed General Plan.

- *Jobs/Housing Alternative.* The Jobs/Housing Alternative provides over 44 acres of Very Low Density Residential, 37 acres of Low Density Residential, and 4 acres of High Density Residential. This alternative provides a similar amount of Multi Use development compared to the proposed project, about 35 acres. However, the Jobs/Housing Alternative provides significantly more commercial development and/or intensification opportunities than the Proposed General Plan, including 143 acres of Regional Commercial, 24 acres of Neighborhood Commercial, and over 2 acres of Auto Sales.

  This alternative provides more potential for commercial land use conflicts than the Proposed General Plan, due to the significant amount of regional commercial development proposed in close proximity to residential uses. In seeking to capitalize on access to new transit facilities, the Jobs-Housing Balance Alternative proposes intense commercial, office, and hotel uses along the Montgomery Avenue corridor, which could potentially conflict with the residential neighborhoods to the west and south. The City's ordinances would need to be updated to reflect this alternative's goals and policies, comparable to the Proposed General Plan.

POPULATION AND HOUSING

Table 5.5-2 shows total housing units, population, and employment that would result under each alternative.

Table 5.5-2: Comparison of Population, Housing, and Employment, Buildout 2025

	Housing Units	*Population*	*Employed Residents*	*Jobs*	*Jobs/Employed Residents Ratio*
San Bruno, Existing 2005	*15,776*	*42,215*	*19,150*	*16,910*	*0.88*
Proposed General Plan	**17,336**	**44,864**	**24,496**	**22,392**	**0.91**
No Project Alternative	16,652	43,095	23,530	18,892	0.80
Residential Infill Alternative	17,921	46,379	25,323	22,294	0.88
Jobs/Housing Balance Alternative	16,984	43,953	23,998	24,932	1.04

Source: Dyett & Bhatia, 2006.

- *Proposed General Plan*. The Proposed General Plan accommodates 682 additional housing units, and an increase in population of 2,649. The City's 2025 population is projected at 44,864 residents. Pursuant to employment projections, a maximum of 4,882 additional jobs would be created by 2025 with an employment ratio of 0.91. Potential displacement of existing residents and businesses might occur during reuse and intensification of the City's mixed use arterial corridors.
- *No Project Alternative*. The No Project Alternative allows 20 additional housing units (on vacant sites) and population increase of 51 for a 2025 population of 43,095. The 1984 General Plan would result in substantially lower population and much fewer jobs than the Proposed General Plan. Displacement of existing residents and businesses is unlikely to occur, as only vacant sites are assumed for development under this alternative.
- *Residential Infill Alternative.* The Residential Infill Alternative accommodates higher housing unit and population growth than the Proposed General Plan, but slightly lower employment growth. Proposed redevelopment of residential and mixed uses might displace a larger proportion of existing residents, but a smaller proportion of businesses, than the Proposed General Plan.
- *Jobs/Housing Alternative.* The Jobs/Housing Alternative would provide development capacities enabling more job growth, relative to the Proposed General Plan. This alternative would result in the greatest employment growth, with creation of 7,330 additional jobs and a jobs/employed resident ratio of 1.04. Less displacement of residents, but greater displacement of businesses would likely occur during proposed reuse and intensification, than in the Proposed General Plan.

VISUAL AND AESTHETIC RESOURCES

Views of the western hills, the San Francisco Bay, and the City's scenic corridors constitute visual resources that should be considered during growth. The potential impacts on visual and aesthetic resources of the Proposed General Plan and alternatives are compared below.

- *Proposed General Plan*. The Proposed General Plan would introduce mixed use and pedestrian-oriented development along arterial corridors and within neighborhood centers. Increased residential densities adjacent to Downtown could potentially impact the visual character of the City's older neighborhoods. However, preservation of historic structures and cultural landmarks would contribute to the City's identity. Development and intensification of new regional commercial and

office uses in the eastern flatlands could also alter views from the western hills, but proposed policies would minimize potential impacts.

- *No Project Alternative*. The No Project Alternative would continue to reflect the existing visual quality of San Bruno. Single-use, auto-oriented development would continue to dominate major arterials, with Downtown serving as the City's only pedestrian-oriented environment. Residential development allowed within the western hills would likely block scenic views less than the Proposed General Plan because of less residential development proposed in the No Project Alternative.
- *Residential Infill Alternative.* The Residential Infill Alternative would focus on residential development throughout the City. Intensification of residential uses and new mixed use development could potentially impact Downtown through larger bulk and scale. Due to a higher amount of residential hillside development, the Residential Infill Alternative could potentially block scenic views more than the Proposed General Plan.
- *Jobs/Housing Alternative.* The Jobs/Housing Alternative focuses on substantially more commercial development within a short distance from BART and Caltrain station areas as well as commercial anchors for the Downtown, as compared to the Proposed General Plan. Neighborhood character and connections between uses outside of Downtown would be improved. Hillside development would be less than the Proposed General Plan, reducing the potential for impacts on scenic views.

TRANSPORTATION

The operations of the study intersections listed in Section 3.4, *Transportation*, were analyzed for the alternatives. For the No Project Alternative, intersections were evaluated using estimated future turning movement counts, anticipated future intersection geometries, and anticipated traffic signal operation parameters. The proposed General Plan and two alternatives consist of the No Project condition plus potential increased traffic volumes and roadway improvements that are in addition to the policies and land uses in the existing 1984 General Plan. The operations of the study intersections for the proposed project and alternatives were evaluated using the No Project plus project traffic trips, anticipated future intersection geometries, and anticipated traffic signal operation parameters.

Trip Generation

The ITE Trip Generation Manual (6th Edition, 1997) was used to calculate trip generation for the four alternatives. Table 5.5-3 illustrates trip generation for each of the alternatives.

- *Proposed General Plan.* The Proposed General Plan results in approximately 68,742 trips daily, a majority of which are generated in the Neighborhood and Community Commercial designations. This is significantly higher than the No Project Alternative, but significantly lower then the Jobs-Housing Balance Alternative.
- *No Project Alternative.* The No Project Alternative results in only 4,969 trips, which represents a negligible increase in overall traffic volumes.
- *Residential Infill Alternative*. The Residential Infill Alternative results in approximately 68,598 trips, nearly identical to the total trips generated by the Proposed General Plan.
- *Jobs-Housing Balance Alternative.* The Jobs-Housing Balance Alternative results in approximately 105,389 trips, by far the highest generator of vehicular trips through expansion of retail, office, and industrial employment.

