STATE CLEARINGHOUSE # 2010122029 | MARCH 2012

Station Area:

Catalytic Site #1:
Caltrain Station, Mixed-Use (Office over Commercial), Caltrain Parking, Plaza

Proposed Caltrain Station

Catalytic Site #2:
Mixed-Use (Residential over Commercial)

San Bruno Avenue:
Mixed-Use/ TOD Corridor

San Mateo Avenue:
Down Core

El Camino Real:
Mixed-Use Housing/ Commercial Corridor

city of

San Bruno

draft environmental impact report
san bruno transit corridors plan







PREPARED BY: CITY OF SAN BRUNO

ASSISTED BY: WAGSTAFF/MIG

SAN BRUNO TRANSIT CORRIDORS SPECIFIC PLAN
DRAFT ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE # 2010122029

MARCH 2012

prepared for

CITY OF SAN BRUNO

COMMUNITY DEVELOPMENT DEPARTMENT

by

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URBAN & REGIONAL PLANNERS

with assistance from

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ACCOUSTICAL, NOISE, AND CLIMATE CHANGE CONSULTANTS

RT DESIGN

GRAPHICS

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1. INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) has been prepared by the City of San Bruno in accordance with the California Environmental Quality Act (CEQA)[1] and associated CEQA Guidelines[2] to describe the potential environmental consequences of the City-proposed San Bruno Transit Corridors Plan. This Draft EIR is intended to serve as an informational document for use by public agency decision makers and the public in their consideration of the Plan.

1.1 PROPOSED PROJECT

The City of San Bruno is proposing to adopt the San Bruno Transit Corridors Plan with the intent to set forth a transformative new vision for the City's Transit Corridors Area. The designated Transit Corridors Area includes downtown San Bruno, historically focused on San Mateo Avenue, as well as adjacent principal streets, including El Camino Real, San Bruno Avenue, and Huntington Avenue. The Transit Corridors Plan objective is to facilitate future improvement of the Transit Corridors Area by establishing a clear vision and development framework, associated development standards and design guidelines for public and private realm improvements, and a combination of related transportation and infrastructure improvements and other implementation strategies.

1.2 EIR PURPOSE AND INTENDED USE

Under CEQA, the City of San Bruno (City) is the designated Lead Agency[3] for the proposed Transit Corridors Plan; i.e., the "project." As the Lead Agency, the City intends that this EIR serve as the CEQA-required environmental documentation for consideration of the project by City decision-makers, the public, any other responsible agencies and trustee agencies.[4] This EIR is intended to serve as a public information and disclosure document identifying those environmental impacts associated with the project that are expected to be significant, and

[1]The California Environmental Quality Act (CEQA) is codified in section 21000, et seq., of the California Public Resources Code.

[2]The CEQA Guidelines are set forth in sections 15000 through 15387 of the California Code of Regulations, Title 14, Chapter 3.

[3]CEQA Guidelines section 15367 defines the "Lead Agency" as the public agency that has the principal responsibility for carrying out or approving a project. The City of San Bruno is the Lead Agency for the proposed Transit Corridor Plan, ultimately responsible for adopting the Plan and all associated approvals identified in section 3.8 of this Draft EIR.

[4]Under the CEQA Guidelines, the term "Responsible Agency" includes all public agencies, other than the Lead Agency, that have discretionary approval power over aspects of the project for which the Lead Agency has prepared an EIR. Under the CEQA Guidelines, the term "trustee agency" means a state agency having jurisdiction by law over natural resources affected by the project that are held in trust by the people of California, such as the Department of Fish and Game.

describing mitigation measures and alternatives that could minimize or avoid significant impacts.[1] In accordance with CEQA Guidelines Section 15146 (Degree of Specificity), such impacts and mitigations are discussed in this Draft EIR to the level of detail necessary to allow reasoned decisions about the project. As a result of the information in this EIR, the City may act to approve or deny these various project actions, and/or to establish any associated requirements considered necessary to mitigate identified project impacts on the environment.

1.3 PROGRAM EIR APPROACH AND ASSUMPTIONS

1.3.1 Program EIR

This EIR has been prepared as a ***program EIR***. A program EIR is a type of EIR authorized by section 15168 (Program EIR) of the CEQA Guidelines for use in documenting the environmental implications of community general plans, redevelopment plans, specific plans, precise plans, and other planning "programs." As explained in the CEQA Guidelines, a program EIR is useful in evaluating the potential environmental impacts of a project that involves a series of interrelated actions that can reasonably be characterized as a single project. The CEQA-established program EIR concept and authority are described in more detail in Appendix 19.1 of this Draft EIR (Program EIR Authority). The approach taken in preparing this EIR under the program EIR authority has been to describe the anticipated area-wide and community-wide impacts of the Plan. The EIR describes the cumulative, aggregate effects of the Plan-proposed development framework, standards and guidelines, transportation and infrastructure provisions, implementation actions, and associated future development scenario, on areawide and community-wide environmental conditions. Such impacts are described at a level of detail consistent with the level of detail provided in the Plan.

Pursuant to CEQA, this program EIR evaluates the project-related impacts and mitigation measures that can be identified at this time. The more detailed impacts of future individual, site-specific, development and infrastructure projects that may be facilitated by the Plan, but which are not proposed at this time and therefore are not yet described in sufficient detail, are not considered in this program EIR; rather, the CEQA-required environmental review of such subsequent individual actions will be undertaken at a later time, if and when such proposals come before the City in the form of a site-specific development application or improvement project. At that time, when the details of the individual action are sufficiently defined, the action will be subject to its own, project-specific, environmental determination by the City in full compliance with CEQA requirements.

1.3.2 Impact Assessment Assumptions

The purpose of this program EIR is to evaluate the likely environmental consequences, both adverse and beneficial, expected from development in the Transit Corridors Area under the proposed Transit Corridors Plan, and to identify mitigation measures and alternatives that could minimize or eliminate potentially significant adverse environmental impacts and increase beneficial effects.[2] The Plan area buildout assumptions used as the basis for the impact analyses in this program EIR are derived from the “catalyst site” and broader “plan area”

[1] CEQA Guidelines section 15149(b).

[2] CEQA Guidelines section 15149(b).

buildout assumptions described in chapter 4, Development Framework, of the Draft Transit Corridors Plan.

The impact analyses in this EIR are based on the conservative assumption that the Plan will be fully successful in meeting its objectives and, as a result, the Plan area will reach full buildout under the proposed Plan development framework and standards over the next approximately 20 years. Each impact analysis chapter in this EIR (aesthetics; cultural and historic resources; land use and planning; population and housing; public services; transportation and circulation; etc.) includes a description of related existing conditions and regulatory setting, followed by identification of related Plan buildout conditions and associated impacts and mitigation needs.

1.3.3 Impact Assessment Baseline

CEQA Guidelines sections 15125(a) and (e) stipulate that the existing environmental setting (the environmental conditions in the project vicinity at the time the environmental analysis is begun) should constitute the baseline physical conditions by which it is determined whether an impact is significant. Pursuant to this guideline, all impact assessments in this EIR are based on comparison of the projected future "with project" conditions (i.e., buildout under the proposed Transit Corridors Plan) with the existing environmental setting rather than with the future "without project" condition (i.e., buildout under the existing San Bruno General Plan). For a generalized comparison of anticipated future "with project" conditions with future "without project" conditions (i.e., with what would be expected to occur in the foreseeable future if the Transit Corridors Plan were not approved), see the discussion of Alternative 2 (No Project: Buildout Under Existing Land Use Policy) in chapter 16 of this EIR (Alternatives to the Proposed Action).

This EIR has been prepared pursuant to the California Court of Appeal, Sixth District, ruling in *Sunnyvale West Neighborhood Assn. v. City of Sunnyvale City Council* (December 16, 2010) ("Sunnyvale decision"). The Sunnyvale decision concludes that an EIR impact analysis must include an evaluation of the effects of the project alone (i.e., the project growth scenario and project-identified infrastructure improvements) on the existing setting on the ground now, with no other approved/planned background development, approved/planned roadway development, or assumed growth factors in place (Existing Plus Project scenario). The Court decision stipulates that the baseline in this scenario must be limited to what is on the ground at the time the City-issued Notice of Preparation of a Draft EIR (NOP) is circulated or to anticipated conditions on the expected date of project approval, which has been interpreted to mean the day the Final EIR is certified and project approved, not some other future time.

1.4 EIR SCOPE

As provided for in the CEQA Guidelines, the scope of this EIR includes all environmental issues to be resolved that are currently known to the Lead Agency (the City), including those issues and concerns identified as possibly significant by the City in its Initial Study of the proposed action and by other interested agencies and individuals in response to the City-issued NOP. The City circulated the NOP on December 10, 2010, in accordance with CEQA Guidelines Section 15082 (Notice of Preparation and Determination of Scope of EIR), for the purpose of soliciting views of responsible agencies, agencies with jurisdiction by law, trustee agencies, and interested parties requesting notice, as to the appropriate scope and content of the EIR. The

CEQA-required 30-day NOP comment period ended on January 10, 2011. The NOP and companion Initial Study Checklist are presented in Appendix 19.2 herein.

Based on this initial scoping process, the impacts of the project on the following topics (listed in the order in which they are addressed in this EIR) are described in Chapters 4 through 14:

- Aesthetics,
- Air Quality,
- Climate Change,
- Hazards and Hazardous Materials,
- Hydrology and Water Quality,
- Land Use and Planning,
- Noise,
- Population and Housing,
- Public Services and Utilities, and
- Transportation.

1.5 EIR ORGANIZATION AND CONTENT

Each of the environmental evaluations presented in Chapters 4 through 14 include the following subsections:

- *Environmental Setting,* which describes pertinent existing conditions with regard to the environmental topic;
- *Regulatory Setting,* which describes pertinent federal, State and local laws, regulations and policies applicable to the environmental topic; and
- *Impacts and Mitigation Measures,* which identifies: (1) the pertinent criteria under which an impact will be judged to be significant in this EIR, (2) the project impacts, (3) whether each identified impact is “significant” or “less than significant,” (4) mitigation measures for each identified “significant” impact, and (5) whether each impact would be “significant” or “less than significant” after implementation of the mitigation measures.

In addition, this Draft EIR includes a chapter summarizing the Draft EIR information in terms of various **CEQA-required assessment conclusions** (Chapter 15), including "unavoidable significant impacts," "irreversible environmental changes," "cumulative impacts," and "effects found not to be significant"; a chapter describing and comparing various possible **alternatives** to the proposed project (Chapter 16); and a chapter outlining the City's proposed **mitigation monitoring** program for each identified mitigation measure (Chapter 17).

1.6 "SIGNIFICANT IMPACTS" AND OTHER KEY EIR TERMINOLOGY

This Draft EIR identifies the “significant impacts” of the project and corresponding mitigation measures that would avoid or reduce those impacts to less-than-significant levels. Where it is determined in this EIR that a particular impact cannot be avoided or reduced to a less-than-significant level by the identified mitigation measures, the EIR identifies that impact as an "unavoidable significant impact." Identified unavoidable significant impacts are also listed together in Section 15.4 of this EIR, "Unavoidable Significant Impacts." These particular terms ("significant," "unavoidable," "mitigation") and other key CEQA terminology used in this EIR are defined in Table 1.1 which follows.

Table 1.1

DEFINITIONS OF KEY EIR TERMINOLOGY

Significant/Potentially Significant Impact	"Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance. (CEQA Guidelines, section 15382.) *"An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."* (CEQA Guidelines, section 15382.)
Significant Cumulative Impact	"Cumulative impacts" are defined as *"two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."* (CEQA Guidelines, section 15355.)
Unavoidable Significant Impact	"Unavoidable significant impacts" are defined as those significant adverse environmental impacts for which either no mitigation or only partial mitigation is feasible. If the project is to be approved without imposing an alternative design, the Lead Agency must include in the record of the project approval a written statement of the specific reasons to support its action--i.e., a "statement of overriding considerations." (CEQA Guidelines, sections 15126.2(b) and 15093(b).)
Significance Criteria	The criteria used in this EIR to determine whether an impact is or is not *"significant"* are based on (a) CEQA-stipulated "mandatory findings of significance"--i.e., where any of the specific conditions occur under which the Legislature and the Secretary of Resources have determined to constitute a potentially significant effect on the environment, which are listed in CEQA Guidelines section 15065; (b) specific criteria that a Resources Agency has determined are "normally" considered to constitute a "significant effect on the environment;" (c) the relationship of the project effect to the adopted policies, ordinances and standards of the City and of responsible agencies; and/or (d) commonly accepted practice and the professional judgment of the EIR authors and Lead Agency staff.
Mitigation Measures	For each significant impact, the EIR must identify a specific "mitigation" measure or set of measures capable of *"(a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (d) reducing or eliminating the impact over time by preservation or maintenance operations during the life of the action; or (e) compensating for the impact by replacing or providing substitute resources or environments."* (CEQA Guidelines, section 15370.)

SOURCE: Wagstaff/MIG 2011.

2. SUMMARY

This EIR chapter provides a summary description of the San Bruno Transit Corridors Plan, a list of associated environmental issues to be resolved, a summary identification of significant impacts and mitigation measures associated with the Transit Corridors Plan, and a summary identification of possible alternatives to the Plan (pursuant to CEQA Guidelines Section 15123, Summary).

This summary should not be relied upon for a thorough understanding of the details of the project, its individual impacts, and related mitigation needs. Please refer to Chapter 3 for a complete description of the project, Chapters 4 through 14 for a complete description of environmental impacts and associated mitigation measures, Chapter 15 for CEQA-required assessment conclusions, and Chapter 16 for a description and evaluation of alternatives to the project.

2.1 PROPOSED TRANSIT CORRIDORS PLAN

The City of San Bruno is proposing to adopt the San Bruno Transit Corridors Plan which would set forth a transformative new vision for the Transit Corridors Area, including downtown San Bruno, historically focused on San Mateo Avenue, as well as adjacent streets, including El Camino Real, San Bruno Avenue, and Huntington Avenue. The Transit Corridors Plan would establish a development framework, development standards and design guidelines for public and private realm improvements, transportation and infrastructure improvements, and implementation strategies to achieve that vision.

The basic objectives of the proposed Transit Corridors Plan include:

- to stimulate the economic revitalization of the Downtown and transit station areas;
- to reinvigorate the community's identity;
- to capture the potential for transit-oriented development;
- to strengthen the area's walkability and bikeability; and
- to create a cohesive implementation approach to enhance the character and development of the Transit Corridors Area.

The proposed Transit Corridors Plan is organized around five distinct planning subareas or "Character Areas": San Mateo Avenue, El Camino Real, San Bruno Avenue, Huntington Avenue and the future San Bruno Avenue Caltrain Station area. The Plan would establish mandatory land use and building height, setback, and stepback standards within specific zoning designations corresponding to each of the five Character Areas.

The Plan would also establish non-mandatory private realm design guidelines, including Overarching Design Guidelines (site layout and building design, parking and circulation design, and sustainability design) which would apply throughout the Plan Area, as well as Character Area Design Guidelines specific to each of the five Character Areas. Similarly, the Plan contains a set of non-mandatory public realm design guidelines to guide future public improvements within the Plan Area, including Overarching Guidelines that would direct streetscape design throughout the Plan Area, Character Area Guidelines that would provide specific design guidance for the five Character Areas, and Open Space Guidelines that would outline design parameters for creating "active, vital" open spaces throughout the Plan Area.

The Transit Corridors Plan also includes a number of vehicle, transit, bicycle, pedestrian, parking and transportation demand management (TDM) recommendations. These transportation recommendations have been formulated to emphasize "state of the art" principles of "complete streets," which consider the complementary relationship between land uses and travel needs and are intended to promote increased access and mobility for transit users, bicycles and pedestrians while balancing the needs of vehicles.

The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area. The Plan envisions realization of these growth increments over the next approximately 20 years, or by 2030. The maximum amount of new development allowed under the Transit Corridors Plan would represent an increase over the maximum amount of development allowed under the current General Plan of approximately 890 housing units, 19,100 square feet of retail, 666,600 square feet of office, and 190 hotel rooms.

Implementation of the Transit Corridors Plan will require the following City approvals:

- adoption of the Transit Corridors Plan itself;
- adoption of the General Plan amendments necessary to achieve consistency between the General Plan and the Transit Corridors Plan, including provisions for land use, housing, open space, and infrastructure within the Transit Corridors Area;
- approval of the zoning amendments necessary to reflect and implement the land use policies, development standards, and development design guidelines specified by the Transit Corridors Plan; and
- voter approval of the Plan by a majority of the City's electorate in order to permit Plan provisions for development of buildings greater than three (3) stories or fifty (50) feet and possible multi-story parking structures, as required by City Ordinance 1284.[1]

The Transit Corridors Plan also highlights three Catalytic Opportunity Sites, identified in partnership with the private sector, that have the potential to significantly influence and transform the Transit Corridors Area and should be considered a top priority due to their prime

[1]City Ordinance 1284, adopted in 1977 and retroactive to 1974, codifies an initiative approved by San Bruno voters in 1974 mandating "voter approval for high-rise" or "high-intensity" developments and "projects encroaching upon scenic corridors and open spaces" in San Bruno. See section 4.2.2(b) of this Draft EIR for a more detailed description of Ordinance 1284 requirements applicable to the Transit Corridors Plan.

location at key gateways and their ability to provide needed uses or services currently lacking within the Transit Corridors Area:

- Catalytic Opportunity Site #1: Caltrain Station,
- Catalytic Opportunity Site #2: Southwest Corner of San Bruno and Huntington Avenues, and
- Catalytic Opportunity Site #3: San Mateo Avenue and El Camino Real Gateway.

2.2 ENVIRONMENTAL ISSUES

As required by the CEQA Guidelines, this EIR addresses the following areas of potential environmental impact or controversy known to the Lead Agency (the City), including those issues and concerns identified by the City in its Notice of Preparation (NOP) of this EIR (dated December 10, 2010) and by other agencies, organizations, and individuals in response to the NOP. These environmental concerns relate to the following topics (listed in the order that they are addressed in this EIR):

- Aesthetics,
- Air Quality,
- Climate Change,
- Hazards and Hazardous Materials,
- Hydrology and Water Quality,
- Land Use and Planning,
- Noise,
- Population and Housing,
- Public Services and Utilities, and
- Transportation.

2.3 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

For each of the 10 environmental topics listed above, any ***"significant"*** project or cumulative impact and associated mitigation measure or measures identified in this EIR are summarized in Table 2.1, the SUMMARY OF POTENTIALLY SIGNIFICANT IMPACTS AND RECOMMENDED MITIGATION MEASURES, which follows. The summary chart has been organized to correspond with the more detailed impact and mitigation discussions in chapters 4 through 14 of this EIR. The chart is arranged in five columns: (1) identified impacts, (2) potential significance without mitigation, (3) recommended mitigation measures, (4) the entity responsible for

implementing each mitigation measure, and (5) the level of impact significance after implementation of the mitigation measure(s).