Intersection Level of Service

The intersection level of service results are summarized in Table 5.5-4. A detailed analysis of each intersection is provided in Attachment A (available at City of San Bruno Planning Division offices).

- *Proposed General Plan.* In the AM peak hour, eight study intersections are anticipated to operate at LOS F. Three intersections are anticipated to operate at LOS E and eight at LOS F in the PM peak hour. It is important to note that several of these intersections currently operate at LOS F and in one case, the Proposed General Plan would improve existing operating conditions. These LOS projections are very similar to those for the other two "build" alternatives (Jobs-Housing Balance Alternative and Residential-Infill Alternative).
- *No Project Alternative.* In the AM peak hour, six study intersections are anticipated to operate at LOS F. Six intersections are anticipated to operate at LOS E and four at LOS F in the PM peak hour. The No Project scenario, with its low growth assumptions, results in the fewest number of congested intersections.
- *Residential Infill Alternative*. In the AM peak hour, one study intersection is anticipated to operate at LOS E and eight at LOS F. Four intersections are anticipated to operate at LOS E and nine at LOS F in the PM peak hour.
- *Jobs-Housing Balance Alternative.* In the AM peak hour, two study intersections are anticipated to operate at LOS E and eight at LOS F. Four intersections are anticipated to operate at LOS E and nine at LOS F in the PM peak hour.

Mitigation measures for intersections that would worsen to LOS F, relative to the No Project scenario, are identified in Section 3.4 of this EIR for the Proposed General Plan (see Table 3.4-11). These same mitigation measures would apply to the Residential Infill and Jobs/Housing Balance alternatives, and the residual LOS operations would be the same or similar for each alternative.

Freeway Level of Service

Future traffic projections for the No Project condition were obtained from the *San Mateo County Travel Demand Forecasting Model 2001*. Anticipated traffic volumes on freeway segments for the Proposed General Plan were based upon the manual addition of project traffic to the No Project condition freeway volumes. The capacity of freeway segments was calculated based on the number of travel lanes and the travel lane capacities contained within the travel demand model.

Table 5.5-5 lists the freeway analysis results for the AM and PM peak hours for each alternative. As shown in the table, the projected LOS is the same for all alternatives. As described in Section 3.4, the Proposed General Plan is anticipated to add peak hour traffic to freeway segments within San Mateo County. It would add no more than 0.01 to the volume-to-capacity ratio of freeway segments within the study area, compared to the No Project scenario. However, due to other background traffic, all but two of the freeway segments are anticipated to be in violation of the CMP policy: Highway 101, Peninsula Avenue to SR 92, and I-380, I-280/Highway 101. The Proposed General Plan would add freeway trips to segments anticipated to operate below CMP level of service standards in the 2020. The LOS conditions would be the same for the No Project Alternative, the Residential Infill Alternative, and the Jobs/Housing Balance Alternative.

AIR QUALITY AND GREENHOUSE GASES

Number of new housing units, building area, average daily trips generated (ADT), and number of new jobs are all key indicators of how a development alternative would affect future air quality and GHG emissions. Short-term construction dust would be directly proportional to the amount of construction proposed which is indicated by the number of housing units and the building area. Construction emissions are expected to affect the immediate vicinities of construction sites, but would be reduced to less than significant levels with implementation of appropriate dust-abatement measures. Over the long-term, criteria air pollutant emissions would vary among the alternatives principally due to the varying levels of vehicular activity (ADT) associated with different levels of development and land uses proposed. The availability of jobs within the City would reduce the need for residents to travel outside for employment and thereby potentially reduce the amount of vehicle travel. It is likely that improvements in vehicle and fuel technologies will reduce the overall level of air pollution and GHG emissions in San Bruno. Table 5.5-6 compares the air quality related factors for the Proposed General Plan and alternatives. Tables 5.5-7 and 5.5-8 compare projections of vehicle- and electricity-related GHG emissions across alternatives, assuming fuel efficiency and technology remain the same over the planning period. The vehicle emissions projections are for additional trips, beyond those of existing conditions.

- *Proposed General Plan*. Upon buildout, new development under the Proposed General Plan would result in 68,742 average daily vehicle trips at buildout. Although this increase in vehicle trips would be greater than that accounted for in the *2000 Bay Area Clean Air Plan*, the population and employment projected are consistent with the more recent *2005 Ozone Strategy;* therefore, the Proposed General Plan will likely result in less than significant air quality impacts related to pollution and GHG emissions. Although proposed development of mixed use centers and improvements to the local bicycle, pedestrian, and transit networks will contribute to reduction of daily vehicle trips and maintenance of low air pollutant levels, this reduction would not completely eliminate air quality impacts.
- *No Project Alternative*. The No Project Alternative allows for minimal new construction compared to the Proposed General Plan, implying lower overall construction emissions within the City. Due to a significantly lower number of vehicle trips generated upon buildout, the No Project alternative would result in criteria pollutant and GHG emissions lower than the Proposed General Plan and would be consistent with the *2000 Bay Area Clean Air Plan* and *2005 Ozone Strategy*.
- *Residential Infill Alternative.* The Residential Infill Alternative would result in air pollutant and GHG emissions similar to the Proposed General Plan. Higher construction emissions associated with more homes would be offset by a lower overall building area. This alternative would result in a slightly lower number of trips generated upon buildout.
- *Jobs/Housing Alternative.* Although the population increase under this alternative would be lower than the Proposed General Plan, the increase in vehicle trips would be higher due to intensive job-producing development. Therefore, this alternative would result in greater air quality impacts from vehicular emissions (pollutants and GHGs) than under the Proposed General Plan.