Table 2.1
SUMMARY OF POTENTIALLY SIGNIFICANT IMPACTS AND RECOMMENDED MITIGATION MEASURES

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
AESTHETICS				
Impact 4-1: Plan Building Height Impacts on Visually Sensitive Residential Edges. The visual impact of the Plan-proposed increases in Transit Corridors Area maximum permitted building heights, which at various locations would exceed the current citywide 3-story building height maximum by from 1 to 4 additional stories, would be minimized by Plan-proposed building setback and stepback requirements. The proposed building setback and stepback requirements have been specifically formulated to reduce shade and shadow impacts and perceptions of building height and mass incompatibilities on the Plan area edges adjacent to lower intensity residential and other uses. Permitted new multi-story buildings along Plan corridor frontages and Plan area edges would for the most part be separated from the nearest adjacent residential uses by existing roadway rights-of-way, and would be subject to greater minimum setbacks at ground level as well as additional building "stepback" requirements above the fifth floor (above 50 feet). However, in the following site-specific instances, the potential impact of Plan-proposed maximum	S	**Mitigation 4-1:** Establish an additional "transition area" along these particular Transit Corridors Area residential edges where building heights within the first 20 feet of adjacent rear yard depth and first 10 feet of adjacent side yard depth would include a minimum stepback of 10 feet above the third floor. The addition of this provision to the Transit Corridors Plan would reduce this potential impact to a ***less-than-significant level***.	City	LS

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
building heights on adjacent low-density residential properties may not be adequately mitigated by these Plan setback and stepback provisions: ▪ within the TOD-SO (TOD-Station Office) designation encompassing the planned new Caltrain station and adjacent areas to the north, where new buildings of up to 90 feet (7 stories) in height would be permissible adjacent to the rear yards of approximately eight existing 1-to-4-unit residential properties fronting on 2nd Avenue (the proposed minimum rear yard setback here of 10 feet and minimum stepback of 15 feet above 4 stories would reduce this potential impact, but not assuredly to a less-than-significant level); ▪ at edges of the TOD-MXD1 (Medium-High Density Mixed-Use) designation along the San Bruno and Huntington Avenue corridors, where new buildings up to 65 feet (5 stories) in height would be permissible directly adjacent to the side yards of roughly a dozen existing 1-to-5-unit residential properties along San Bruno Avenue East (the proposed minimum stepback of 15 feet above 4 stories would reduce this potential impact, but not assuredly to a less-than-significant level); ▪ at edges of the TOD-MXD2 (High-Density Mixed-Use) designation along the El Camino Real corridor, where the visual impact of new				

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
buildings up to 70 feet (5 stories) in height would be permissible directly adjacent to the rear yards of roughly eight or nine 1-to-5-unit residential properties fronting on Hensley Avenue north of Euclid Avenue, and roughly seven or eight 1-to-4-unit residential properties fronting on Hensley Avenue north of Sylvan Avenue (the Plan-proposed minimum ground level rear yard setback of 10 feet and minimum stepback of 15 feet above 4 stories would reduce this potential impact, but not assuredly to a less-than-significant level); and ▪ within the proposed CBD (Central Business District) designation along San Mateo Avenue, where new buildings of up to 55 feet (4 stories) in height would be permissible adjacent to the rear yards of approximately four existing single-family properties, including one on Mills Avenue south of San Bruno Avenue, one on Masson Avenue south of Kains Avenue, and up to two on Angus Avenue south of San Mateo Avenue (the proposed minimum rear yard setbacks here of 10 feet and minimum stepback of 10 feet above the third floor would reduce this potential impact, but not assuredly to a less-than-significant level). The potential Plan building height impacts on visually sensitive residential edges would represent a ***significant adverse impact.***				

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SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
Impact 4-2: Plan Building Height Shade and Shadow Impacts. Subject to voter approval pursuant to City Ordinance 1284, the Transit Corridors Plan would allow taller buildings throughout the Transit Corridors Area, increasing maximum allowable buildings heights within specific zones to 55 feet (4 stories), 65 feet (5 stories), 70 feet (6 stories), or 90 feet (7 stories). The increased building height limits could result in increased shadows on shadow-sensitive neighboring residential properties and public spaces at some locations within and immediately adjacent to the Transit Corridors Area. Areas identified as particularly sensitive to shadow impacts include: ▪ Posy Park (San Mateo Avenue at Huntington Avenue), ▪ the Plan-proposed Jenevein Avenue landscaped area (San Mateo Avenue at Jenevein Avenue), ▪ the Plan-proposed plaza at the future Caltrain station (Catalytic Site #1, internal and at corner), ▪ the Plan-proposed gateway plaza at the San Mateo Avenue/El Camino Real intersection (Catalytic Site #3, internal and at corner), and ▪ existing adjacent residential areas.	S	**Mitigation 4-2:** Implement Mitigation 4-1. In addition, revise the Plan to incorporate a similar "transition area" along the edges of Posy Park where new building heights within the first 20 feet of adjacent rear yard depth and first 10 feet of adjacent side yard depth would include a minimum stepback of 10 feet above the third floor. The addition of this provision to the Transit Corridors Plan would reduce the shadow impacts of the Plan on these identified shadow-sensitive residential edges and internal public open space areas to a ***less-than-significant level***.	City	LS

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
Plan shade and shadow impacts on these areas are described below: Similar to the Plan's relationship to scenic vistas, the site layout, massing/scale, height, setback, and stepback provisions of the Plan would help minimize shade and shadow effects by allowing sunlight into public open space and plazas and into adjacent residential areas, while also creating comfortable areas of shade where this amenity is currently lacking. Posy Park is located at the northern tip of the proposed CBD zone, where the Plan-proposed maximum building height would be 55 feet (4 stories)--i.e., five feet above the existing applicable Ordinance 1284 height limit of 50 feet (3 stories). Construction of a permitted 4 story structure on the adjacent parcel to the south, could cast a shadow on the southern edge of the park during the longest shadow period in December, but the majority of the park would remain unaffected. The Plan-proposed corner plaza at the future Caltrain station site within the proposed TOD-Station Office zone (at the southern tip of Catalyst Site #1; see Figure 3.4 herein) would be open to the San Bruno Avenue and San Mateo Avenue right-of-way. As a result, the site would not be subject to shadow impacts during the longest shadow periods of the year (December).				

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SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
Similarly, the Plan-proposed corner plaza at San Mateo Avenue and El Camino Real would not be subject to shadow impacts during the longest December shadow period due to its open orientation towards El Camino Real and San Mateo Avenue. However, Plan-proposed building height maximums would result in potentially significant shadow impacts at all of the residential edges identified under Impact 4-1 (Plan Building Height Impacts on Visually Sensitive Residential Edges), as well as at the Plan-proposed internal plazas in Catalytic Sites #1 and #3. Plan-permitted building heights could case shadows during the morning and afternoon hours of September through march over portions of these shadow-sensitive residential edges and internal public plazas. Such shadowing effects could substantially degrade the existing visual character or quality at these locations, representing a ***potentially significant environmental impact***				
AIR QUALITY				
Impact 5-1: Plan-Related Short-Term Construction Emissions. Demolition or construction activities facilitated by the Transit Corridors Plan may generate temporary emissions of ROG, NO_X and PM_{10} that exceed	S	**Mitigation 5-1.** All discretionary approvals for private or public realm grading, demolition, or construction activity in the Transit Corridors Area shall be conditioned to implement the following or similar best management practices:	City, individual project applicants	LS

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SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
BAAQMD thresholds of significance. In addition, related construction dust could cause localized health and nuisance impacts on adjacent residential sensitive receptors. These possible effects represent a ***potentially significant impact.***		(a) The following dust control measures by construction contractors, where applicable: During *demolition* of existing structures: ▪ Water active demolition areas to control dust generation during demolition of structures and break-up of pavement. ▪ Cover all trucks hauling demolition debris from the site. ▪ Use dust-proof chutes to load debris into trucks whenever feasible. During all *construction phases*: ▪ Water all active construction areas at least twice daily. ▪ Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind. ▪ Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard. ▪ Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. ▪ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.		

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SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		▪ Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. ▪ Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more). ▪ Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.). ▪ Limit traffic speeds on unpaved roads to 15 miles per hour. ▪ Install sandbags or other erosion control measures to prevent silt runoff to public roadways. ▪ Replant vegetation in disturbed areas as quickly as possible. ▪ Consult with the BAAQMD prior to demolition of structures suspected to contain asbestos to ensure that demolition/ construction work is conducted in accordance with BAAQMD rules and regulations. (b) The following best management controls on emissions by diesel-powered construction equipment used by construction contractors, where applicable: ▪ When total construction projects at any one time would involve greater than 270,000 square feet of development or demolition, a		

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NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		mitigation program to ensure that only equipment that would have reduced NOX and particulate matter exhaust emissions shall be implemented. This program shall meet BAAQMD performance standards for NOx standards--e.g., should demonstrate that diesel-powered construction equipment would achieve fleet-average 20 percent NOX reductions and 45 percent particulate matter reductions compared to the year 2010 ARB statewide fleet average. ▪ Ensure that visible emissions from all on-site diesel-powered construction equipment do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired or replaced immediately. ▪ The contractor shall install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g., compressors). ▪ Diesel equipment standing idle for more than three minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on-site and away from residences. ▪ Signs shall be posted to alert workers that diesel equipment standing idle for more than		

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Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		five minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on-site and away from residences. ▪ Properly tune and maintain equipment for low emissions. The above measures are BAAQMD-identified "feasible control measures" for construction emissions. Implementation of these measures would reduce the short-term construction-related air quality impact of the Transit Corridors Plan to a ***less-than-significant level***.		
Impact 5-2: Plan-Related Community Risk and Hazard Impacts. Future development in accordance with the Transit Corridors Plan could expose sensitive receptors to levels of toxic air contaminants (TACs) or $PM_{2.5}$ that cause an unacceptable cancer risk or hazard, which represents a ***potentially significant impact***	S	**Mitigation 5-2.** For Transit Corridor Area locations within the following specified distances from the identified sources of TACs and $PM_{2.5}$, implement the mitigation measure listed below: • Interstate 380 – 200 feet, • El Camino Real – 25 feet, • San Bruno Avenue – 10 feet, and • Caltrain – 200 feet. (Site-specific modeling for future development projects proposed within these distances may provide a data basis upon which this buffer distance may be reconsidered and reduced.) Future individual discretionary development	City, individual project applicants	LS

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NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		projects within the Transit Corridors Area that would place air quality sensitive receptors within these specified distances from identified sources, shall either: (a) For projects within the specified distances from identified sources, conduct a site-specific health risk assessment using air quality dispersion modeling methodologies and screening thresholds recommended by the BAAQMD to demonstrate that, despite a location within the screening setback distances, modeled site-specific exposures would be less-than-significant. *or* (b) Mitigate anticipated community risks and hazards through implementation of the following mitigations: ▪ Where residential uses or other sensitive receptors are proposed to be located within the setback distances specified above, or identified through site-specific health risk assessment using air quality dispersion modeling to indicate potentially significant exposure, then air filtration units shall be installed and maintained. The ventilation systems shall be installed to achieve BAAQMD effectiveness performance standards in removing PM2.5 from indoor air. The system effectiveness requirement shall be determined during final design, when the exact level of		

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NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		exposure is known, based on proximity to these sources; ▪ Locate ventilation air intakes and operable windows away from these sources; ▪ Where appropriate, install passive (drop-in) electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph); ▪ Consider tiered plantings of trees, such as redwood, deodar cedar, live oak and oleander, between sensitive uses and these sources; ▪ Consider plan implementation phasing that delays occupancy of units with highest exposure so that source emissions regulations and vehicle fleet turnover that would result in lower emissions may take more effect and lower exposure levels (since emission rates will decrease in the future, projects developed later in the Transit Corridors Plan buildout timeframe would have less exposure); ▪ Avoid locating truck loading zones near sensitive units; ▪ Require rerouting of nearby heavy-duty truck routes; ▪ Enforce illegal parking and/or idling restrictions on heavy-duty trucks in the vicinity; ▪ Install indoor air quality monitoring units in buildings. With implementation of this mitigation, the		

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SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		potential TAC and $PM_{2.5}$ exposure impacts of the Transit Corridors Plan would be reduced to a ***less-than-significant level.*** Potential future preparation and implementation by the City of a Community Risk Reduction Plan (CRRP) to bring TAC and $PM_{2.5}$ concentrations for the entire community down below BAAQMD thresholds of significance as an alternative to addressing community health risk on a project-by-project basis would also reduce this impact to a ***less-than-significant level***.		
Impact 5-3: Odor Impacts of Plan-Facilitated Mixed Use Development. Development facilitated by the Transit Corridors Plan could result in the introduction of food service uses (e.g., restaurants) or other odor-generating uses in close proximity or in the same building as residential or other odor-sensitive uses. This possibility represents a ***potentially significant impact.***	S	**Mitigation 5-3.** All discretionary local use approvals for food service (e.g., restaurants) or other odor generating uses in close proximity or in the same building as residential or other odor sensitive uses in the Transit Corridors Area shall be conditioned to implement a combination of the following measures which, to City satisfaction, will sufficiently reduce odors and potential conflicts and complaints: ▪ for restaurant or cooking uses, use of such devices as integral grease filtration or grease removal systems, baffle filters, electrostatic precipitators, water cooling/ cleaning units, disposable pleated or bag filters, activated carbon filters, oxidizing pellet beds, and catalytic conversion, as well as proper packaging and frequency of food waste disposal, and exhaust stack and vent location	City, individual project applicants	LS

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LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		with adequate consideration of nearby receptors; and ▪ for new residential dwellings within 300 feet of existing paint spraying operations (e.g., auto body shops), cleaning operations (e.g., dry cleaners), or other uses with the potential to cause odors, identification and adequate disclosure of potential odor impacts in notices to prospective buyers or tenants. With implementation of this mitigation, the potential odor impacts of the Transit Corridors Plan would be reduced to a ***less-than-significant level.***		
CULTURAL AND HISTORIC RESOURCES				
Impact 7-1: Plan-Related and Cumulative Disturbance of Archaeological Resources. Development activities facilitated by the Transit Corridors Plan could disrupt, alter or eliminate as-yet undiscovered archaeological sites, potentially including Native American remains. Also, the loss of archaeological resources under the plan would be a cumulatively considerable contribution to a loss of archaeological resources throughout San Bruno and the surrounding region. This possibility represents a ***potentially significant impact.***	S	**Mitigation 7-1:** If prehistoric or historic-period archaeological resources are encountered during future grading or excavation in the Transit Corridors Area, work shall avoid altering the materials and their context until a qualified professional has evaluated, recorded and determined appropriate treatment of the resource, in consultation with the City. Project personnel shall not collect cultural resources. Cultural resources shall be recorded on DPR 523 historic resource recordation forms. If it is determined that the proposed development could damage a unique archaeological resource, mitigation shall be implemented in accordance with Public Resources Code Section 21083.2	City, individual project applicants	LS

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LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. This measure would reduce the potential plan-related impact on archaeological resources to a ***less-than-significant level.***		
Impact 7-2: Plan-Related and Cumulative Impacts on Historic Resources. Future development on or adjacent to properties within the Transit Corridors Area that contain a historic resource may cause the demolition, destruction or alteration of the historic resource such that the significance of the resource is "materially impaired." Also, the loss of historic resources under the plan would be a cumulative considerable contribution to a loss of historic resources throughout San Bruno and the surrounding region. This possibility represents a ***potentially significant impact.***	S	**Mitigation 7-2.** For any future discretionary private or public project within the Transit Corridors Area that involves a property that contains a historic resource, the City shall make a preliminary determination as to whether or not the project may have a potentially significant adverse effect on the historic resource. If the City determines that the project may have a potentially significant effect, the City shall require the applicant to implement the following mitigation measures where applicable: (a) To the extent feasible, the applicant shall, to City satisfaction, ensure that the project adheres to one or both of the following standards: ▪ Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings; or ▪ Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), Weeks and Grimmer.	City, individual project applicants	LS/SU

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		The project shall be reviewed by a qualified architect or architectural historian approved by the City and meeting the Secretary of the Interior's Professional Qualifications Standards published in the Code of Federal Regulations (36 CFR part 61), who shall make a recommendation to the City as to whether the project fully adheres to the Standards for Rehabilitation, and any specific modifications necessary to do so. The final determination as to a project's adherence to the Standards for Rehabilitation shall be made by the City body with final decision-making authority over the project. Such a determination of individual project adherence to the Secretary Standards will constitute mitigation of the project historic resource impacts to a ***less-than-significant level*** (CEQA Guidelines section 15064.5). (b) If measure (a) is not feasible, and if relocation of the historic resource is a feasible alternative to demolition, the historic resource shall be moved to a new location compatible with the original character and use of the historic resource, and its historic features and compatibility in orientation, setting, and general environment shall be retained, such that the resource retains its eligibility for listing on the California Register. Implementation of measure (b) would reduce the impact to a ***less-than-significant level***. If neither measure (a) nor measure (b) is		

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SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		feasible, the City shall, as applicable and to the extent feasible, implement the following measures in the following order: (c) Document the historic resource before any changes that would cause a loss of integrity and loss of continued eligibility. The documentation shall adhere to the Secretary of the Interior's Standards for Architectural and Engineering Documentation. The level of documentation shall be proportionate with the level of significance of the resource. The documentation shall be made available for inclusion in the Historic American Building Survey (HABS) or the Historic American Engineering Record (HAER) Collections in the Library of Congress, the California Historical Resources Information System and the Bancroft Library, as well as local libraries and historical societies, such as the San Bruno Public Library. (d) Retain and reuse the historic resource to the maximum feasible extent and continue to apply the Secretary of the Interior's Standards for Rehabilitation to the maximum feasible extent in all alterations, additions and new construction. (e) Through careful methods of planned deconstruction to avoid damage and loss, salvage character-defining features and materials for educational and interpretive use on-site, or for reuse in new construction on the site in a way that commemorates their original use and significance.		

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LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		(f) Interpret the historical significance of the resource through a permanent exhibit or program in a publicly accessible location on the site or elsewhere within the Transit Corridors Area. Implementation of measures (c), (d), (e) and/or (f) would reduce the potentially significant impact on historic resources, but not to a less-than-significant level. Without knowing the characteristics of the potentially affected historic resource or the subject future individual development proposal, the City cannot determine with certainty that measure (a) or (b) above would be considered feasible. Consequently, this impact would be ***significant and unavoidable.***		
Impact 7-3: Plan-Related and Cumulative Disturbance of Paleontological Resources. Development facilitated by the Transit Corridors Plan could potentially disrupt, alter or eliminate as-yet undiscovered paleontological resources. Also, the loss of paleontological resources under the plan would be a cumulatively considerable contribution to a loss of paleontological resources throughout San Bruno and the surrounding region. This possibility represents a ***potentially significant impact.***	S	**Mitigation 7-3:** If paleontological resources are encountered during future grading or excavation in the Transit Corridors Area, work shall avoid altering the resource and its stratigraphic context until a qualified paleontologist has evaluated, recorded and determined appropriate treatment of the resource, in consultation with the City. Project personnel shall not collect cultural resources. Appropriate treatment may include collection and processing of "standard" samples by a qualified paleontologist to recover micro vertebrate fossils; preparation of significant fossils to a reasonable point of identification; and depositing significant fossils in a museum repository for permanent curation and storage,	City, individual project applicants	LS

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NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		together with an itemized inventory of the specimens. This measure would reduce the potential plan-related impact on paleontological resources to a ***less-than-significant level.***		
HAZARDS AND HAZARDOUS MATERIALS				
Impact 8-1: Impact 8-1: Plan-Related Exposure to Existing Hazardous Materials. Jurisdictional records indicate that there are 11 active and 15 closed hazardous materials sites within the Transit Corridors Area (see Table 8.1 herein). The majority of hazardous materials sites within the Transit Corridors Area are leaking underground storage tank (LUST) cleanup sites associated with gasoline stations and automobile service uses, as well as other uses that use on-site underground storage tanks. There is a related possibility that future development in accordance with the Transit Corridors Plan could expose construction workers and occupants to hazardous materials contamination. This possibility represents a ***potentially significant impact.***	S	**Mitigation 8-1.** California Department of Toxic Substances Control (DTSC) remedial investigations and actions have occurred or are ongoing on the remaining 11 active sites and 15 closed sites (in some cases, a hazardous materials site closure notice may contain land use restrictions limiting future use of the site as a result of residual contamination that may exist). Development involving disturbance or re-use of one of these 26 sites cannot proceed until required remediation actions have been completed to DTSC satisfaction. The DTSC may impose land use restrictions, which prevent the use of the property for residential, school, hospital, or day care purposes, on some sites, if warranted. In connection with each discretionary development approval application that the City initially determines could expose construction workers or occupants to hazardous materials contamination related to one of these sites, the City shall require a Phase I environmental site assessment (Phase I ESA) prior to property development, with a Phase II ESA also required	City, individual project applicants	LS

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LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
		if the Phase I ESA indicates evidence of potential site contamination. The City shall also require compliance with the site assessment, remediation, removal, and disposal requirements for soil, surface water, and/or groundwater contamination enforced by the DTSC, Regional Water Quality Control Board (RWQCB), San Mateo County Department of Environmental Health, California Division of Occupational Safety and Health (CalOSHA), U.S. Environmental Protection Agency (EPA), and other jurisdictional agencies. Demonstrated compliance by such future, individual, site-specific development applications in the Transit Corridors Area with these established local, State and federal environmental site assessment procedures would provide adequate assurance that associated potential risks to human health or the environment due to existing hazardous materials contamination would be ***less-than-significant***.		
HYDROLOGY AND WATER QUALITY				
Impact 9-1: Plan-Related Flooding Impacts Related to Sea Level Rise. The Transit Corridors Area could be subject to flooding due to sea level rise associated with global climate change. With this potential for increased flooding potential in the future, development in accordance with the Transit Corridors Plan could place people, structures and other	S	**Mitigation 9-1.** In order for sea level rise to impact the Transit Corridors Area, it would have to first inundate most of San Francisco International Airport. Regional mitigation strategies directed at the airport may also protect San Bruno. There is currently no local or regional mitigation developed to address inundation due to projected sea level rise.	City, individual project applicants	LS

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LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Potential Significance With Mitigation
improvements in these areas at an increased risk of injury or loss from flooding. This possibility represents a ***potentially significant impact.***		Potential regional mitigation strategies could include strengthening or raising levees, creating new levees, participating in regional mitigation to address rising sea levels within the Bay as a whole, and creation of new tidal wetlands. In the interim, until such regional mitigations are in place, the City shall implement the following measure: Future development projects within the Transit Corridors Area in identified areas subject to flooding as a result of predicted sea level rise should be required to comply with specific flood damage avoidance requirements commonly required for development within 100-year flood hazard areas under the National Flood Insurance Program, even if such projects do not lie within an Area of Special Flood Hazard as identified by FEMA. These requirements may include, but are not limited to, raising the elevation of habitable space above anticipated flood heights, creating 'freely communicating' structures that allow flood waters to pass through lower levels of buildings, and ensuring that site design does not result in a reduction of floodplain areas which could result in increasing flooding conditions downstream. Implementation of this interim measure would be expected to reduce this impact to a ***less-than-significant level.***		

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SU = Significant unavoidable impact
NA = Not applicable

NOISE AND VIBRATION				
Impact 11-1: Plan-Related Exposure of Noise-Sensitive Land Uses to Noise Levels Exceeding Standards. The occupants of Transit Corridors Plan-designated new residential development, hotel development, and other noise-sensitive development within the Transit Corridors Area could be exposed to noise levels in excess of City General Plan land use/noise compatibility guidelines and State Title 24 standards, which would represent a ***potentially significant impact.***	S	**Mitigation 11-1.** All proposed new multifamily residential, transient lodging or other noise-sensitive uses within the Transit Corridors Area shall submit for City approval a noise study, consistent with the requirements of the California Building Code, to identify noise reduction measures necessary to achieve compatibility with City General Plan-identified land use/noise compatibility standards and State Title 24 noise compatibility standards. The noise study shall be approved by the City's Building Division prior to issuance of a building permit. Identified noise reduction measures, in order of preference so that windows can be opened, may include: ▪ Site and building design so as to minimize noise in shared residential outdoor activity areas by locating such areas behind the buildings, in courtyards, or orienting the terraces toward the interior of lots rather than streets; ▪ Site and building design so as to minimize noise in the most intensively occupied and noise-sensitive interior spaces of units, such as bedrooms, by placing such interior spaces and their windows and other openings in locations with less noise exposure; ▪ Design of windows, doors, and other sound transmission paths such as ventilation openings, walls, and roofs to achieve a high Sound Transmission Class (STC) rating and/or other noise-attenuating	City, individual project applicants	LS

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SU = Significant unavoidable impact
NA = Not applicable

		characteristics. ▪ Installation of forced air mechanical ventilation systems in all units exposed to noise levels exceeding Title 24 standards to allow residents the option of reducing noise by keeping the windows closed. Implementation of this measure to the satisfaction of the City's Building Division would reduce this impact to a ***less-than-significant level***.		
Impact 11-2: Plan-Related Exposure of Vibration-Sensitive Land Uses to Permanent Ground-Borne Vibration. Development under the Transit Corridors Plan would not be expected to introduce any permanent new sources of significant groundborne vibration. However, the Transit Corridors Plan would permit development of new multifamily residential and transient lodging uses within 100 feet of the Caltrain tracks. Groundborne vibration levels are typically less than the Federal Transit Administration (FTA) criteria for frequent events (72 vibration decibels [VdB]) at a distance of approximately 100 feet or more from the centerline of the nearest Caltrain tracks. Therefore, where new residential or other vibration sensitive uses are proposed within 100 feet or less of the Caltrain tracks, a ***potentially significant intermittent vibration impact*** could occur.	S	**Mitigation 11-2:** Prior to any discretionary City approval of new habitable buildings within 100 feet of the centerline of the Caltrain tracks, completion of a detailed site-specific vibration study shall be required demonstrating to City satisfaction that groundborne vibrations associated with rail operations either (1) would not exceed applicable FTA groundborne vibration impact assessment criteria (see Table 11.6 of this EIR), or (2) can be reduced to below the applicable FTA criteria thresholds through building design and construction measures (e.g., stiffened floors, modified foundations). Implementation of this measure would reduce this potential intermittent vibration impact to a ***less-than-significant level.***	City, individual project applicants	LS

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impact 11-3: Plan-Related Exposure of Vibration-Sensitive Land Uses to Temporary Construction Ground-borne Vibration. Plan-facilitated demolition and construction activities in the Transit Corridors Area could generate substantial temporary ground-borne vibration (e.g., from pile driving) exceeding standard vibration thresholds, which could interfere with normal activities or cause a nuisance for or damage to adjacent properties. Exposure of persons to such temporary excessive ground-borne vibration would represent a ***potentially significant impact.***	S	**Mitigation 11-3.** Reduce ground-borne vibration levels during individual, site-specific project demolition and construction periods by requiring applicant incorporation of conditions in individual discretionary project demolition and construction contractor agreements within the Transit Corridors Area that stipulate the following ground-borne vibration abatement measures: ▪ Restrict vibration-generating activity to between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday. Prohibit such activity on weekends and holidays. ▪ Notify occupants of land uses located within 200 feet of proposed pile-driving activities of the project construction schedule in writing. ▪ Investigate in consultation with City staff possible pre-drilling of pile holes as a means of minimizing the number of percussions required to seat the pile. ▪ Conduct a pre-construction site survey documenting the condition of any historic structure located within 200 feet of proposed pile driving activities. ▪ Monitor pile driving vibration levels to ensure that vibration does not exceed appropriate thresholds for the potentially affected building (5mm/sec or 0.2 inches/sec ppv for structurally sound buildings). Implementation of this measure would reduce impacts related to exposure to temporary construction-related ground-borne vibration to a ***less-than-significant level.***	City, individual project applicants	LS

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impact 11-4: Plan-Related Temporary Construction Noise Generation Impacts. Plan-facilitated demolition and construction activities within the Transit Corridors Area could temporarily increase noise levels at nearby noise-sensitive residential and commercial receptors. Noise levels at 100 feet from pile driving could reach approximately 95 to 100 dBA, and other demolition and construction activities could generate levels exceeding 85 dBA at 100 feet, resulting in intermittent interference with typical residential and business activities, and exceeding the City's noise ordinance limits. This possibility represents a ***potentially significant impact.***	S	**Mitigation 11-4.** Reduce demolition and construction noise impacts on adjacent uses by requiring applicant incorporation of conditions in individual discretionary project demolition and construction contract agreements within the Transit Corridors Area that stipulate the following conventional construction-period noise abatement measures: ▪ *Construction Plan.* Prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with nearby noise-sensitive facilities so that construction activities and the event schedule can be scheduled to minimize noise disturbance. The plan shall stipulate the measures that result in compliance with the noise ordinance. ▪ Construction *Scheduling.* Ensure that noise-generating construction activity is limited to between the hours of 7:00 AM to 8:00 PM. ▪ *Construction Equipment Mufflers and Maintenance.* Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. ▪ *Equipment Locations.* Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a	City, individual project applicants	LS

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NA = Not applicable

		construction project site. ▪ *Construction Traffic.* Route all construction traffic to and from the construction sites via designated truck routes where possible. Prohibit construction-related heavy truck traffic in residential areas where feasible. ▪ *Quiet Equipment Selection.* Use quiet construction equipment, particularly air compressors, wherever possible. ▪ *Temporary Barriers.* Construct solid plywood fences around construction sites adjacent to residences, operational businesses, or noise-sensitive land uses. ▪ *Temporary Noise Blankets.* Temporary noise control blanket barriers should be erected, if *necessary*, along building facades of construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. (Noise control blanket barriers can be rented and quickly erected.) ▪ *Noise Disturbance Coordinator.* For larger construction projects, the City may choose to require project designation of a "Noise Disturbance Coordinator" who would be responsible for responding to any local complaints about construction noise. The Disturbance Coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and institute reasonable measures to correct the problem. Conspicuously post a telephone number for the Disturbance Coordinator at the construction site and include it in the		

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NA = Not applicable

		notice sent to neighbors regarding the construction schedule. (The project sponsor should be responsible for designating a Noise Disturbance Coordinator, posting the phone number, and providing construction schedule notices. The Noise Disturbance Coordinator would work directly with an assigned City staff member.) These measures would reduce temporary construction noise impacts to a ***less-than-significant level.***		
Impact 11-5: Plan-Related Airport Noise Impacts. Aircraft operations at San Francisco International Airport (SFO) expose portions of the Transit Corridors Area to noise levels exceeding 65 dBA CNEL. Near San Bruno Avenue, the noise contours for SFO show the annual average noise level to range from 70 to 74 dB CNEL east of the rail corridor, and from 60 to 70 dB CNEL west of the rail corridor. Transit Corridors Plan designations for new residential and other noise-sensitive uses inside the 65 dBA CNEL noise contour and new commercial uses (including hotels) inside the 70 dBA CNEL noise contour would not be consistent with the San Mateo County ALUP land use/noise compatibility standards, and therefore represent a ***potentially significant impact.***	S	**Mitigation 11-5.** New residential construction should not be undertaken in Transit Corridors locations where the projected noise level due to aircraft operations at SFO exceeds 70 dBA CNEL. Proposed future individual residential or other noise-sensitive development at locations where the projected noise exposure due to SFO aircraft operations ranges from 65 to 70 dBA CNEL shall be undertaken only after analysis and needed noise insulation features are included in the design to the satisfaction of the City's Building Division. Similarly, proposed future individual noise-sensitive commercial uses, including hotels, at locations where the projected noise level exceeds 70 dBA CNEL shall only be undertaken after analysis and needed noise insulation features are included in the design to the satisfaction of the City's Building Division. Implementation of this measure would reduce this impact to a ***less-than-significant level***.	City, individual project applicants	LS

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Impact 11-6: Plan-Related Cumulative Noise Impacts. Sensitive receptors along the following street segments within the Transit Corridors Area may be exposed to permanent substantial increases in traffic noise of 3-5 dBA CNEL or greater resulting from projected cumulative traffic volume increases: ▪ Taylor Avenue and San Bruno Avenue immediately east of El Camino Real; ▪ San Bruno Avenue and Huntington Avenue near the San Bruno Avenue/Huntington Avenue intersection; ▪ San Bruno Avenue west of San Mateo Avenue; and ▪ San Mateo Avenue near San Bruno Avenue and Huntington Avenue. The Plan-related growth increment would contribute to these cumulative noise impacts, and would therefore represent a ***significant cumulative impact.***	S	**Mitigation 11-6:** The City shall use quieter (rubberized or open grade asphalt) pavements when repaving is required on the following street segments within the Transit Corridors Area: ▪ Taylor Avenue and San Bruno Avenue immediately east of El Camino Real; ▪ San Bruno Avenue and Huntington Avenue near the San Bruno Avenue/Huntington Avenue intersection; ▪ San Bruno Avenue west of San Mateo Avenue; and ▪ San Mateo Avenue near San Bruno Avenue and Huntington Avenue. The use of quieter (rubberized or open grade asphalt) pavements when repaving is required on major Plan area roadways would be expected to reduce traffic noise by 2-5 dBA CNEL, reducing this impact to less than significant. However, since implementation of these repaving measures is not assured, this potential effect represents a ***significant unavoidable cumulative impact.***	City	SU
TRANSPORTATION				
Impact 14-1: El Camino Real/San Bruno Avenue Intersection Impact. Under 2030 General Plan With Project conditions, with the Transit Corridors Plan proposed changes to this intersection, intersection operations would deteriorate from acceptable LOS D (existing) to unacceptable LOS F during the PM peak hour,	S	**Mitigation 14-1.** Maintain the current intersection lane geometries and provide a short dedicated westbound right-turn lane. This measure would improve delay, but the intersection would continue to operate at an unacceptable LOS F, and the average critical delay would still increase over existing conditions	City; fair-share reimbursement from future individual project applicants	SU

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NA = Not applicable

which would represent a ***potentially significant impact.***		by approximately 39 seconds. In addition, because El Camino Real is a Caltrans facility, this improvement would exceed the City's authority to implement. With implementation of this measure, the impact of the Transit Corridors Plan on the El Camino Real/San Bruno Avenue intersection would remain an ***unavoidable significant impact.***		
SSU				
Impact 14-2: Southbound US 101 Ramps/ San Bruno Avenue Intersection Impact. Under 2030 General Plan With Project conditions, intersection operations would deteriorate from acceptable LOS B (existing) to unacceptable LOS D during the PM peak hour, which would represent a ***potentially significant impact*** under Caltrans criteria.	S	**Mitigation 14-2.** This impact could be mitigated to a less-than-significant level by converting the westbound shared left-turn lane to a dedicated through lane. This measure would result in LOS C operations during both the AM and PM peak hours. However, because US 101 is a Caltrans facility, this improvement would exceed the City's authority to implement. Thus, the impact of the Transit Corridors Plan on the Southbound US 101 Ramps/San Bruno Avenue intersection represents an ***unavoidable significant impact.***	City; fair-share reimbursement from future individual project applicants	SU
Impact 14-3: El Camino Real/Westbound I-380 Ramps Intersection Impact. Under 2030 General Plan With Project conditions, intersection operations would deteriorate from LOS D (existing) to LOS D intersection operations during the PM peak hour with an increase in delay of 12.1 seconds, which would represent a ***potentially significant impact*** under Caltrans criteria.	S	**Mitigation 14-3.** This impact could be mitigated to a less-than-significant level by providing three westbound right-turn lanes from the I-380 ramp onto northbound El Camino Real. However, this improvement would require the acquisition of additional right-of-way from adjacent developed properties and may therefore be considered infeasible. Additionally, because I-380 is a Caltrans facility, this improvement would exceed the City's authority to implement. Thus, the impact of the Transit Corridors Plan on the El Camino Real/Westbound I-380 Ramps intersection represents an ***unavoidable significant impact.***	City; fair-share reimbursement from future individual project applicants	SU

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Impact 14-4: Eastbound I-380 Freeway Segment Impact Between I-280 and US 101. Under 2030 General Plan With Project conditions during the AM peak hour, the existing unacceptable LOS rating of F along this eastbound freeway segment west of El Camino Real would deteriorate to a worse F (an increase in volume-to-capacity ratio from 1.01 to 1.18), and the existing LOS rating of E east of El Camino Real would deteriorate to F (an increase in volume-to-capacity ratio from 0.95 to 1.11). The increase in volume-to-capacity ratio along this freeway segment from existing conditions by more than one percent and the increase in traffic volume would represent more than one percent of the segment's capacity. These effects would represent a ***potentially significant impact*** under CMP and Caltrans criteria.	S	**Mitigation 14-4.** Two mitigation options have been identified for this impact: (a) Increase capacity by widening the freeway. The measure could reduce this Project impact to a less-than-significant level, but widening would require acquisition of additional freeway right-of-way from adjacent properties and may therefore be considered infeasible. Additionally, because I-380 is a Caltrans facility, this improvement would exceed the City's authority to implement. (b) Reduce the amount of traffic added to the freeway. By facilitating mixed use and higher intensity infill development in an existing urban area at corridor locations with good local and regional transit access, including convenient San Mateo County Transit District (SamTrans) bus service, Bay Area Rapid Transit District service (San Bruno BART station), and Caltrain commuter rail service (new San Bruno Caltrain station), the Transit Corridors Plan would minimize project-related peak hour vehicle trips. The Transit Corridors Plan also recommends implementation of an area-wide transportation demand management (TDM) program to further reduce peak period trip generation. These measures would be expected to substantially reduce automobile trip generation and the severity of freeway segment impacts, but not to a less-than-significant level. Therefore, the impact of the Transit Corridors Plan on eastbound I-380 between I-280 and US 101 would remain an ***unavoidable significant impact.***	City; fair-share reimbursement from future individual project applicants	SU

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

2.4 SUMMARY OF ALTERNATIVES

To provide a basis for further understanding of the environmental effects of a proposed project and possible approaches to reducing its identified significant impacts, the CEQA Guidelines require an EIR to also "…describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Pursuant to these CEQA sections, Chapter 16 identifies and evaluates the following five alternatives to the project:

- **Alternative 1: No Project--Existing Conditions.** Pursuant to CEQA Guidelines section 15126.6(e)(1), Alternative 1 compares the effects of the project (the Transit Corridors Plan buildout scenario) to existing "no project" conditions. Alternative 1 would maintain existing conditions as described in the "Setting" sections of each environmental topic chapter in this EIR. There would be no new development within the Transit Corridors Area under Alternative 1.

- **Alternative 2: No Project--Buildout Under Existing Land Use Policy (General Plan and Zoning).** Alternative 2 would reflect the amount of new development allowed in the Transit Corridors Area under the City's existing land use policies (General Plan and zoning)--i.e., 720 additional housing units, 128,600 additional square feet of retail, and 321,500 additional square feet of office. Other aspects of Alternative 2 would be similar to the project.

- **Alternative 3: Transit Corridors Plan with Reduced Building Heights (Ordinance 1284 Height Limits).** Alternative 3 would change the Transit Corridors Plan to maintain the City Ordinance 1284 height limit of three (3) stories or fifty (50) feet. This building height limit would substantially reduce the overall Plan capacity for new development by roughly 20 percent, including roughly 40 percent in the proposed TOD-SO (Station Area) zone, roughly 20 percent in the TOD-MXD1 (San Bruno Avenue/Huntington) zone, roughly 20 percent in the TOD-MXD2 (El Camino Real) zone, roughly 20 percent in the P/QP (Civic Center) zone, and roughly 10 percent in the CBD (Downtown) zone. The estimated total development capacity under Alternative 3 would be approximately 1,280 new residential units, 117,000 square feet of new retail space, 783,000 square feet of new office space, and 150 new hotel rooms. Other aspects of Alternative 3 would be similar to the proposed project.

- **Alternative 4: Transit Corridors Plan Incorporating a Pedestrian-Oriented Intersection Operational Standard (LOS of F).** The San Bruno General Plan specifies that the minimum acceptable peak hour level of service (LOS) for signalized and unsignalized intersections within the Transit Corridors Area is LOS D, except for the El Camino Real/San Bruno Avenue intersection, which is LOS E. The Transit Corridors Plan incorporates these General Plan LOS policies. Alternative 4 would revise the Transit Corridors Plan to incorporate a less stringent LOS policy for the Transit Corridors Area in order to reduce the conventional tendency to simply widen intersection approaches to add new through and turning lanes, and make signal phasing changes, to improve vehicular traffic flow, thereby worsening conditions for pedestrians and bicycles, and detracting from a desired more comfortable and pedestrian-friendly Downtown environment. Alternative 4 would change the City's policy for maximum acceptable LOS in the Transit Corridors Area from LOS D to LOS F for intersections of El Camino Real, San Bruno Avenue, San Mateo Avenue, and Huntington Avenue. The amount of new development and all other aspects of Alternative 4 would be similar to the proposed project.