Table 5.5-3 Trip Generation Summary – Additional Trips at 2025 Buildout

Land Use		*Average Rate*			*Proposed General Plan*			*No Project Alternative*			*Residential Infill Alternative*			*Jobs-Housing Balance Alternative*		
	Type[1]	*Daily*	*AM*	*PM*	*Daily*	*AM*	*PM*	*Daily*	*AM*	*PM*	*Daily*	*AM*	*PM*	*Daily*	*AM*	*PM*
Industrial	130	6.96	0.82	0.86	-	-	-	2,688	317	332	-	-	-	-	-	-
Low Residential	210	9.57	0.77	1.02	2,724	264	310	29	2	3	1,188	96	127	569	46	61
Medium Residential	230	5.86	0.44	0.54	741	56	68	70	5	6	4,486	337	413	1713	130	158
Park/Open Space	412	2.28	0.52	0.59	-	-	-	14	3	4	-	-	-	-	-	-
Regional Community/Office	710	11.01	1.56	1.49	-	-	-	1,369	194	185	-	-	-	-	-	-
Neighborhood/ Community Commercial	814	40.67	6.41	4.93	62,887	9,914	7,620	799	126	97	60,304	9,505	7,310	103,107	16,252	12,465
High Residential	220	-	-	-	2,390	183	223	-	-	-	2,620	202	245	-	-	-
Total Additional	**-**	**-**	**-**	**-**	**68,742**	**10,417**	**8,221**	**4,969**	**647**	**627**	**68,598**	**10,139**	**8,095**	**105,389**	**16,428**	**12,684**

[1] Land use code from the ITE Trip Generation Manual (6th Edition, 1997).

Source: DKS Associates, 2003.

Table 5.5-4 Level of Service Summary

		Proposed General Plan				No Project				Residential Infill Alternative				Jobs-Housing Balance Alternative			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Intersection	V/C	LOS[1]	V/C	LOS[1]	V/C	LOS[1]	V/C	LOS[1]	V/C	LOS[1]	V/C	LOS[1]	V/C	LOS[1]	V/C	LOS[1]
1	El Camino Real / EB I-380 Ramp	0.47	A	0.60	B	0.47	A	0.60	A	0.48	A	0.61	B	0.48	A	0.60	B
2	El Camino Real / San Bruno Ave	0.70	B	0.89	D	0.67	B	0.96	E	0.66	B	0.94	E	0.68	B	0.95	E
3	El Camino Real / San Mateo Ave / Taylor St	0.49	A	0.63	B	0.46	A	0.61	B	0.49	A	0.62	B	0.48	A	0.62	B
4	El Camino Real / Sneath Lane	0.79	C	0.92	E	0.69	B	0.87	D	0.79	C	0.93	E	0.85	D	0.96	E
5	El Camino Real / WB I-380 Ramp	0.83	D	0.94	E	0.80	C	0.93	E	0.83	D	0.94	E	0.85	D	0.96	E
6	Huntington Ave / Angus Ave[2]	--	C	--	C	--	C	--	C	--	C	--	C	--	C	--	C
7	Huntington Ave / San Bruno Ave	0.38	A	0.49	A	0.27	A	0.44	A	0.37	A	0.57	A	0.39	A	0.58	A
8	Huntington Ave / San Mateo Ave[2]	--	F	--	F	--	D	--	F	--	E	--	F	--	E	--	F
9	Huntington Ave / Sneath Lane	0.33	A	0.63	B	0.28	A	0.60	A	0.28	A	0.56	A	0.28	A	0.56	A
10	3rd Ave / San Bruno Ave	0.85	D	0.82	D	0.57	A	0.64	B	0.66	B	0.69	B	0.71	C	0.73	C
11	Cherry Ave / San Bruno Ave	0.53	A	0.67	B	0.58	A	0.82	D	0.53	A	0.67	B	0.53	A	0.67	B
12	Cherry Ave / Sneath Lane	0.57	A	0.58	A	0.53	A	0.54	A	0.59	A	0.60	A	0.60	A	0.60	B
13	El Camino Real / Noor Ave[2]	--	F	--	F	--	F	--	F	--	F	--	F	--	F	--	F
14	El Camino Real / San Felipe Ave	0.51	A	0.56	A	0.50	A	0.56	A	0.51	A	0.56	A	0.51	A	0.56	A
15	NB I-280 Ramps / San Bruno Ave	0.47	A	0.71	C	0.43	A	0.71	C	0.46	A	0.71	C	0.47	A	0.71	C
16	NB I-280 Ramps / Sneath Lane	0.71	C	0.78	C	0.57	A	0.72	C	0.71	C	0.78	C	0.73	C	0.81	D
17	NB Highway 101 Ramps / San Bruno Ave	0.61	B	0.75	C	0.61	B	0.70	B	0.61	B	0.71	C	0.61	B	0.72	C
18	San Mateo Ave / San Bruno Ave	0.40	A	0.47	A	0.31	A	0.46	A	0.36	A	0.52	A	0.37	A	0.53	A
19	Skyline Blvd / San Bruno Ave	1.33	F	1.19	F	1.33	F	1.38	F	1.33	F	1.19	F	1.33	F	1.19	F
20	Skyline Blvd / College Dr	1.36	F	0.76	C	1.10	F	0.75	C	1.36	F	0.73	C	1.37	F	0.76	C
21	Skyline Blvd / Sharp Park Rd / Westborough Blvd	1.28	F	1.03	F	1.20	F	1.00	E	1.28	F	1.03	F	1.28	F	1.03	F
22	Skyline Blvd / Sneath Lane	1.44	F	1.15	F	1.20	F	0.94	E	1.44	F	1.13	F	1.45	F	1.14	F
23	SB I-280 Ramps / San Bruno Ave	0.50	A	0.43	A	0.55	A	0.42	A	0.50	A	0.43	A	0.50	A	0.43	A
24	SB I-280 Ramps / Sneath Lane	0.88	D	1.02	F	0.79	C	0.83	D	0.88	D	1.01	F	0.93	E	1.02	F
25	SB Highway 101 Ramps / San Bruno Ave	0.69	B	1.11	F	0.59	A	1.07	F	0.63	B	1.09	F	0.64	B	1.09	F
26	National Ave / Sneath Lane[3]	0.45	A	0.56	A	0.41	A	0.52	A	--	F	--	F	--	F	--	F
27	Pacific Heights Boulevard / Sharp Park Rd	0.83	D	0.62	B	0.83	D	0.56	A	0.83	D	0.62	B	0.83	D	0.62	B
28	Sequoia Avenue / Sneath Lane[2]	--	F	--	F	--	D	--	E	--	F	--	F	--	F	--	F
29	Cunningham Way / I-280 Ramps[2]	--	F	--	E	--	F	--	E	--	F	--	E	--	F	--	E

[1] LOS is the Level of Service.