- **Alternative 5: Alternative Plan Location.** The CEQA Guidelines state that an EIR shall describe and evaluate a reasonable range of alternatives to the project, "or the location of the project," which would feasibly attain most of the project objectives, but would avoid or substantially lessen one or more of the EIR identified significant effects of the project. In particular, the CEQA Guidelines indicate that EIR identification of significant unavoidable impacts warrants consideration of alterative project locations that may avoid or substantially lessen these effects. Pursuant to this requirement, the Alternatives chapter includes under Alternative 5 a discussion of the possibility of alternative sites for the proposed Transit Corridors Plan, and an explanation of the City's determination that there are no specific sites of adequate size and general "sustainable" character (e.g., including an established Downtown environment adjacent to existing and planned local and regional transit facilities) available in San Bruno where such a project could be undertaken.

2.4.6 Environmentally Superior Alternative

The CEQA Guidelines (section 15126[e][2]) stipulate, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Other than the No Project Alternative, *Alternative 4: Transit Corridors Plan Incorporating a Pedestrian-Oriented Intersection Operational Standard (Max Acceptable LOS of F),* would result in the least adverse environmental impacts, and would therefore be the "environmentally superior alternative." This conclusion is based on the comparative impact conclusions in Table 16.1 and, in particular, on the elimination of the unavoidable significant impact conclusions of the Transit Corridors Plan related to future traffic operations at various intersections.

3. PROJECT DESCRIPTION

This EIR chapter describes the proposed San Bruno Transit Corridors Plan or "project" addressed in this program EIR. As stipulated by the CEQA Guidelines, this project description has been detailed to the extent needed for evaluation and review of environmental impacts. In accordance with section 15124 of the CEQA Guidelines, this chapter describes (a) the location and boundaries of the Transit Corridors Area; (b) background information relevant to the Plan; (c) the basic objectives of the Plan; (d) the vision, development framework, development regulations and guidelines, and transportation and infrastructure improvements proposed in the Plan; and (e) the approvals required to implement the Plan.

3.1 PROJECT LOCATION

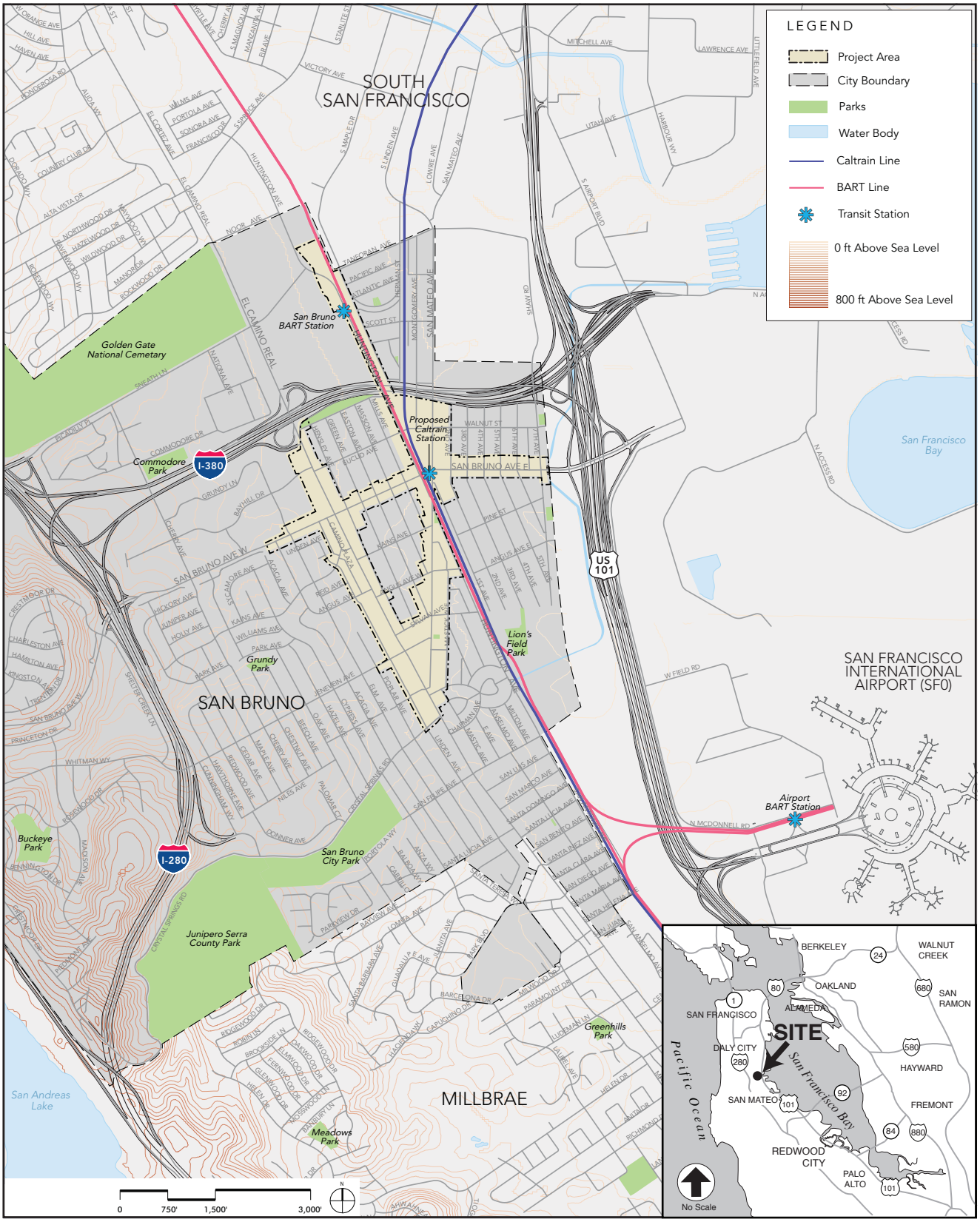
3.1.1 Regional and Local Setting

The project regional location and local setting are shown on Figures 3.1 and 3.2, respectively. The Transit Corridors Area is located in central San Bruno, situated on the San Francisco Peninsula, between San Francisco (12 miles to the north) and San Jose (39 miles to the south). As shown on Figures 3.1 and 3.2, regional vehicular access to San Bruno and the Transit Corridors Area is provided by U.S. Highway 101 (US 101) approximately ½-mile to the east and Interstate 280 approximately one mile to the west. Interstate 380 (I-380) traverses east-west through San Bruno, crossing the northern portion of the Transit Corridors Area, and provides a connection between US 101 and I-280. San Francisco International Airport is located directly to the east of San Bruno and the Transit Corridors Area, on the other side of US 101. Additionally, San Bruno and the Transit Corridors Area have strong regional transit linkages across the Bay Area with both Caltrain and Bay Area Rapid Transit (BART) stations, and San Mateo County Transit (SamTrans) bus routes. Major local streets extending through the Transit Corridors Area include El Camino Real (State Route 82), San Bruno Avenue, San Mateo Avenue and Huntington Avenue.

3.1.2 Plan Area Boundaries and Uses

(a) Plan Area Boundaries. Figure 3.2 shows the location and boundaries of the Transit Corridors Area. As shown on Figure 3.2, the Transit Corridors Area comprises five distinct subareas around which the Transit Corridors Plan is organized: San Mateo Avenue, El Camino Real, San Bruno Avenue, Huntington Avenue and the future San Bruno Avenue Caltrain Station area.

(b) Plan Area and Surrounding Land Uses. San Mateo Avenue from San Bruno Ave to El Camino Real is San Bruno's historic downtown street, a pedestrian-oriented corridor enclosed by a compact and uniform row of eclectic shops and restaurants. El Camino Real includes auto-oriented and regional retail uses, as well as the city's civic center. San Bruno Avenue includes a mix of automobile-oriented retail, offices, automobile service uses, religious facilities,



SOURCE: Wagstaff/MIG

Figure 3.1

REGIONAL LOCATION



SOURCE: Wagstaff/MIG

Figure 3.2

LOCAL SETTING

and single and multiple family homes. Huntington Avenue is lined by housing, and also includes the Shops at Tanforan regional shopping center (a regional retail destination), the San Bruno Bay Area Rapid Transit (BART) station, industrial uses, and, on the east side south of Interstate 380, the Caltrain railroad tracks. The future San Bruno Caltrain Station Area contains a mix of vacant land, industrial uses, automobile service uses and single family homes.

3.2 PROJECT BACKGROUND

The designated Transit Corridors Area has an established background as the community's commercial services and transit center. With an existing BART station in place and construction of a new San Bruno Avenue Caltrain station underway, the City is recognizing that the Transit Corridors Area is now also becoming a well-connected intermodal regional transit hub within the Bay Area. In response, the City has formulated the Transit Corridors Plan, an updated revitalization strategy for the area designed to recognize and take proper advantage of its transit-oriented development (TOD) opportunities.

3.2.1 Planning Context

The Draft Transit Corridors Plan is intended to build upon the planning framework established by the 2009 San Bruno General Plan update by providing a greater level of definition to the area's future land use and development character. The Transit Corridors Plan is also intended to incorporate and expand upon other previous City-prepared plans for the area, such as the 1987 Downtown Design Guidelines and the 2000 Downtown Improvement Plan. Additionally, the Transit Corridors Area is located entirely within the City's former San Bruno Redevelopment Project Area, originally adopted in 1999 to stimulate private investment and revitalize areas of the community that exhibit physical and economic blight.

Furthermore, the Transit Corridors Plan is intended to locally implement the Grand Boulevard Initiative, an interjurisdictional collaboration of 19 cities, two counties, and other local and regional agencies with the goal of improving the performance, safety and aesthetics of El Camino Real. The Grand Boulevard Initiative seeks to create an attractive, livable, walkable and transit-friendly multi-use subregional boulevard that can support higher-density, mixed-use development.

The Transit Corridors Area is also a designated Priority Development Area (PDA) under the FOCUS program sponsored by the Association of Bay Area Governments and other regional agencies. The Transit Corridors Area's status as a PDA will qualify San Bruno for grants designed to foster complete neighborhoods with a range of housing choices and increased opportunities for walking, bicycling, and transit use.

3.2.2 Specific Plan

The Transit Corridors Plan has been prepared as a Specific Plan. A Specific Plan is one of the many policy and regulatory tools used by local governments in California to implement their General Plan. The authority for preparation and adoption of Specific Plans is set forth in the California Government Code, sections 65450 through 65457. Specific Plans can implement a city or county's General Plan through the development of more detailed policies, programs and regulations for a localized area. Although the goals and policies of a Specific Plan must be

consistent with the General Plan, a Specific Plan may illustrate a vision, supported by standards and guidelines, that represents a departure from existing zoning.

The proposed Transit Corridors Plan is intended to guide all new development in the Transit Corridors Area in both the public and private realms. New private and public discretionary development projects will be required to follow the policies, programs and guidelines set forth in the Plan. Existing development will not be directly affected unless owners or occupants choose to apply for a City discretionary approval to expand or change their current structures, grounds or uses. However, through its proposed design guidelines, the Transit Corridors Plan would delineate performance standards for the maintenance of existing properties in order to promote physical improvement.

3.2.3 Planning Process and Community Involvement

The Transit Corridor Plan formulation team undertook a community outreach strategy with multiple avenues to obtain input. The strategy included stakeholder meetings, community workshops, and steering committee meetings comprised of residents, property owners, business owners, City Council representatives, Planning Commission representatives, developers, community organizations, and youth representatives. From these meetings and workshops, a comprehensive community vision was identified for the Transit Corridors Area.

Following identification of the community vision, the Plan formulation team developed alternative improvement plan scenarios which were then refined through further community and committee participation into a preferred alternative. A project website was also developed at the outset of the planning process and has been regularly updated to provide another avenue for community involvement.

3.2.4 Caltrain Grade Separation Project

Caltrain at-grade rail line crossings represent the most constraining roadway system elements in the Transit Corridors Area, where extensive delays and queues occur during peak traffic periods. In particular, the San Bruno Avenue at grade crossing of the Caltrain rail line between the closely spaced San Bruno Avenue/Huntington Avenue and San Bruno Avenue/San Mateo Avenue intersections has been the most congested crossing point within the Plan area. The Caltrain San Bruno Grade Separation Project currently under construction will elevate the Caltrain line through the Plan area, significantly improving roadway operations. The grade separation project will help facilitate improved connectivity for all travel modes east and west of the tracks. Roadway grade separations are being completed at San Bruno Avenue, San Mateo Avenue and Angus Avenue. In addition, pedestrian undercrossings are being completed at Scott Street, Euclid Avenue/Walnut Street and Sylvan Avenue.

The grade separation project also includes the relocation of the San Bruno Caltrain station from its current location on Sylvan Avenue to the northeast corner of the San Bruno Avenue/ Huntington Avenue intersection. The new station will be elevated on a structure spanning San Bruno Avenue. Other local roadway realignments and closures will also be completed as part of the grade separation project.

3.3 PROJECT OBJECTIVES

CEQA Guidelines section 15124(b) requires the EIR to describe the basic objectives and underlying purpose of the project. The City-stated objectives of the Transit Corridors Plan include:

- to stimulate the economic revitalization of the City's Downtown and transit station areas;
- to reinvigorate the community's identity;
- to capture the potential for transit-oriented development;
- to strengthen the area's walkability and bikeability; and
- to create a cohesive implementation approach to enhance the character and development of the Transit Corridors Area.

3.4 PROJECT VISION AND DEVELOPMENT FRAMEWORK

The Transit Corridors Plan is intended to set forth a transformative new vision for the Transit Corridors Area, including downtown San Bruno, historically represented by four converging central area streets: San Mateo Avenue, El Camino Real, San Bruno Avenue and Huntington Avenue. The Plan would establish a development framework, development standards and design guidelines for public and private realm improvements, a set of transportation and related infrastructure improvements, and implementation strategies to achieve the new vision.

The proposed Plan contains seven elements: Vision, Development Framework, Private Realm Development Standards and Design Guidelines, Public Realm Design Guidelines, Transportation, Infrastructure, and Implementation. The seven elements are summarized below:

3.4.1 Vision

The Transit Corridors Plan sets forth a vision of an urban village and regional destination, with welcoming gateways and exciting architecture; fast transportation connections; pedestrian-oriented "green" streets; more dense, mixed-use development; pleasant outdoor shopping with an array of goods and services, street activity; and a sense of history. The vision reflects community and stakeholder input and provides the basis for the more detailed strategies and improvement provisions contained in the Plan. The "vision" description includes the following six elements:

(a) Downtown as a Day and Night Destination:

- Make San Mateo Avenue an exciting destination for visitors, workers and residents alike.
- Intensify commercial and residential uses to attract and sustain activities throughout the day and into the night.

- Create new developments, invigorate existing businesses and program activities to support an economically vibrant Downtown that is busy with business and community life.

(b) Local Character and Distinctive Identity:

- Cultivate a more distinctive identity for San Bruno while building upon its local character in future growth.
- Integrate San Bruno history into public art and streetscape designs while also developing new themes and motifs for a contemporary identity.
- Install exciting and attractive new gateways to direct visitors and patrons to destinations while creating a welcoming atmosphere.

(c) Convenient Multi-Modal Network:

- Cultivate an easy-to-use network linking across different modes of transportation including pedestrians, bicycles, shuttles, buses, BART and Caltrain, as well as automobiles.
- Create circulation improvements that make arriving in and getting around the Transit Corridors Area San Bruno a pleasant, easy and convenient experience for all users.
- Create linkages to area office parks, commercial centers, and San Francisco International Airport to encourage visitors and employees to use transit and visit San Bruno's Transit Corridors Area.

(d) Economic Vitality:

- Create a development- and business-friendly Transit Corridors Area with a strong, sustainable economic environment.
- Ensure that land uses reflect a diverse range of economic activities.
- Utilize a strategic development-oriented approach to cultivate appropriate growth in San Bruno and respond to local and regional market demands.

(e) Sustainable, Mixed-Use Development:

- Encourage horizontal and vertical mixed-use development that will generate increased social and business activity.
- Combine new development with housing on top to generate additional vitality and foot traffic in the Transit Corridors Area, as well as provide ridership for transit.
- Support a range of land uses to provide activities and opportunities for all community members.
- Support green building design strategies to promote energy and resource-efficiency in new buildings.

- Explore opportunities for "sustainable" infrastructure that beautifies the urban environment with ecological technologies such as "green streets" and drought-tolerant plantings.

(f) Safe and Inviting Pedestrian Realm:

- Develop circulation and streetscape improvements that provide highly visible crosswalks, sidewalk plantings, engaging sidewalk design and traffic calming strategies to support a safe and inviting pedestrian realm.

3.4.2 Development Framework

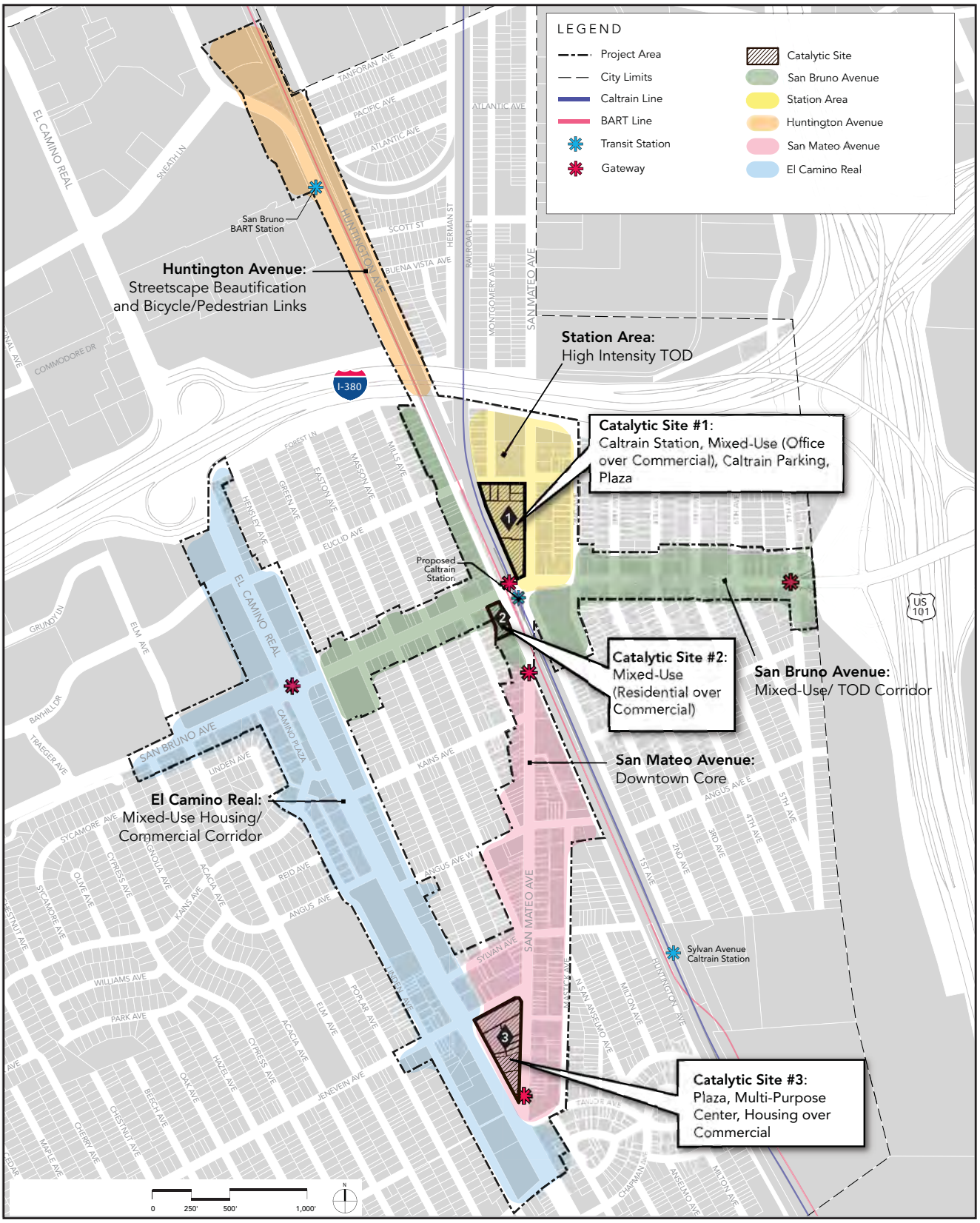
The proposed Transit Corridors Plan development framework identifies and addresses five "Character Areas" and three "Catalytic Opportunity Sites." These proposed development framework elements are illustrated on Figure 3.3 and summarized described below.

(a) Character Area. There following five specific Character Areas are designated within the Plan area:

(1) San Mateo Avenue: Revitalized Downtown Core. The Plan calls for preservation of San Mateo Avenue's "main street" character, while creating a more vibrant Downtown through targeted enhancement of commercial uses, the addition of new housing, and streetscape improvements. The Plan proposes that the City consider a large new plaza area reconfiguration of the San Mateo Avenue/El Camino Real intersection to allow greater physical and visual connection between El Camino Real and Downtown. A realigned intersection would allow for new, more intensive land uses anchoring the southern end of Downtown, as well as creation of a civic plaza or community open space element to signify the entrance into Downtown. The northern end of Downtown would be anchored with a redesigned Posy Park, the new Caltrain Station, and higher intensity mixed uses. The Plan also recommends establishing diagonal street parking along San Mateo Avenue and potentially installing a traffic circle at the intersection of San Mateo Avenue and Huntington Avenue.

(2) El Camino Real: Mixed-Use Housing and Commercial Corridor. The Plan strategy for El Camino Real is to install pedestrian-oriented streetscape improvements and promote the development of high-density housing in order to transform the existing auto-oriented corridor into a more contemporary mixed-use residential and commercial corridor that takes advantage of its proximity to the new Caltrain station and to neighborhood retail and services available on San Mateo Avenue. New high-density residential development at significant intersections, anchored with ground-floor retail, is proposed to create a stronger physical character along this key roadway. The southern end of El Camino Real near San Mateo Avenue would be zoned Central Business District (CBD) to focus additional retail development adjacent to Downtown.

(3) San Bruno Avenue: Mixed-Use TOD Corridor. The Plan also proposes aims to transform San Bruno Avenue into a mixed-use transit-oriented development (TOD) corridor with higher intensity uses that foster a pedestrian environment, encourage multi-modal connections, and create a sense of community entry and identity. The Plan encourages upgrades of existing storefronts and landscaping to improve the appearance of the avenue. New bicycle lanes, building setbacks, higher density housing, streetscape improvements, traffic circles (roundabouts) and a potential "road diet" (reduction of vehicle travel lanes) are proposed for the avenue. The road diet aspect is described as a longer term option, if it is ultimately determined



SOURCE: Wagstaff/MIG

Figure 3.3

TRANSIT CORRIDORS PLAN DEVELOPMENT FRAMEWORK

that adequate traffic flow would be maintained and pedestrian, bicycle, and transit access in the Transit Corridors Area would be enhanced.

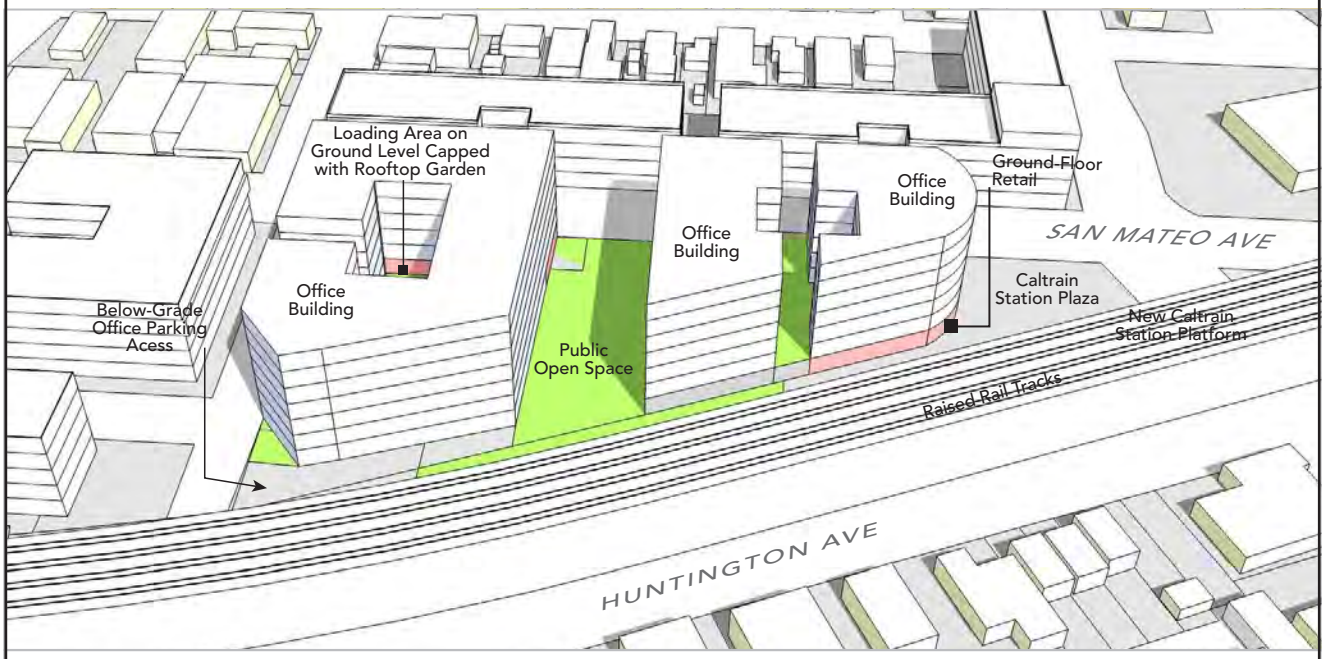
The Plan focuses on two distinct sections of San Bruno Avenue--between El Camino Real and Huntington Avenue, and east of Huntington Avenue. New housing is prohibited by the Plan on most of San Bruno Avenue east of San Mateo Avenue due to the 70 decibel noise contour from planes taking off and landing at San Francisco International Airport.

(4) Huntington Avenue: Streetscape Beautification and Bicycle/Pedestrian Links. The Plan-proposed strategy for Huntington Avenue is to preserve the existing residential character while taking advantage of development opportunities around the Caltrain and BART stations, where a TOD overlay zone is proposed to allow increased intensity of uses and building heights to accommodate retail, office and higher density housing. The northern half of Huntington Avenue, where residential uses are not permitted due to the 70 decibels airport noise contour, is designated for a mix of commercial and office uses. The southern half of Huntington Avenue is designated for a mix of uses that includes medium-density housing. A key development site across the street from the BART parking garage is identified as potentially suitable for a new hotel. The Plan-proposed design guidelines for Huntington Avenue are intended to encourage streetscape improvements and traffic calming measures, including roundabouts, to create a pedestrian- and bicycle-friendly corridor to the Caltrain station.

(5) Station Area: High-Intensity TOD. The Plan-identified development strategy for the new Caltrain Station Area calls for creation of dynamic, active, high-intensity TOD development, leveraging the area's proximity to San Francisco International Airport and Silicon Valley. The Plan encourages an intensified mix of uses in this area, including higher density residential, office, and retail uses that support and synergize with the new Caltrain station. Proposed uses are limited to non-residential uses in areas located within the 70 decibels airport noise contour. The Plan calls for the Station Area to be designed to be a highly desirable place to work, as well as encourage Caltrain ridership, with an attractive station surrounded by active uses and easy access. An approximately two-acre vacant development site directly adjacent to the Caltrain station platform is envisioned as the focal point of a major mixed-use office/retail center. New gateway elements are proposed to frame and enhance the area around the elevated railway crossing, emphasizing the significance of the station and the entrance to Downtown. The identified development strategy for the Station Area is to create a well connected node of activity that encourages Caltrain ridership and is surrounded by active uses.

(b) Catalytic Opportunity Sites. In addition to the five Character Areas, the Transit Corridors Plan describes three catalytic opportunity sites, which have been identified in partnership with the private sector, and are believed to have the potential to significantly influence and transform the Transit Corridors Area. The sites are considered catalytic due to their prime location at key gateways and their ability to provide needed uses and services currently lacking within the Transit Corridors Area. A financial feasibility analysis has confirmed the viability of each site from land use, design and development perspectives. The three identified catalytic opportunity sites are shown on Figures 3.4 through 3.6 and conceptually described below. The descriptions are purely conceptual and are not intended to prescribe the details of potential future development proposals.

(1) Catalytic Opportunity Site #1: Caltrain Station. The Plan vision for this site is illustrated on Figure 3.4. The Plan envisions development of buildings up to seven stories on this site, containing a mix of approximately 350,000 square feet of office and ground floor retail uses.



Project Description	Separated Office (Private) and Caltrain (Office) Parking
New Caltrain Station	1 level at grade , 1 level below parking for Station
358,500 s.f. Class A Office Space over Ground Floor Retail	2 levels below grade parking for Office
7-Story Buildings	Commercial uses must have 15' min. floor-to-floor height
Loading areas screened from all sides	Office uses must have 12' min. floor-to-floor height
Large Public Open Space/Park	
Iconic Architecture facing the Station Platform	

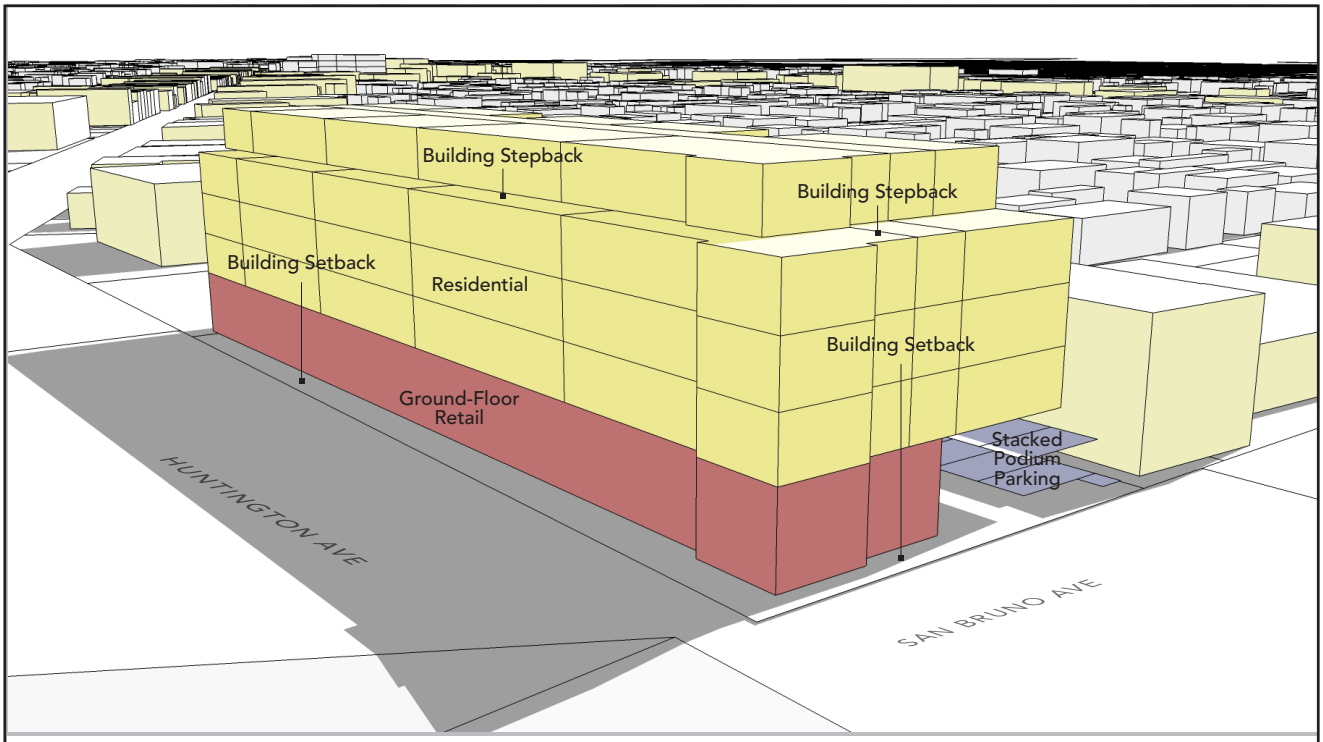
Mixed-use, Offices over Retail over Parking

Land Use	Product/Type	SF/unit	# of Parking Spaces	Total SF
Office	Class A Office	59,751		358,506
Retail	Ground-Floor Retail	59,751		59,751
Parking	Station: At-Grade Podium		25	4,500
	Station: Below-Grade		332	59,760
	Office: Below-Grade		388	69,840
	Total Parking		745	
			Total Land (SF)	113,293
			Total Building (SF)	552,357
			Parking Ratio for Office	1.5 spaces / 1000 SF
			Parking for Station	357

SOURCE: Wagstaff/MIG

Figure 3.4

CATALYTIC OPPORTUNITY SITE #1: CALTRAIN STATION



Project Description

5 StoryMixed Use Building

9,000 s.f. of ground floor retail (across from new Caltrain station)

10' setback along Huntington Ave to allow outdoor seating/plaza

15' high ground floor

9 street parking stalls (for shoppers/retail users)

loading area at rear garage

2nd to 5th floors with residential units

residential units with rear stacked parking

one parking stall per residential unit

double loading building structure (from central distribution hallway)

west facing units with balconies

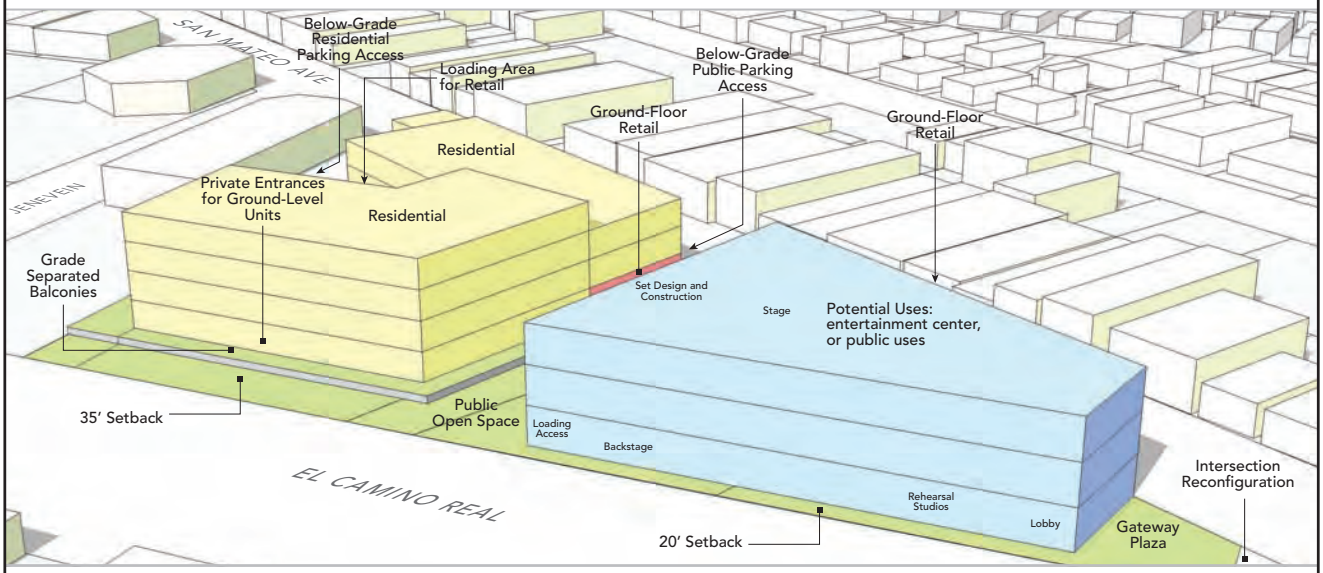
Mixed-use, Residential over Retail

Land Use	Product/Type	SF/unit	# of Units/ Parking	Total SF
Residential	Studios	600	4	2,500
	1 bedroom	800	8	6,400
	2 bedroom	900-1100	20	19,800
	3-4 bedroom	1,300	8	10,200
	Total Units		40	
Retail	Ground-Floor Retail	9,000		9,000
Parking	Residential Parking: Stacked		40	
	Street Parking (for commercial use)		8	
	Total Parking		48	
			Subtotal Land Area (SF)	20,623 (0.47 acres)
			Total Building (SF)	47,900
			Density (du/ac)	85
			Parking Ratio for Residential (spaces/unit)	1.00
			Parking Ratio for Retail (spaces/SF)	1 per 1000 sf

SOURCE: Wagstaff/MIG

Figure 3.5

CATALYTIC OPPORTUNITY SITE #2: SOUTHWEST CORNER OF SAN BRUNO AND HUNTINGTON AVENUES



Project Description

49,500 s.f. Building Footprint at the Gateway	Loading Area hidden from both both streets
high ceiling lobby at Gateway	35' setback along San Mateo Avenue with grade separation balconies for street level units
Loading Area is located within building near the stage	Large park/open space between the 2 buildings connecting the 2 streets
3-4 StoryMixed Use Building	1 level below grade parking under the Mixed-Use Building
Retail Along San Mateo Avenue	Separated parking areas and ramps for residents and public users

Mixed-use, Offices over Retail over Parking

Land Use	Product/Type	SF/unit	# of Units/ Parking	Total SF
Residential	Studios	500 - 600	12	
	1bedroom	600-800	12	
	2 bedroom	1,000	27	
	3-4 bedroom	1200+	6	
	Total Units		57	
Multi-Purpose Center	Multi-Purpose Center	49,500		49,500
Retail	Ground-Floor Retail	11,500		11,500
Parking	Residential Parking: Below Grade		66	
	Multi-Purpose Center Parking: Below Grade		50-75	
	Total Parking		116-141	
			Subtotal Multi-Purpose Center Land Area (SF)	25,330 (0.58 acres)
			Subtotal Mixed-Use Building Land Area (SF)	46,960 (1.08 acres)
			Total Gateway Land Area (SF)	72,290 (1.66 acres)
			Total Building (SF)	188,794
			Density (du/ac)	53
			Parking Ratio for Residential (spaces/unit)	1.16
			Parking Ratio for Center (spaces/SF)	1 per 800-1200 SF

SOURCE: Wagstaff/MIG

FIGURE 3.6

CATALYTIC OPPORTUNITY SITE #3: SAN MATEO AVENUE AND EL CAMINO REAL GATEWAY

The site is centrally located between the railroad tracks and San Mateo Avenue at the corner of San Bruno Avenue. The Plan indicates that this prominent gateway site should include iconic architectural elements and, to balance the high intensity of uses, a public gathering space in the form of a park, plaza, or other open space amenity. The Plan indicates that the site would also need to accommodate parking for the Caltrain station, as well as station-oriented office and retail uses, potentially in a below-grade parking structure

(2) Catalytic Opportunity Site #2: Southwest Corner of San Bruno and Huntington Avenues. The Plan vision for this site is illustrated on Figure 3.5. The Plan envisions development of a five-story mixed-use building at this site, with approximately 9,000 square feet of ground floor retail and housing above. Strategically located at the corner of Huntington Avenue and San Bruno Avenue, just west and south of the future Caltrain station, this site is identified as an opportunity to develop a gateway connection from the Station Area to Downtown. The site is described as a prime location for a prominent building with active storefronts and uses, and distinctive architectural elements that announce entry into Downtown.