[2] Unsignalized intersections; delay is reported, not V/C.

[3] Results updated with 2006 intersection geometry data.

Source: DKS Associates, 2006

Table 5.5-5: Freeway Segment Level of Service Summary

		Proposed General Plan		*2020 No Project Alternative*		*Residential Infill Alternative*		*Jobs-Housing Balance Alternative*	
	Highway Link	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
101	SR 92 / 3rd Avenue	F	F	F	F	F	F	F	F
	3rd Avenue / Peninsula Avenue	F	F	F	F	F	F	F	F
	Peninsula Avenue / Broadway	F	F	F	F	F	F	F	F
	Broadway / Millbrae	F	F	F	F	F	F	F	F
	Millbrae / SFIA	F	F	F	F	F	F	F	F
	SFIA / I-380	F	F	F	F	F	F	F	F
	I-380 / Grand Avenue	F	F	F	F	F	F	F	F
	Oyster Pt / 3Com Park	F	F	F	F	F	F	F	F
I-280	Bunker Hill / Hayne Road	F	F	F	F	F	F	F	F
	Hayne / Trousdale	F	F	F	F	F	F	F	F
	Trousdale / Hillcrest	F	F	F	F	F	F	F	F
	Hillcrest / Larkspur	F	F	F	F	F	F	F	F
	Larkspur / Crystal Springs	E	F	E	F	E	F	E	F
	Crystal Springs / San Bruno Avenue	F	F	F	F	F	F	F	F
	Sneath / Westborough	F	F	F	F	F	F	F	F
	Westborough / Hickey	F	F	F	F	F	F	F	F
	Hickey / Serramonte	F	F	F	F	F	F	F	F
	Serramonte / SR1	F	F	F	F	F	F	F	F
I-380	I-280 / El Camino Real	E	F	E	F	E	F	E	F
	El Camino Real / Highway 101	F	E	F	E	F	E	F	E

Source: DKS Associates, 2003.

Table 5.5-6: Air Quality Indicators Comparison

	Proposed General Plan	*No Project Alternative*	*Residential Infill Alternative*	*Jobs/Housing Alternative*
Additional Housing Units	682	20	1,290	350
Population	2,649	51	2,972	792
Average Daily Vehicle Trips Generated	68,742	4,940	68,598	105,389
Number of Jobs Generated	4,882	1,290	4,690	7,330
Building Square Feet	1,654,400	530,200	1,469,300	2,405,500

Source: Dyett & Bhatia; DKS Associates, 2003.

Table 5.5-7: Transportation Energy and Greenhouse Gas Emissions (metric tons) Comparison

	Total Population	*Additional Annual Vehicle Miles Traveled*	*Annual Fuel Consumption (gallons)*	*CCARRP CO2 Emissions*	*Annual CO2 Equivalent of CH4 Emissions*	*Annual CO2 Equivalent of N2O Emissions*	*Additional Annual CO2 Equivalent Emissions (All Sources)*
Proposed General Plan	**44,864**	**169,864,919**	**6,687,595**	**57,179**	**178**	**2,633**	**59,990**
No Project	43,095	12,278,647	483,411	4,133	13	190	4,336
Residential Infill	46,379	169,509,088	6,673,586	57,059	178	2,627	59,865
Jobs/Housing	43,953	260,421,488	10,252,815	87,662	273	4,037	91,972

Source: Dyett & Bhatia, 2007; DKS Associates, 2007; MTC, January, 2005; CCARRP v.2.2.

Table 5.5-8: Electricity Greenhouse Gas Emissions Comparison (metric tons)

	Electricity Use (kWh)	*Carbon Dioxide Emissions*	*CO2 Equivalent of Nitrous Oxide Emissions*	*CO2 Equivalent of Methane Emissions*	*Total CO2 Equivalent for Electricity*
Proposed General Plan	**282,645,064**	**103,147**	**147**	**18**	**103,312**
No Project	271,500,291	99,080	141	17	99,238
Residential Infill	292,189,627	106,630	152	19	106,800
Jobs/Housing	276,905,727	101,052	144	18	101,214

Source: Dyett & Bhatia, 2007; CEC, 2005; CCARRP v.2.2.

PARKS AND RECREATION

In 2000, parks and recreation facilities in San Bruno included 72 acres of parkland and 4 community/recreation facilities. In addition, 35 acres of school facilities and a 108-acre regional park—San Mateo County's Junipero Serra Park—provide recreational opportunities for San Bruno residents.

Due to the built-out nature of San Bruno and limited availability of vacant land, the City's Comprehensive Parks and Recreational Facilities Master Plan (2003) focuses on improvements to the existing parks system. New recreational facilities are proposed within the context of existing parks acreage, rather than identification of potential new park sites.

This City maintains a parkland dedication/in lieu fees standard of 4.5 acres per 1,000 residents (Section 12.44 of the Municipal Code), which is also the parkland standard established in the General Plan. With 72 acres of existing city parks facilities, approximately 1.8 acres of parkland per 1,000 residents is provided. However, if Junipero Serra Park is included in this figure, there are 4.5 acres of parkland per 1,000 residents. With an increase in population to 44,864 at buildout, about 20 acres of new parkland will be needed to maintain the City's current parkland goal.

Table 5.5-9 presents the City parkland ratio of the Proposed General Plan and the three alternatives. The table indicates that projected population increases would substantially increase the demand on the City's parks and recreational facilities, and lower the City's existing parks standard ratio of 1.8 acres per 1,000 residents. However, it must be noted that the proposed development of various public plazas in Downtown, regional commercial centers, and transit station areas in the Proposed General Plan will create additional spaces for passive recreation, such as resting, reading, lunching, gathering with friends, and people watching. The creation of these new public spaces will serve to offset the impacts of reduced parkland development.

Table 5.5-9: Comparison of Parks and Recreation

	Parks Acreage	*2025 Population*	*2025 Parks Ratio (Acres/1,000 residents)*
Proposed General Plan	**72**	**44,864**	**1.60**
No Project Alternative	76	43,095	1.76
Residential Infill Alternative	72	46,379	1.55
Jobs/Housing Balance Alternative	72	43,953	1.64

Source: Dyett & Bhatia, 2006.

- *Proposed General Plan*. Continued improvement of all park facilities under the Proposed General Plan, as dictated in the Draft Comprehensive Parks and Recreational Facilities Master Plan (2003) would result in a total of 72 acres of community and neighborhood parks. The Proposed General Plan would result in a ratio of 1.60 acres of parkland per 1,000 residents in year 2025, which is less than the city's current parkland ratio. However, proposed public plazas and small open spaces within commercial and transit station areas would provide passive recreational opportunities within walking distance of residents, workers, and visitors.
- *No Project Alternative*. Buildout of the existing 1984 General Plan would result in a total of nearly 76 acres of parks in year 2025. Approximately 3.66 acres of new parkland are programmed in the No Project Alternative. The No Project Alternative is the only alternative that includes additional parkland, above the City's existing 72 acres. It comes closest to maintaining the city's current parks standard. Proposed park facilities and improvements within the 1984 General Plan would ensure access to park facilities for most residents.

- *Residential Infill Alternative*. The Residential Infill Alternative, which focuses on providing increased housing development, proposes preservation of a significant amount of open space within the City's western neighborhoods, but does not include development of new active park facilities. With a higher 2025 population (46,379 residents) than the Proposed General Plan, this alternative results in a lower parkland ratio (1.55 acres per 1,000 residents) than the Proposed General Plan.
- *Jobs/Housing Balance Alternative*. The Jobs/Housing Balance Alternative, which focuses on commercial and industrial employment, also proposes preservation of a significant amount of open space within the City's western neighborhoods, but does not include development of new active park facilities. At buildout, this alternative's 72 acres of active parkland would result in a ratio of 1.64 acres per 1,000 residents, higher than that achieved by the Proposed General Plan.

SCHOOLS AND LIBRARY

Four school districts serve residents within the San Bruno city limits. All of San Bruno public schools, except Monte Verde Elementary, are currently operating under capacity. The increase in population and housing predicted in the Proposed General Plan and its alternatives will result in minimal impact to school facilities and staffing levels, with the exception of the Residential Infill Alternative.

- *Proposed General Plan*. The Proposed General Plan would result in a modest increase in school enrollment by 2025, especially in the middle and high school age bracket, due to an annual projected rate of less than one percent population increase of school-age children.
- *No Project Alternative.* Based on current trends, the No Project Alternative would result in a smaller increase in school enrollment by 2025 than the Proposed General Plan, due to a lower increase in population.
- *Residential Infill Alternative*. The Residential/Infill Alternative proposes the most new residential development, and therefore, the greatest population increase of any alternative. This growth may, therefore, increase enrollment in San Bruno schools and exceed school capacity by year 2025.
- *Jobs/Housing Balance Alternative*. The Jobs/Housing Balance Alternative would result in a slightly smaller increase in school enrollment by 2025 than the Proposed General Plan because it proposes less housing.

It has already been determined that the San Bruno Public Library is inadequate to meet current demand. Any increase in population in the Proposed General Plan and alternatives will likely increase the number of library cardholders and necessitate the construction of a new library facility to meet demand.

EMERGENCY SERVICES

Population increase and intensification in the Proposed General Plan and alternatives may result in an increased need for public safety personnel, facilities, and emergency management. Depending on the level and type of intensification, the fire and police departments will have to respond accordingly, to ensure that fire and safety standards are maintained and that response times and performance standards are meeting national goals. In addition, population and job growth in areas adjacent to wildlands under the Proposed General Plan and alternatives could result in an increase to fire hazards.

- *Proposed General Plan*. Increases in population and employment will result in increased demand for emergency response personnel. Proximity of development to hillside areas poses risk of damage or loss in wildland fires; Skyline College is currently in the process of selling some of its excess land along

College Drive to a developer of single family homes. Traffic congestion could result in longer response times for fire and emergency personnel.

- *No Project Alternative*. The smaller increase in population will place a smaller demand on fire and emergency services compared to the Proposed General Plan. Potential risk of wildfire is comparable to the Proposed General Plan, due to identical urbanized areas. Traffic congestion will be less than in the Proposed General Plan and would therefore result in less impacts on emergency response times.
- *Residential Infill Alternative*. Compared to the Proposed General Plan, the Residential Infill Alternative has a greater amount of proposed residential development and a higher projected population increase. Therefore, this alternative will place a higher demand on fire and emergency resources compared to the Proposed General Plan.
- *Jobs/Housing Balance Alternative*. The Jobs/Housing Balance Alternative proposes more commercial development and employment, but a smaller amount of residential, than the Proposed General Plan. On the whole, the impact on emergency services for this alternative will be more than the proposed project because commercial development requires more fire and police services. Additionally, a higher likelihood of weekday peak traffic than the Proposed General Plan, may affect emergency response times. Fewer housing units in urban interface areas would result in less risk of wildfire than the Proposed General Plan.

WATER, WASTEWATER AND SOLID WASTE

The Proposed General Plan and alternatives will necessitate two types of water and wastewater infrastructure - the extension of lines, pump stations, and other facilities to serve new development; and increased capacity of water supply and wastewater treatment systems. The former is dependent on the geographical distribution and type of development, while the latter depends largely on the amount of development. Solid waste disposal needs are based on the amount of development approved, and recycling and reduction program efforts. Tables 5.5-10, 5.5-11, and 5.5-12, summarize the findings discussed below.