(3) Catalytic Opportunity Site #3: San Mateo Avenue and El Camino Real Gateway. The Plan vision for this site is illustrated on Figure 3.6. The Plan envisions a four-story, 50,000 square-foot development at this location, at the terminus of the triangular parcel and active storefronts along San Mateo Avenue. The Plan indicates that the location of this site calls for a retail or mixed use that can draw visitors from El Camino Real into Downtown. The Plan indicates that the site also has potential for a mixed-use medium- to high-density residential building with retail space on the ground floor to activate the street edge along San Mateo Avenue. The Plan also suggests creation of a public plaza, park or open space element on this site that would connect San Mateo Avenue to El Camino Real, balance the density on the site, and create a welcoming entrance to Downtown.

3.5 PROJECT DEVELOPMENT STANDARDS AND GUIDELINES

3.5.1 Private Realm Development Standards and Design Guidelines

(a) Zoning Designations and Development Standards. The Transit Corridors Plan contains a set of mandatory development standards and non-mandatory design guidelines to guide the private development in the Plan Area. The Plan proposes detailed use, height, setback, and stepback standards within specific zoning designations generally corresponding to each of the five Character Areas. The five proposed zoning designations are:

- *TOD-SO (TOD-Station Office)*--Station Area: High Intensity TOD
- *TOD-MXD1 (Medium-Higher Density Mixed-Use)*--San Bruno Avenue: Mixed-Use TOD Corridor
- *TOD-MXD2 (Higher-Density Mixed-Use)*--El Camino Real Area: Mixed-Use Housing and Commercial Corridor
- *CBD (Central Business District)*--San Mateo Avenue Area: Revitalized Downtown Core
- *P/QP (Public/Quasi-Public)*--Civic Center portion of El Camino Real Area

The proposed permitted uses and development standards for each of these five proposed zoning designations are presented in Table 3.1. Figure 3.7 illustrates the proposed maximum height limits.

(b) Design Guidelines. The Plan would also establish private realm design guidelines, including Overarching Design Guidelines (site layout and building design, parking and circulation design, sustainability design) which pertain throughout the Transit Corridors Area, and Character Area Design Guidelines specific to each of the five Character Areas.

3.5.2 Public Realm Design Guidelines

The Plan contains a set of proposed non-mandatory design guidelines to guide public improvements within the Transit Corridors Area, including: Overarching Guidelines that would direct streetscape design throughout the Transit Corridors Area; Character Area Guidelines that would provide specific design guidance for the five Character Areas; and Open Space Guidelines that would outline design parameters for creating active, vital open spaces.

3.6 PROJECT TRANSPORTATION AND INFRASTRUCTURE PROVISIONS

3.6.1 Transportation Improvements

The Transit Corridors Plan also includes a number of vehicle, transit, bicycle, pedestrian, parking and transportation demand management (TDM) recommendations. The improvement strategies emphasize the principles of "complete streets," considering the potential for complementary relationships between land uses and travel needs, and the need to increase access and mobility for transit users, bicycles and pedestrians, while balancing the needs of vehicles. The Plan's proposed transportation improvements are summarized in Table 3.2 and described below.

(a) Vehicles:

(1) Street Sections. Because of the density, diversity of uses, distance to transit, and design of internal roadway system and pedestrian and bicycle facilities (the "four Ds") under the Transit Corridors Plan, the number of vehicle trips generated is projected to be lower than for typical isolated, single use land uses. Proposed street configurations for the transit corridors are summarized in Table 3.3 and shown on Figures 3.8 through 3.12. As shown, these proposed configurations are intended to balance traffic demand with improvements for other travel modes.

(2) Road Diets. In the long-term, the Plan recommends evaluating a possible reduction of travel lanes from four travel lanes to two lanes to provide bicycle and pedestrian amenities on San Bruno Avenue and Huntington Avenue north of San Bruno Avenue, based on a study of traffic patterns after completion of the Caltrain station and grade separation project.

(3) Roundabouts. A roundabout is a circular intersection with yield control points with splitter islands to direct traffic through the intersection. The area in the center of roundabouts can serve as a gateway feature. The Plan identifies four potential roundabout locations in the Plan area: the San Mateo Avenue/San Bruno Avenue, San Mateo Avenue/Huntington Avenue, San Bruno Avenue/Huntington Avenue, and San Bruno Avenue/Elm Avenue intersections.

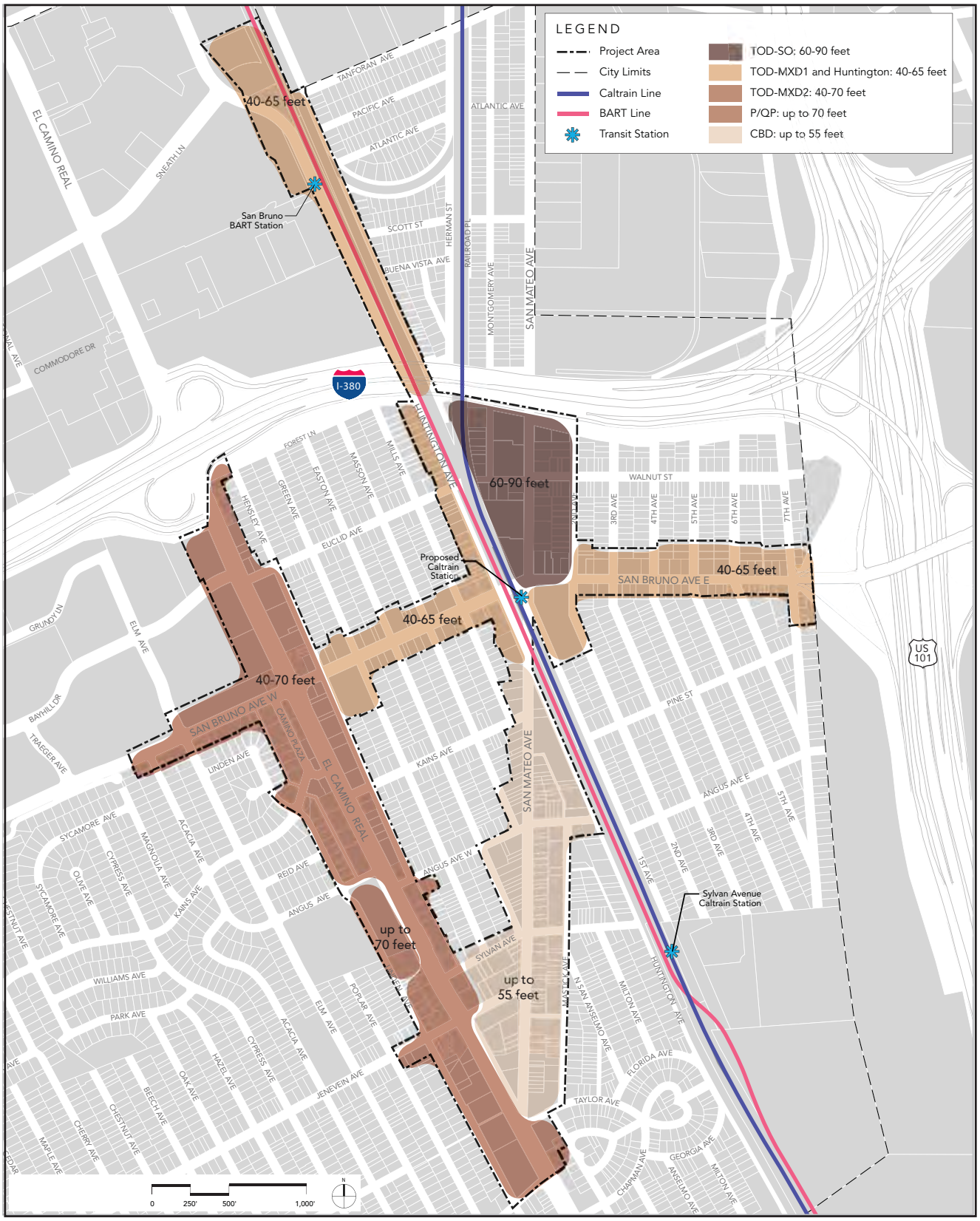
Table 3.1
PERMITTED USES AND DEVELOPMENT STANDARDS

	TOD-SO Station Area	TOD-MXD1 San Bruno Ave/ Huntington	TOD-MXD2 El Camino Real	CBD Downtown	P/QP Civic Center
LAND USES					
(1) Retail					
Retail Sales & Services	Permitted G	Permitted G	Permitted G	Permitted G	-
Eating/Drinking Establishments	Permitted G	Permitted	Permitted G	Permitted G	-
Establishments Serving Alcohol	Conditional Use-G	Conditional Use-G	Conditional Use-G	Conditional Use-G	-
Personal/Business Services	Permitted	Permitted	Permitted	Permitted U	-
Health/Exercise Clubs	Conditional Use	Conditional Use	Conditional Use	-	-
Auto Sales	-	-	Conditional Use	-	-
(2) Professional/ Medical Office	Permitted	Permitted	Permitted	Permitted U	-
(3) Hospitals/ Health Clinics	Conditional Use	Conditional Use	Conditional Use	-	-
(4) Lodging/ Hotel	Permitted	Permitted	Permitted	-	-
(5) Residential	Permitted	Permitted	Permitted	Permitted U	-
(6) Live/Work	Permitted	Permitted	Permitted	-	-
(7) Civic, Quasi-Civic, Cultural	Permitted	-	Permitted	Permitted	Permitted
(8) Industrial, Auto Repair/ Service	-	-	-	-	-
(9) Storage/ Warehouse	-	-	-	-	-
DEVELOPMENT STANDARDS					
Front Setback from Back of Sidewalk	10 ft.	10 ft.	10 ft.	min. 0 ft., max. 5 ft.	15-25 ft.
Side Setback	*	*	*	*	*
Rear Setback	*	*	*	*	*
Rear Setback (Next to Residential)	10 ft.	10 ft.	10 ft.	10 ft.	10 ft.
Height Limit - Minimum	60 ft. (4 stories)	40 ft. (3 stories)	40 ft. (3 stories)	*	*
Height Limit - Maximum	90 ft. (7 stories)	65 ft. (5 stories)	70 ft. (5 stories)	55 ft. (4 stories)	70 ft. (5 stories)
Ground Floor Ceiling Height (Floor-to-Floor)	-	-	-	12 - 15 ft.	-
Stepback Facing Corridor Street	Above 65 ft. Step back 15 ft.	Above fourth floor Step back 15 ft.	*	Above third floor Step back 15 ft.	Above 50 ft. Step back 15 ft.
Stepback Facing Low Density Residential	Above 50 ft. Step back 15 ft.	Above 50 ft. Step back 15 ft.	Above 50 ft. Step back 15 ft.	Above 50 ft. Step back 10 ft.	*
Architectural Encroachments	Certain encroachments (e.g., architectural features promoting good urban design) that extend beyond setbacks and height limits may be permitted through the Planning Commission design review process.				

SOURCE: MIG, 2010.

Note: The "Uses" above provide a listing of the general types of uses to be allowed in the Transit Corridors Area. A detailed list of uses will be developed as part of the zoning code update.

G = Ground Floor Only; U = Upper Floors Only; - = Not Permitted; * = No Requirement



SOURCE: Wagstaff/MIG

Figure 3.7

PROPOSED BUILDING HEIGHT LIMITS

Table 3.2
PROPOSED TRANSPORTATION IMPROVEMENTS

Vehicle:	▪ Evaluate opportunities for "road diets" on Huntington Avenue and San Bruno Avenue ▪ Evaluate opportunities to improve the San Mateo Avenue/El Camino Real intersection ▪ Evaluate opportunities for roundabouts at four (4) key locations to enhance the streetscape as a gateway feature, improve safety and reduce greenhouse gas emissions ▪ Reevaluate level of service policy for the Transit Corridors Area
Transit:	▪ Implement a transit circulator shuttle route ▪ Enhance bus shelters and waiting areas ▪ Promote opportunities to grow transit ridership
Bicycle:	▪ Develop network of bicycle priority streets, including bicycle boulevards ▪ Add bicycle lanes on streets with available right-of-way and higher traffic volumes ▪ Evaluate/develop a trail connection across US 101 to the San Francisco Bay Trail ▪ Implement bicycle parking requirements
Walking:	▪ Promote a "complete streets" strategy for San Bruno's Transit Corridors ▪ Increase pedestrian comfort by adding bulbouts (also known as curb extensions) and refuge islands ▪ Improve street crossings by adding new crosswalks and enhancing existing crossings ▪ Promote walking connections from surrounding neighborhoods to the Downtown core
Parking and Transportation Demand Management (TDM):	▪ Develop a strategy for a Parking Management Program ▪ Promote a "Park Once and Walk" parking strategy ▪ Develop a Parking Implementation Plan ▪ Evaluate metered parking/parking pricing ▪ Create a Parking Benefits District ▪ Encourage unbundled parking ▪ Develop new parking standards for the Transit Corridors Area ▪ Consider a Transit Corridors Area TDM program

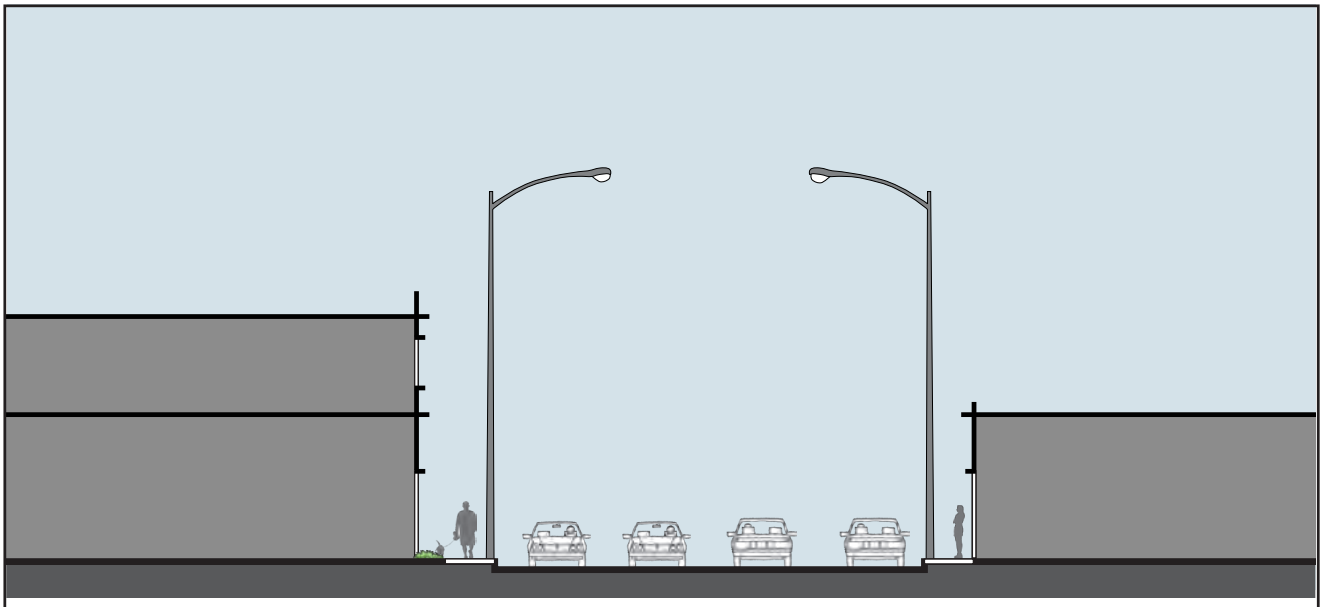
SOURCE: MIG, 2010.

Table 3.3
PROPOSED STREET CONFIGURATIONS

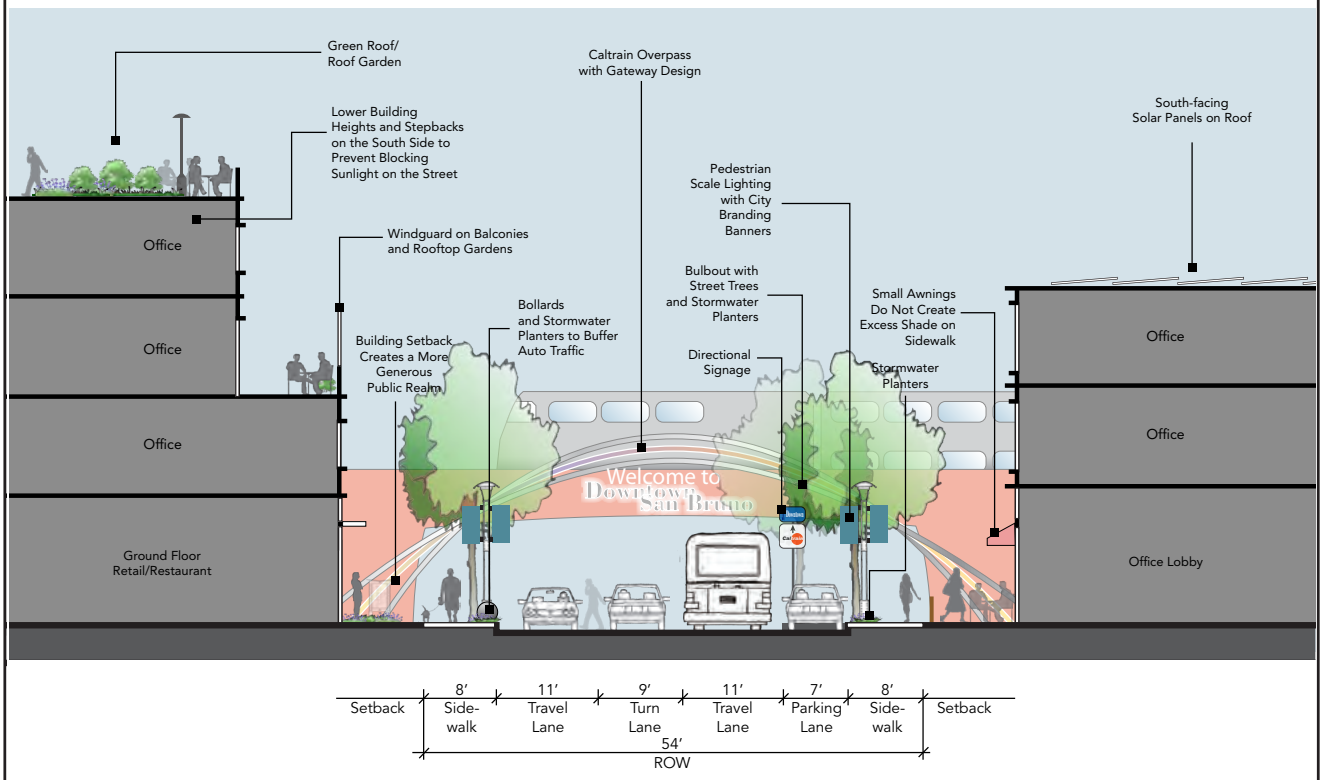
Corridor	Existing Conditions: Daily Traffic Volume	Existing Conditions: Roadway Configuration	Future Conditions Under Transit Corridors Plan: Daily Traffic Volume	Future Conditions Under Transit Corridors Plan: Roadway Configuration
San Bruno Avenue (west)	13,000	▪ 4 travel lanes ▪ No median ▪ No bike lanes ▪ Narrow sidewalks ▪ On-street parking	~17,500	▪ In the long term, consider potential for road diet, consisting of 2 travel lanes, center median/turn lane with pedestrian refuge islands at crosswalks ▪ 2 bike lanes ▪ Wide sidewalks with landscaping ▪ On-street parking
San Bruno Avenue (east)	11,000	▪ 4 travel lanes ▪ No median ▪ No bike lanes ▪ Narrow sidewalks ▪ On-street parking	~16,000	▪ In the long term, consider potential for road diet, consisting of 2 travel lanes, center median/turn lane with pedestrian refuge islands at crosswalks ▪ Standard sidewalks ▪ On-street parking
El Camino Real	41,000	▪ 6 travel lanes ▪ Center median ▪ No bike lanes ▪ Standard sidewalks ▪ On-street parking	~52,900	▪ 6 travel lanes ▪ Center median/turn lane with enhanced pedestrian refuge islands ▪ Additional crosswalks ▪ No bike lanes ▪ Standard sidewalks ▪ On-street parking
San Mateo Avenue	11,000	▪ 2 travel lanes ▪ No median ▪ No bike lanes ▪ Wide sidewalks ▪ High visibility crosswalks ▪ On-street parking	~17,000	▪ 2 travel lanes ▪ No median ▪ No bike lanes ▪ Wide sidewalks ▪ Raised crosswalks ▪ On-street parking--evaluate changing to angled street parking
Huntington Avenue (between San Bruno Avenue and BART)	11,000	▪ 4 travel lanes ▪ Center median ▪ No bike lanes ▪ Standard sidewalks ▪ On-street parking	~14,400	▪ 4 travel lanes ▪ Center median/turn lane ▪ 2 bike lanes ▪ On-street parking ▪ Opportunity to reduce through lanes

SOURCE: Fehr & Peers, 2009; MIG, 2010.