- *Proposed General Plan*. Housing and population growth proposed by the General Plan may impact groundwater aquifer volume if this new development results in the excessive pumping of San Bruno wells. However, the City is currently working with the San Francisco Public Utilities Commission on a conjunctive use program and has agreed to utilize more water from the Hetch Hetchy system, rather than pull from existing city wells. Additionally, new water treatment and distribution facilities may be needed to accommodate between 4.7 and 7.9 percent increase in water demand and would require coordination with the City of San Bruno's Public Works Department to assure adequate water supply and to provide adequate fire flow. However, reuse and intensification proposed by the General Plan, especially along El Camino, may reduce infrastructure costs since water and wastewater mains already exist. In total, new development proposed by the General Plan would increase wastewater treatment and solid waste disposal demand by 10.7 and 13.8 percent, respectively. New wastewater treatment and solid waste collection facilities may be needed to accommodate this increase in demand. However, solid waste generated by development proposed as part of the Proposed General Plan will likely result in the City of San Bruno diverting 50-percent of its waste from landfills as mandated under AB 939 due to recycling programs. Water conservation and solid waste recycling would alleviate some of the demand on water and solid waste services.
- *No Project Alternative*. Of all the alternatives, the No Project Alternative would have the least impact on water, wastewater, and solid waste because of the small amount of new development and

population increase proposed. It would only increase water demand by 0.1 percent, wastewater treatment demand by 1.8 percent, and solid waste generation by 2.8 percent.

- *Residential Infill Alternative*. Residential development is the biggest consumer of water and the biggest producer of wastewater. Because this alternative proposes the largest amount of residential development, it will have the greatest impact on water, wastewater, and solid waste infrastructure and services. If San Bruno will have to extract more water from its wells as a result of this new housing development, aquifer levels may decline—a potentially significant impact. Additionally, it is likely that San Bruno will exceed its unofficial wastewater entitlement, which will require expanded or new facilities.
- *Jobs/Housing Balance Alternative*. The Jobs/Housing Balance Alternative proposes a lower amount of new housing units than the Proposed General Plan. Less residential development will therefore create a smaller demand on water, 3.2 to 5.3 percent. However, because the Jobs/Housing Balance Alternative proposes the greatest number of new jobs, and because commercial uses are large producers of solid waste, the Jobs/Housing Balance Alternative would place the greatest demand on solid waste disposal of any alternative—a 17.1 percent increase.

Table 5.5-10: Project Alternatives Water Demand Projections

LOW

	Total Projected Gallons per Day	*Total 2025*	*Percent Addition*
Proposed General Plan	**131,620**	**4,398,671**	**4.7%**
No Project Alternative	3,825	4,203,825	0.1%
Residential Infill Alternative	249,075	4,516,126	7.5%
Jobs/Housing Balance Alternative	67,575	4,334,626	3.2%

HIGH

	Total Projected Gallons per Day	*Total 2025*	*Percent Addition*
Proposed General Plan	**219,367**	**4,531,119**	**7.9%**
No Project Alternative	6,375	4,206,375	0.2%
Residential Infill Alternative	415,125	4,726,877	12.5%
Jobs/Housing Balance Alternative	112,625	4,424,377	5.3%

Source: Dyett & Bhatia, 2006.

Table 5.5-11: Project Alternatives Wastewater Generation Projections

	Total Projected Gallons per Day	*Total 2025*	*Percent Addition*
Proposed General Plan	**88,225**	**3,099,691**	**10.7%**
No Project Alternative	50,690	2,850,690	1.8%
Residential Infill Alternative	285,067	3,296,533	17.7%
Jobs/Housing Balance Alternative	117,493	3,128,959	11.7%

Source: Dyett & Bhatia, 2006.

Table 5.5-12: Project Alternatives Solid Waste Generation Projections

	Total Projected Pounds per Day	Total Projected Tons per Year	Total 2025	Percent Addition
Proposed General Plan	**23,901**	**4,362**	**44,654**	**13.8%**
No Project Alternative	6,117	1,116	40,350	2.8%
Residential Infill Alternative	32,883	6,001	45,235	15.3%
Jobs/Housing Balance Alternative	36,789	6,714	45,948	17.1%

Source: Dyett & Bhatia, 2003.

BIOLOGICAL RESOURCES

The City of San Bruno contains sensitive plant communities, sensitive habitats (including wetlands and creeks) and known or potentially-occurring special status plant and animal species, including California red-legged frog and San Francisco garter snake.

- *Proposed General Plan*. The Proposed General Plan would localize development in previously developed urban areas. With implementation of the Environmental Resources and Conservation policies, all areas supporting biological resources will be preserved and protected, and impacts on biological resources will be minimal. Crestmoor Canyon would be expanded to include enhanced accessibility, multiuse trails, staging areas, and other recreational amenities, which may impact biological resources.
- *No Project Alternative*. The No Project Alternative proposes generating only 20 new housing units. The 1984 General Plan identified policies to protect specific areas of biological resources. Crestmoor Canyon would be preserved in its natural state allowing only minimal vegetation. All areas supporting biological resources are not preserved and protected under this alternative, however minimal new development that could impact resources is proposed.
- *Residential Infill Alternative.* The Residential Infill Alternative proposes increased housing, including development of existing canyon areas within the Crestmoor neighborhoods with Very Low Density/Estate homes. Like in the proposed project, Crestmoor Canyon would provide increased recreational opportunities through a network of hiking and bicycling, as well as small tot lots. However, existing smaller canyon areas currently supporting biological resources would not be preserved and protected under this alternative. As a result, some biological resources, such as nesting habitat for raptors and listed species habitat, could be adversely affected.
- *Jobs/Housing Alternative*. This alternative would maintain preservation of Crestmoor Canyon and the smaller inaccessible canyon areas within the western hills. All existing areas supporting biological resources would be preserved and protected under this alternative, comparable to the Proposed General Plan.

CULTURAL RESOURCES

Areas of historical, cultural, and paleontological significance are likely present throughout the City of San Bruno due to its location between the San Francisco Bay margins and the coastal mountain range; an area once inhabited by Native Americans. San Bruno has one California Historical Landmark also listed on the California Register of Historical Resources – the site of the former Tanforan Racetrack. The intersection of El Camino Real and San Mateo Avenue is listed as a California Point of Historical Interest as the beginning of the California highway system. San Bruno also contains one small historic district, Cupid's Row, which contains

housing units built between 1909 and 1951. Additionally, several buildings adjacent to downtown have been identified as potentially eligible cultural resources. This section addresses how the Proposed General Plan and its alternatives would impact these cultural resources.

- *Proposed General Plan*. Reuse and intensification activities proposed by the General Plan may result in the demolition of various buildings located along commercial corridors within San Bruno. Additionally, because the locations of archaeological resource sites in the City are unknown, construction-related excavation for buildings, infrastructure, or other projects could result in the disruption or destruction of these resources. However, proposed policies ensure proper handling and protection of these resources.
- *No Project Alternative*. Continued development under the 1984 General Plan may result in the discovery or disturbance of significant historical, cultural, and paleontological resources. Potential risk of disturbance is less than the Proposed General Plan due to less new development.
- *Residential Infill Alternative*. The Residential Infill Alternative proposes a smaller amount of intensification of land uses along El Camino Real compared to the Proposed General Plan. Therefore, this alternative poses a smaller likelihood of the demolition of various buildings of historic significance in this area. The risk of discovering or disturbing cultural resources of value would be slightly higher than the Proposed General Plan due to the greater amount of acreage that may be disturbed.
- *Jobs/Housing Balance Alternative*. The Jobs/Housing Balance Alternative proposes the most intensification of land uses. As a result, compared to the proposed project, the Jobs/Housing Balance Alternative poses a higher likelihood of the demolition of various buildings of historic significance, and a heightened risk of damaging or disturbing cultural resources of value.

GEOLOGY AND SEISMICITY

As described in Section 3.12, geologic and seismic hazards exist throughout San Bruno. Steeper slopes, and corresponding geologic hazards, are more common among the hills in the west side of the City. The San Andreas Fault traverses the western border and the Serra Fault spans the length of the City, presenting severe groundshaking hazards throughout San Bruno. Given the City's geologic setting, and the history of earthquakes in the region and along the San Andreas Fault Zone, it is prudent to assume that some level of seismic ground shaking and associated seismic hazards will occur in San Bruno in the future.

- *Proposed General Plan*. The Proposed General Plan contains both residential and employment development in areas that may be subject to severe groundshaking during an earthquake on the San Andreas or Serra faults. Reuse and intensification may pose increased geologic and seismic risks, relative to existing conditions, by increasing the number of residents and workers in these areas.
- *No Project Alternative*. Similar to the Proposed General Plan, the No Project Alternative contains both residential and employment development within the area of severe groundshaking during an earthquake on the San Andreas or Serra faults. Seismic hazards are less than the Proposed General Plan, due to a slightly lower residential and employment density directly over the fault zones.
- *Residential Infill Alternative.* The Residential Infill Alternative could pose greater seismic risks than in the Proposed General Plan, as the numbers of residents located within geologic and seismic hazard areas would be higher.

- *Jobs/Housing Balance Alternative.* The Jobs/Housing Balance Alternative accommodates development and intensification in areas subject to severe groundshaking during an earthquake on the San Andreas or Serra faults. This alternative could pose greater seismic risks than in the Proposed General Plan, as more workers would be located within geologic and seismic hazard areas, although the number of residents would be less.

HYDROLOGY AND WATER QUALITY

Conversion of undeveloped lands to urban uses will increase the area of impervious surfaces, which can prevent percolation into the soil, reduce groundwater recharge, and increase stormwater runoff. Although the Proposed General Plan and alternatives (except the No Project Alternative) would result in increased development and associated adverse effects, these effects would be minimized by Proposed General Plan policies.

- *Proposed General Plan*. The Proposed General Plan could result in increased stormwater runoff, and potential for downstream flooding. Potential alteration of natural site drainage could also increase downstream flooding. Nonpoint source pollutants within stormwater runoff could degrade surface water quality. However, the Proposed General Plan minimizes these potential results through regulation of new development or redevelopment.
- *No Project Alternative*. Continued development under the 1984 would result in less development, therefore resulting in less potential impacts on hydrology, flooding, and water quality, compared to the Proposed General Plan. However, development under the 1984 General Plan would not be as well regulated vis a vis hydrology and water quality as the Proposed General Plan.
- *Residential Infill.* Under this alternative, development would include a greater density of residential development compared to the Proposed General Plan, potentially resulting in increased use of pesticides or fertilizers associated with residential yard care. The potential increase in stormwater pollutants associated with landscaping would be reduced by compliance with water quality protection policies in the Proposed General Plan.
- *Jobs/Housing Balance*. Under this alternative, development would consist primarily of non-residential development, which could result in the creation of more parking lots and impervious surfaces compared to the Proposed General Plan, increasing stormwater pollutants and stormwater runoff volumes and rates. However, these factors would be reduced by compliance with the Proposed General Plan policies.

HAZARDOUS MATERIALS AND AIRPORT SAFETY

Potential environmental and health and safety risks are associated with hazardous material and waste generation at local industrial and commercial sites, and new or redevelopment on sites that have subsurface contamination from hazardous materials or contain lead-based paint or asbestos in existing structures. Additionally, the proximity of SFO can expose residents or workers in the City to airport-related safety hazards.

- *Proposed General Plan*. The Proposed General Plan could require cleanup of sites that have been impacted with hazardous materials prior to new or redevelopment, and would require compliance with all relevant regulatory agencies during assessment and removal of lead-based paint and asbestos. The Proposed General Plan also requires compliance with FAA and the San Mateo County ALUP to minimize potential airport-related safety hazards.

- *No Project Alternative*. Continued development under the 1984 General Plan would result in less development, therefore resulting in less potential hazardous materials impacts. The 1984 General Plan addresses airport safety issues, and potential impacts are therefore similar to those associated with the Proposed General Plan. However, development under the 1984 General Plan would not be as well regulated vis a vis lead-based paint and asbestos, and protection of the environment, construction workers, the public, and future occupants from subsurface contamination on development sites.
- *Residential Infill.* Under this alternative, development would include a greater density of residential development than under the Proposed General Plan, potentially resulting in increased use of pesticides or fertilizers associated with residential yard care, and increased generation of household hazardous waste. The potential increase in household hazardous materials use would be reduced by compliance with hazardous materials policies in the Proposed General Plan. Airport safety hazards would be similar to those in the Proposed General Plan.
- *Jobs/Housing Balance*. Under this alternative, development would consist primarily of non-residential development, which could result in increased use of hazardous materials associated with businesses such as dry cleaners or retail gasoline stations. However, these factors would be reduced by compliance with the Proposed General Plan policies. Airport safety hazards would be similar to those in the Proposed General Plan.