1. Transit Corridors Plan traffic volumes are planning-level estimates only.
2. Existing traffic volumes are based on the Caltrain Grade Separation TIA prepared by Kimley-Horn and Associates, 2009 and by the San Bruno 2025 General Plan Final EIR prepared by Dyett & Bhatia, 2008.
3. San Mateo Avenue is not wide enough to add bike lanes; however, with improvements to reduce traffic speed, bicycles will be able to share travel lanes.



Existing Conditions (San Bruno Avenue facing west between San Mateo Avenue and US 101)

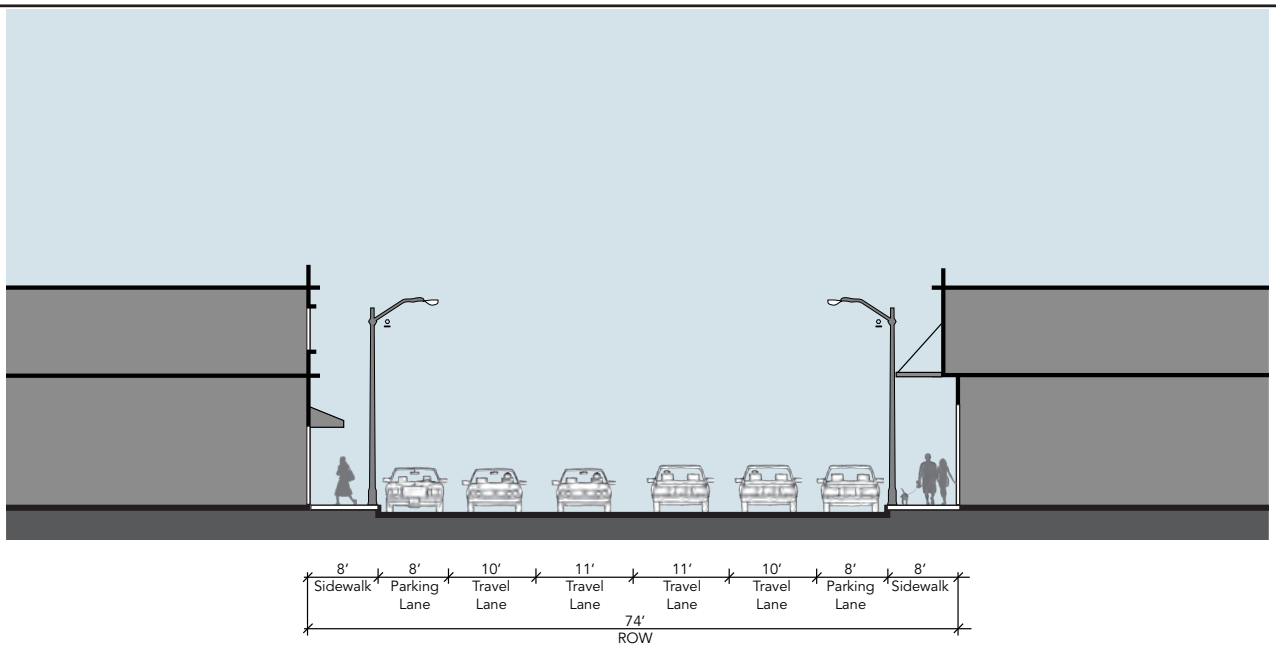


Proposed Improvements (San Bruno Avenue facing west between San Mateo Avenue and US 101)

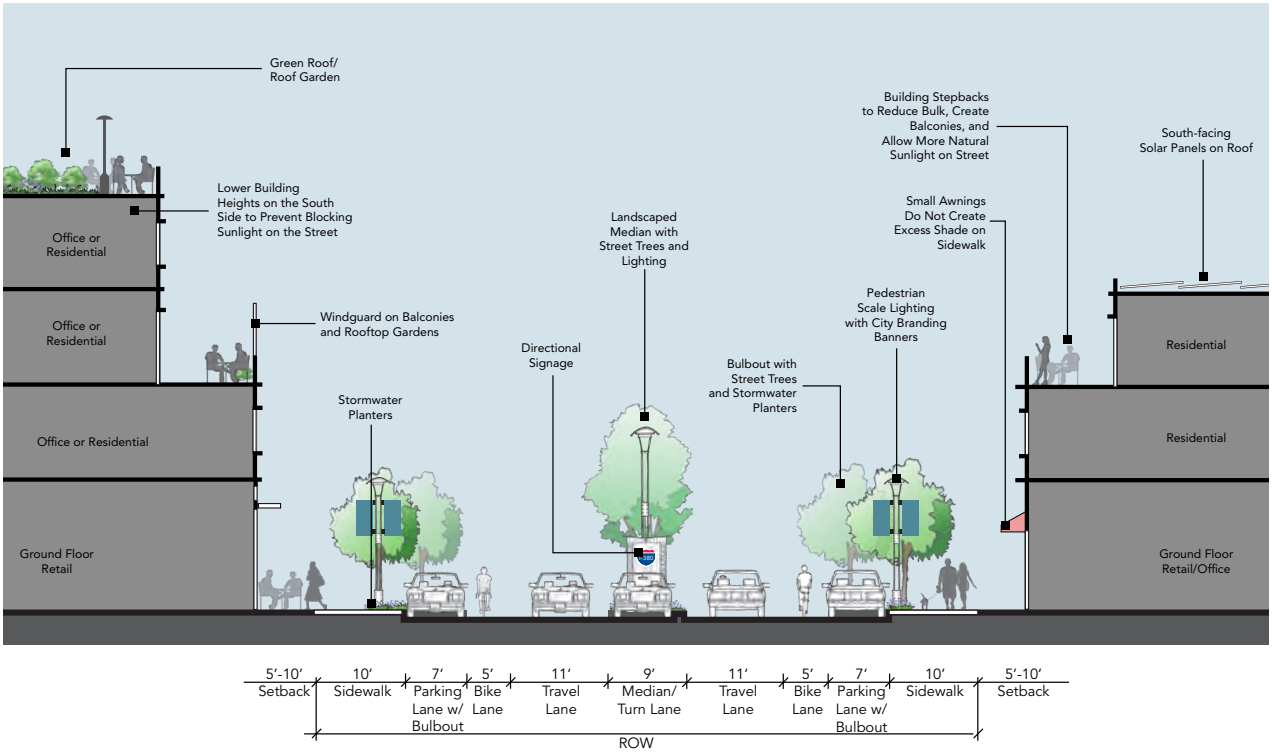
SOURCE: Wagstaff/MIG

Figure 3.8

EXISTING CONDITIONS AND PROPOSED IMPROVEMENTS (SAN BRUNO AVENUE FACING WEST BETWEEN SAN MATEO AVENUE AND U.S. 101)



Existing Conditions (San Bruno Avenue facing east between El Camino Real and Huntington Avenue)

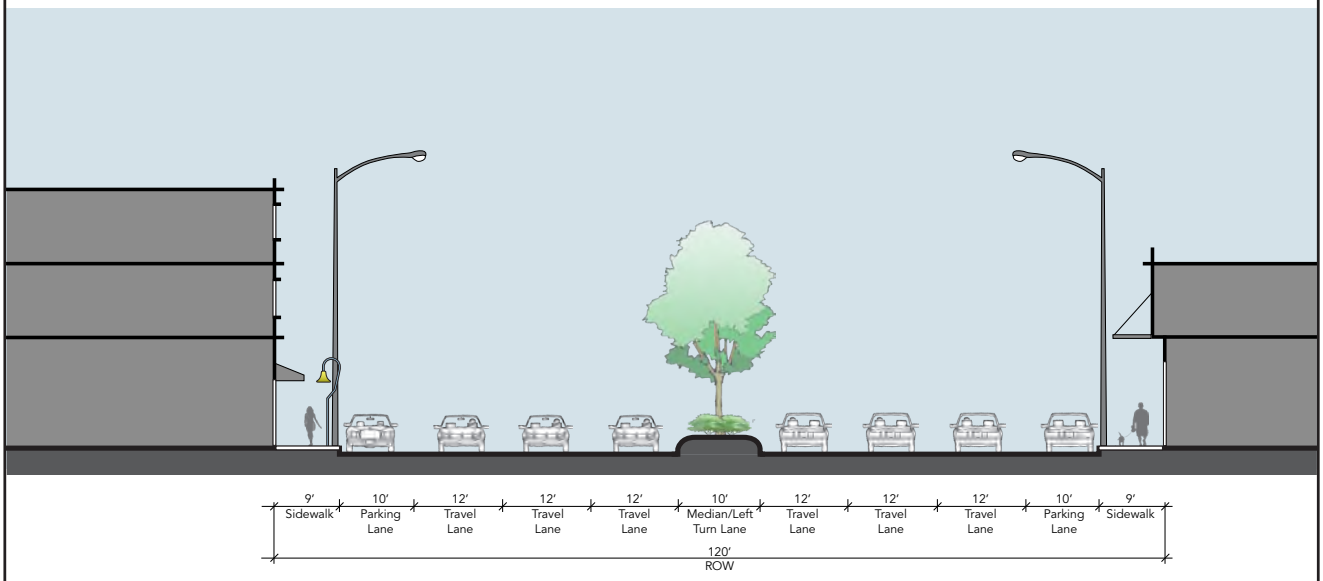


Proposed Improvements (San Bruno Avenue facing east between El Camino Real and Huntington Avenue)

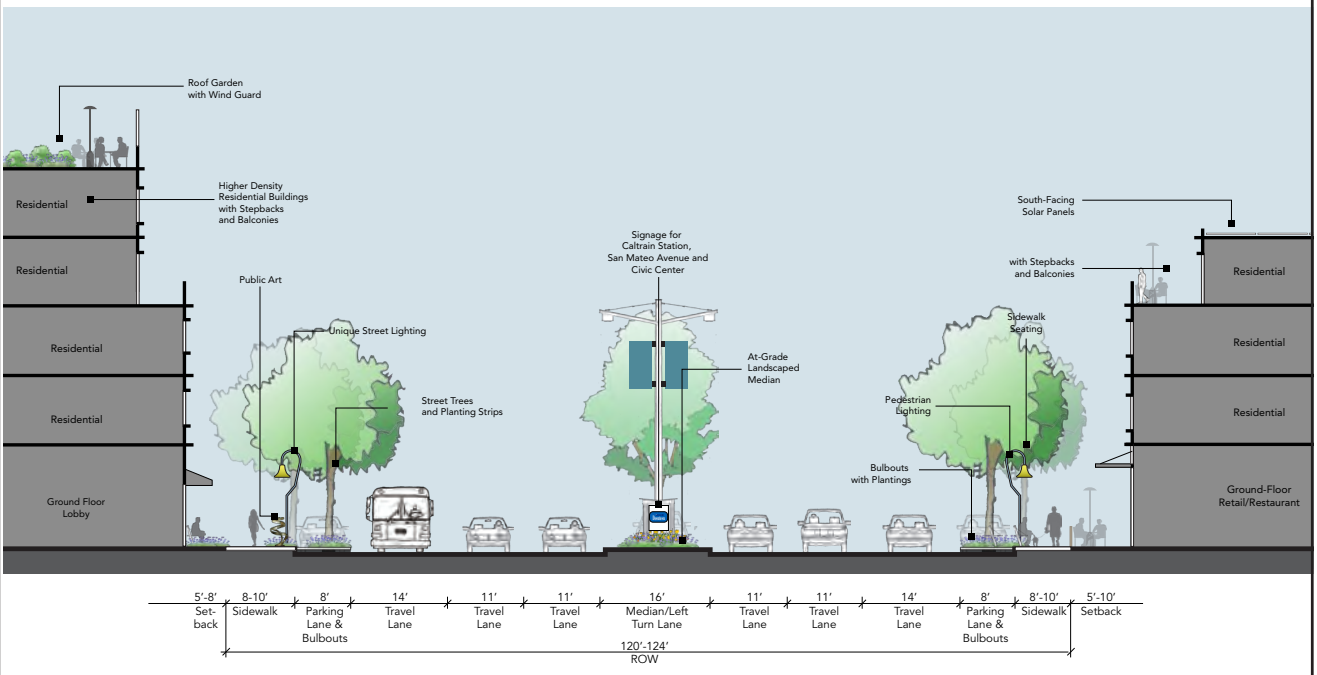
SOURCE: Wagstaff/MIG

Figure 3.9

EXISTING CONDITIONS AND PROPOSED IMPROVEMENTS (SAN BRUNO AVENUE FACING EAST BETWEEN EL CAMINO REAL AND HUNTINGTON AVENUE



Existing Conditions (El Camino Real facing south)

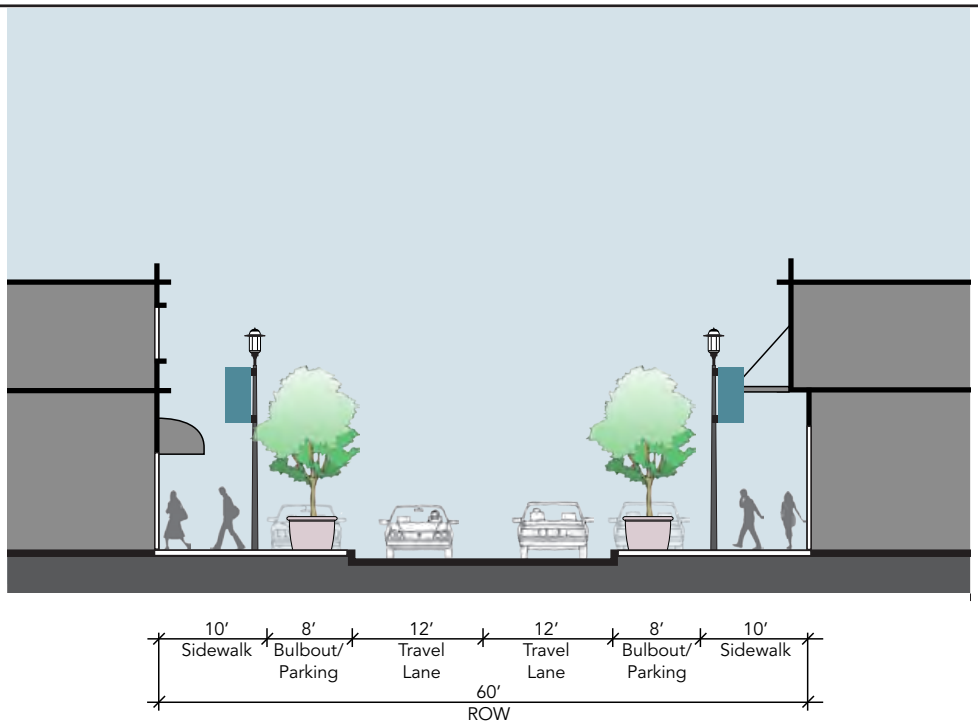


Proposed Improvements (El Camino Real facing south)

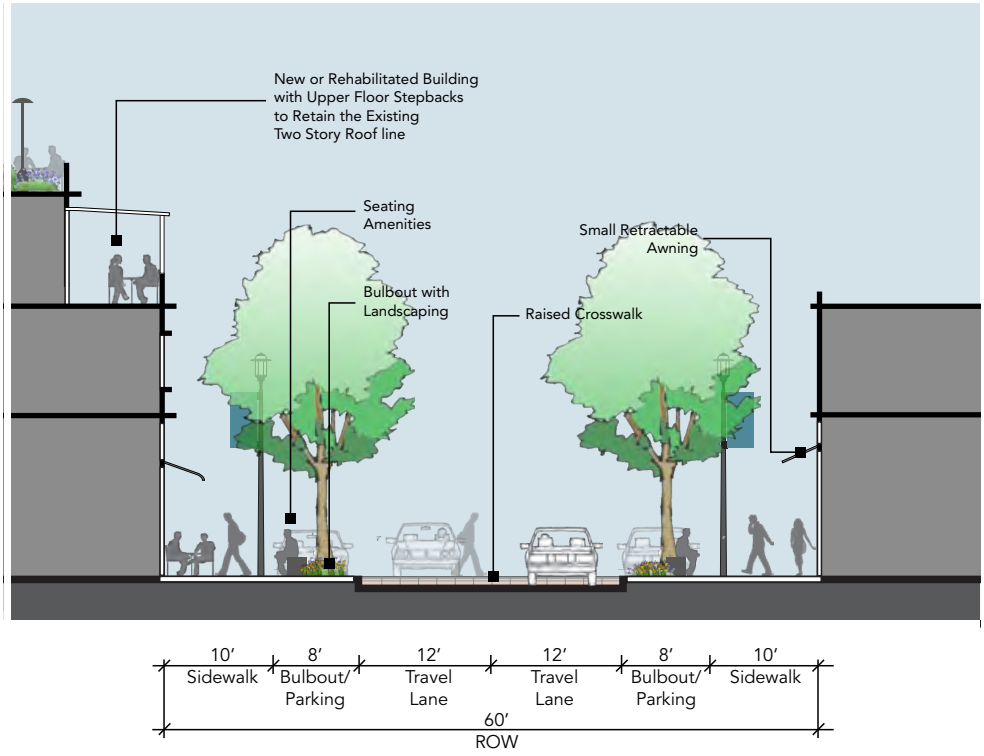
SOURCE: Wagstaff/MIG

Figure 3.10

EXISTING CONDITIONS AND PROPOSED IMPROVEMENTS (EL CAMINO REAL FACING SOUTH)



Existing Conditions (San Mateo Avenue)