NOISE

Aircraft departures from SFO are the primary source of transportation noise in San Bruno. Other noise sources in the City include roadways, railways, and industrial activities. Traffic along I-280, I-380, and Highway 101 generate the most roadway noise adjacent to neighborhoods and commercial areas. Caltrain and freight trains operating on the Southern Pacific Transportation Company tracks through San Bruno affect the noise environment in surrounding residential areas. Light industrial and heavy service uses in the northeastern portion of the City also contribute to the overall noise profile.

- *Proposed General Plan*. The Proposed General Plan could result in the construction of noise-sensitive land uses, especially near SFO. Additionally, new development under the Proposed General Plan will result in traffic generation and congestion that will increase noise impacts within the community. New commercial and industrial development will also create new noise sources, through on-site activities and truck deliveries.
- *No Project Alternative*. In the No Project Alternative, lower auto traffic volumes will result in lower noise levels than in the Proposed General Plan. In addition, less construction of noise-sensitive land uses may lead to lower noise impacts from the SFO. Less commercial development will also result in lower noise impacts. Future train/rail traffic will likely generate noise levels comparable to the Proposed General Plan.
- *Residential Infill.* Comparable traffic congestion, but slightly lower vehicle trips citywide, would result in slightly lower noise levels than the Proposed General Plan. More residential development may result in higher impacts from airport traffic noise. Future train/rail traffic will likely be comparable to the Proposed General Plan.
- *Jobs/Housing Balance*. Higher traffic volumes and vehicle trips generated by the Jobs/Housing Balance Alternative would result in higher noise levels than the Proposed General Plan. Significant commercial development may also increase noise impacts on adjacent properties, but lower

residential development may result in lower noise impacts from airport traffic. Future train/rail traffic will likely be comparable to the Proposed General Plan.

UTILITIES

Adequate energy and telecommunication infrastructure and capacity for these utilities is required to provide appropriate levels of service. In addition, energy conservation measures are necessary to ensure adequate energy resources will be available in the future to all residents and businesses in the City.

- *Proposed General Plan*. The population increase in the Proposed General Plan will raise the total energy use in San Bruno over the 20-year planning period. However, the Proposed General Plan promotes increased energy conservation in new residential, commercial and public service buildings. In addition, the Proposed General Plan promotes energy conservation in existing development and city-owned facilities. The proposed project also requires coordination with energy and telecommunications companies to ensure adequate infrastructure and service is available to all new and existing development.
- *No Project Alternative*. Continued development under the 1984 General Plan would result in less development, therefore resulting in less energy consumption than under the Proposed General Plan. However, because the Proposed General Plan seeks to implement more advanced energy conservation measures, the differences between the two alternatives are not significant. Telecommunications services would be available under both the Proposed General Plan and the No Project Alternative.
- *Residential Infill*. Under this alternative, development would consist of residential, commercial, and office uses which would result in a greater demand for energy and telecommunications provision. Telecommunications services would be available under this alternative.
- *Jobs/Housing Balance*. Under this alternative, development would consist primarily of non-residential development, which would result in a greater demand for energy and telecommunications provision than the Proposed General Plan. Telecommunications services would be available under the Jobs/Housing Alternative.

5.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines require identification of an environmentally superior alternative. Based on the analysis in Section 5.4 (above), the No Project Alternative is considered to be the Environmentally Superior Alternative. Under the No Project scenario, very little new development would occur, thus reducing the potential for impacts in most issue areas.

CEQA requires identification of another environmentally superior alternative if the No Project is initially identified as superior. Next to the No Project Alternative, the Proposed General Plan would be environmentally superior. Its moderate housing and population growth, coupled with open space and natural resource preservation, result in a proposed project with minimal impact on the natural landscape. New and redevelopment activities are generally concentrated in already developed areas, which provide high levels of transit service (i.e., BART and Caltrain) to reduce transportation and air quality impacts.

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Report Authors

CITY OF SAN BRUNO

Community Development Department
City of San Bruno
567 Camino Real
San Bruno, CA 94066-4247

Contact: Aaron Aknin, *Planning Manager*

CONSULTING TEAM

Dyett & Bhatia

755 Sansome Street, Suite 400
San Francisco, CA 94111

Rajeev Bhatia, *Principal-in-Charge*
Melissa McMahon, *Associate*
Ofelia A. Rodriguez, *Planner*
Rosalyn Stewart, *Planner*
Christina Milovancev, *Assistant Planner*
Vicki Hill, *Associate Principal*
Mark Chambers, *Graphics Manager*
Diana Nankin, *Senior Graphic Designer*
Sara Garcia, *Assistant Planner*

DKS

1956 Webster Street, Suite 300
San Francisco, CA 94612

Mark Spencer, *Principal*
Deborah Dagang, *Principal*
Elizabeth J. Rush, *Senior Transportation Planner*
Jeanine M. Smalley, *Associate Transportation Engineer*

Environmental Sciences Associates

225 Bush Street, #1700
San Francisco, CA 94104

Deborah Kirtman, *Senior Project Manager*
Marty Abel, *Principal*

Air Quality-
Jyothi Iyer, *Senior Associate, Air Quality & Noise Specialist*

Biological Resources:
Yolanda Molette, *Senior Associate, Plant Ecologist*

Geology & Seismicity
Michelle Kondo, *Senior Associate*

Hazards, Airport Safety-
Jennifer Schulte, Associate

Fire Hazards-
Michelle Kondo, *Senior Associate*

Hydrology-
Jennifer Schulte, *Associate*

Noise-
Jyothi Iyer, *Senior Associate, Air Quality & Noise Specialist*