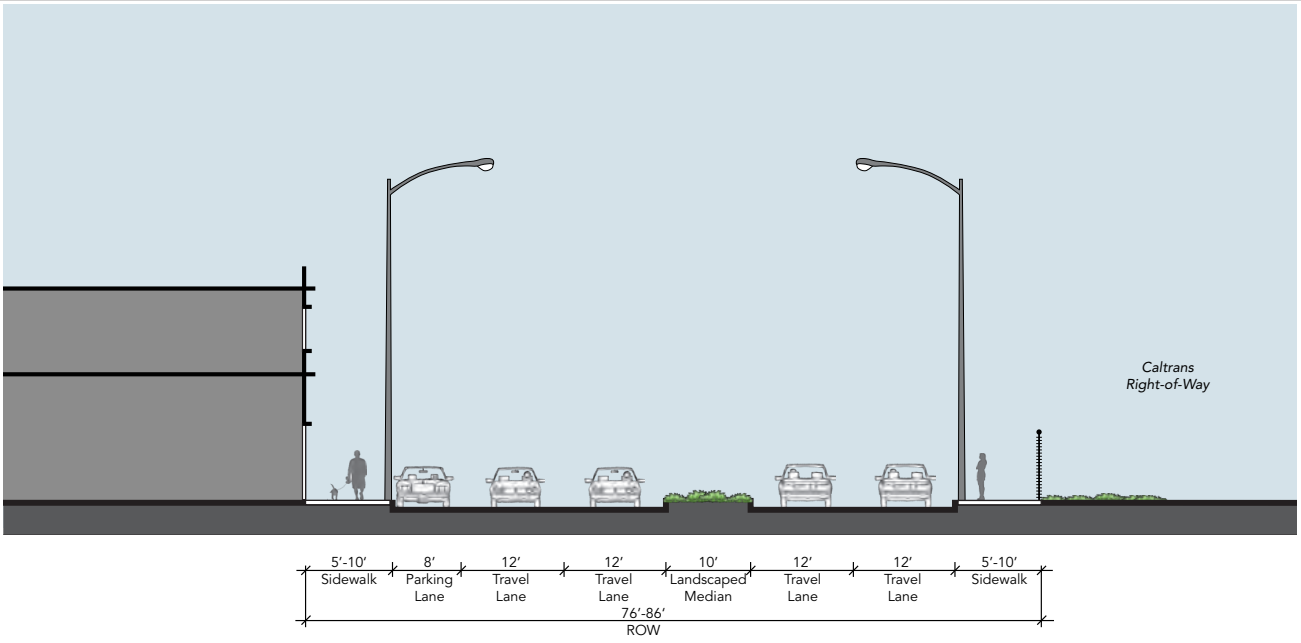


Proposed Improvements (San Mateo Avenue)

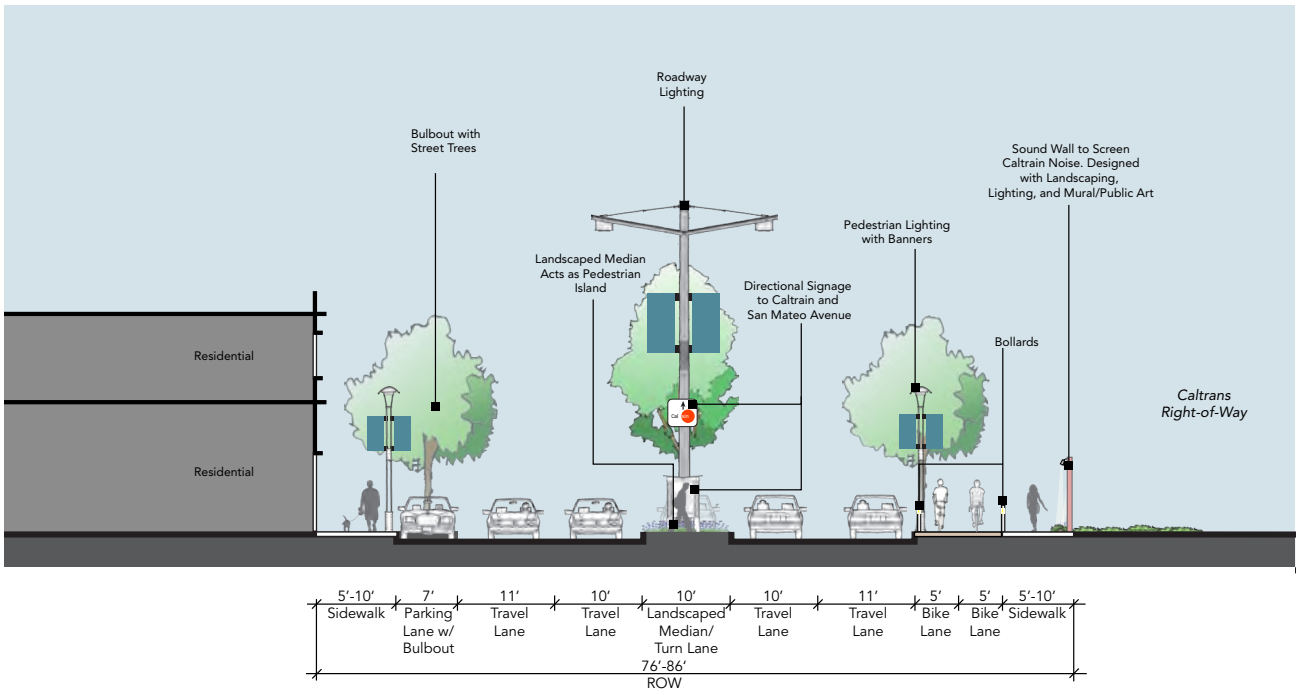
SOURCE: Wagstaff/MIG

Figure 3.11

EXISTING CONDITIONS AND PROPOSED IMPROVEMENTS (SAN MATEO AVENUE)



Existing Conditions (Huntington Avenue north of San Bruno Avenue facing north)



Proposed Improvements (Huntington Avenue north of San Bruno Avenue facing north)

SOURCE: Wagstaff/MIG

Figure 3.12

EXISTING CONDITIONS AND PROPOSED IMPROVEMENTS (HUNTINGTON AVENUE NORTH OF SAN BRUNO AVENUE FACING NORTH)

(4) San Mateo Avenue/El Camino Real Intersection Reconfiguration. The Plan recommends evaluating a redesign of the San Mateo Avenue/El Camino Real intersection to create a highly visible gateway to Downtown and an outdoor public plaza, as well as improving access in and out of Downtown. Realigning the intersection to be centered on the San Mateo Avenue/El Camino Real junction, rather than the Taylor Avenue/El Camino Real junction, and creating a 90-degree intersection into San Mateo Avenue from El Camino Real.

(5) Intersection Level of Service Policy. The Plan recommends that the City either lower its level of service (LOS) policy from LOS D to LOS E for intersections in the Transit Corridors Area or implement a multi-modal LOS policy that also evaluates bicycle, pedestrian and transit access in conjunction with vehicle LOS.

(b) Transit Facilities. Plan-recommended transit facility improvements are shown on Figure 3.13. The Plan recommends a local transit shuttle between the Caltrain station and the BART station, with stops within the Transit Corridors Area to improve connections for those areas that are beyond a half mile from either station. The Plan also recommends consideration of a second shuttle to the San Francisco International Airport. Additionally, the Plan recommends that bus stops within the Transit Corridors Area be enhanced with transit amenities such as shelters, benches, lighting and information displays.

(c) Bicycle Facilities. The Transit Corridors Plan recommended bicycle facility improvements are shown on Figure 3.14. The proposed bicycle facilities improvements are intended to improve access to and from BART and Caltrain, Downtown, surrounding land uses and the San Francisco Bay Trail located east of US 101. The Plan recommends Class II bicycle lanes (separate striped lanes adjacent to the outside vehicle travel lanes) on portions of San Bruno Avenue, Huntington Avenue and San Mateo Avenue, which could be accomplished through either narrowing vehicle lane widths, removing on street parking, or road diets. The Plan also recommends a network of Bicycle Priority Streets on smaller, narrower, slower traffic streets parallel to the main corridors, where the provision of traffic calming measures may also be considered. The Plan also recommends a new connection between Downtown and the San Francisco Bay Trail via a new path within the right-of-way approximately 100 feet north of Pine Street and a new pedestrian/bicycle overpass just south of the US 101/San Bruno Avenue interchange. Additionally, the Plan recommends improved bicycle parking.

(d) Pedestrian Facilities. Plan-recommended pedestrian facility improvements are shown on Figure 3.15. The Plan recommends various crosswalk improvements, including raised crosswalks on San Mateo Avenue, and new crosswalks and crosswalk enhancements with bulbouts and pedestrian refuge islands on El Camino Real, San Bruno Avenue and Mastick Avenue. The proposed road diets on San Bruno Avenue and Huntington Avenue would allow for wider sidewalks on these street segments.

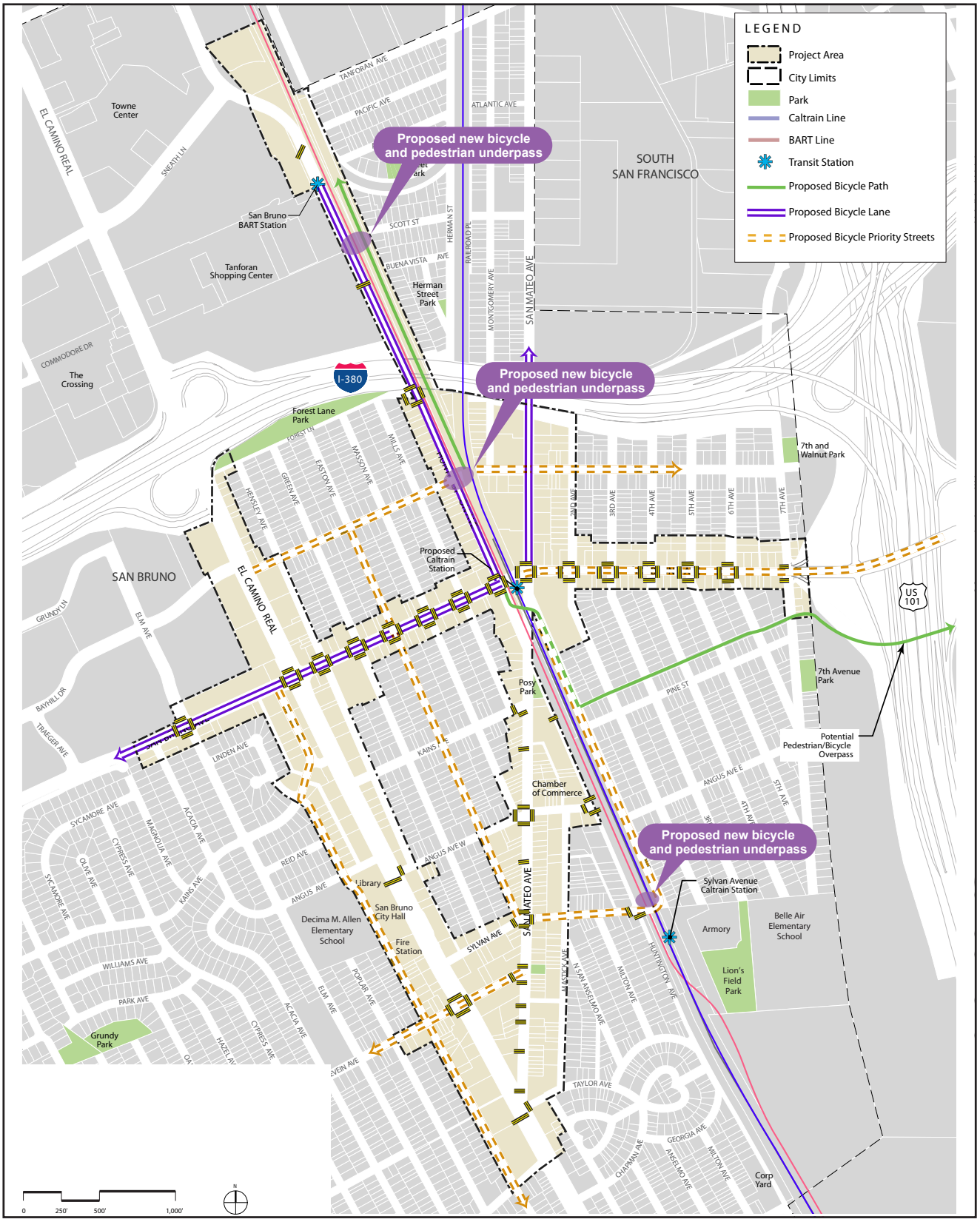
(e) Parking and Transportation Demand Management (TDM). The Plan promotes a “park once and walk” parking strategy, which seeks to pool all public and private parking spaces within the Transit Corridors Area and make these available for everyone to use, so visitors can park once then walk to several different destinations, thus reducing the number of overall parking spaces needed. The Plan recommends consideration of metered parking and parking pricing strategies that optimize use of spaces available throughout the Transit Corridors Area, with the goal to achieve an 85 percent parking occupancy rate goal. The Plan also recommends consideration of a Parking Benefits District for funding the collective management and enhancement of parking spaces throughout the Plan area, implementation of a Parking



SOURCE: Fehr & Peers

Figure 3.13

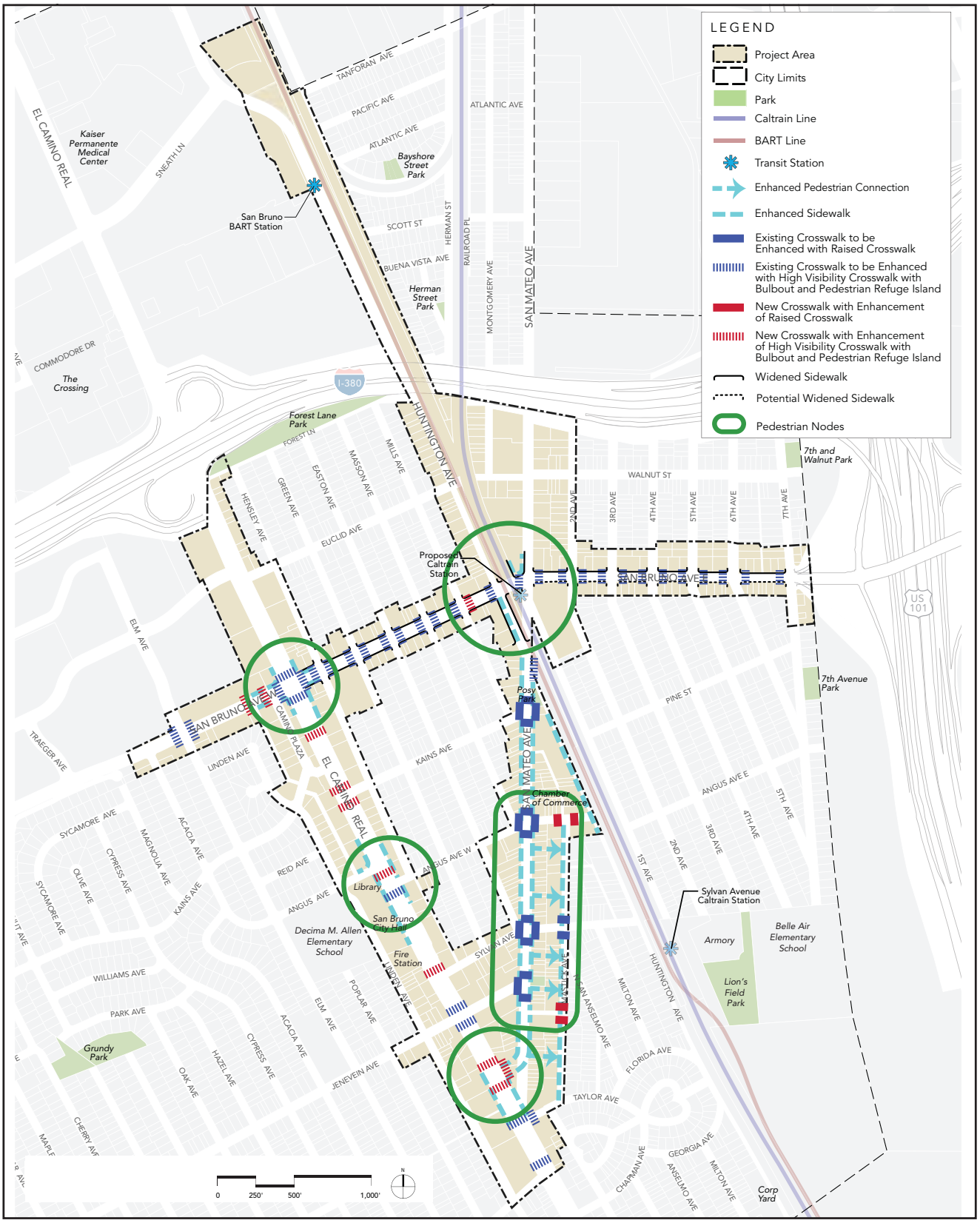
RECOMMENDED TRANSIT FACILITY IMPROVEMENTS



SOURCE: Fehr & Peers

Figure 3.14

RECOMMENDED BICYCLE IMPROVEMENTS



SOURCE: Fehr & Peers

Figure 3.15

RECOMMENDED PEDESTRIAN IMPROVEMENTS

Management Plan, and reduced parking requirements to reflect the planned multi-modal, transit-oriented nature of the Plan area. In addition, the Plan recommends implementation of an area-wide transportation demand management (TDM) program.

3.6.2 Infrastructure

The Transit Corridors Plan includes a number of water main and sewer trunk line improvements within the Plan area to accommodate new development under the Plan. Future development within the Plan area under the Plan would require substantial upgrades to the existing water and wastewater facilities in the area, as well as less substantial drainage improvements. The Plan identifies the following needed improvements. Additional improvements identified in Table 3.4 were identified as needed to rehabilitate existing infrastructure to meet City standards.

(a) San Mateo Avenue (north):

- A new 12-inch water main loop extending approximately 1,000 feet on San Mateo Avenue, 1,800 feet on San Bruno Avenue, and 600 feet on El Camino Real to connect to an existing 12-inch water main in El Camino Real.

- A new 2,200-foot long, 18-inch sewer trunk line along Huntington Avenue and San Mateo Avenue from the existing 18-inch sewer trunk line at the of Huntington Avenue/Angus Avenue intersection to the Walnut Avenue/San Mateo Avenue intersection.

(b) San Mateo Avenue (south):

- A new 3,600-foot long, 12-inch water main from the proposed stub at the of San Mateo Avenue/San Bruno Avenue intersection south on the San Mateo Avenue to connect to the existing 12-inch water main in El Camino Real.

- A new 2,000-foot long, 18-inch sewer trunk line from the El Camino Real/San Mateo Avenue intersection north on San Mateo Avenue to the existing 18-inch sewer trunk line at the San Mateo Avenue/Angus Avenue intersection. The Plan recommends incorporating this improvement into the City's Rehabilitation Program Project, which is planned to eliminate the existing 4-inch sewer line running parallel to Mastick Avenue in the alley (mid-block).

(c) El Camino Real (north):

- A new 2,400-foot long, 18-inch sewer trunk line, from the El Camino Real/Kains Avenue intersection north along El Camino Real to connect to the existing 18-inch sewer trunk line at the El Camino Real/Bay Hill Drive intersection.

(d) El Camino Real (south):

- The proposed 12-inch water main loop would provide adequate capacity for future development.

- An approximately 850-foot long, 15-inch sewer line is proposed from the El Camino Real/ Jenevein Avenue intersection south along El Camino Real to connect to the proposed 18-inch sewer trunk line at the El Camino Real/San Mateo Avenue intersection.

Table 3.4
ADDITIONAL WATER, SEWER AND STORM DRAIN IMPROVEMENT NEEDS

Location	From	To	Length (Linear Feet)
WATER			
San Bruno Avenue (west)	Acacia Avenue	Huntington Avenue	900
San Mateo Avenue (north)	San Bruno Avenue	Scott Street	1,400
El Camino Real (E side)	San Felipe Avenue	Commodore Drive	2,800
El Camino Real (W side)	San Felipe Avenue	Commodore Drive	3,600
San Bruno Avenue (east)	Huntington Avenue	7th Avenue	1,850
Huntington Avenue	Angus Avenue	Forest Lane	3,200
Sylvan Avenue	El Camino Real	Huntington Avenue	1,300
Jenevein Avenue	El Camino Real	San Mateo Avenue	1,000
Montgomery Avenue	Walnut Avenue	Scott Street.	2,000
Taylor Avenue	El Camino Real	Mastick Avenue	350
Camino Plaza	Linden Avenue	San Bruno Avenue	800
TOTAL			19,200
Fire Hydrants			130
SEWER			
El Camino Real	Crystal Springs Road	Forest Lane	1,800
San Mateo Avenue	El Camino Real	Huntington Avenue	1,450
Angus Avenue (east)	1st Avenue	7th Avenue	1,250
7th Avenue	East Angus Avenue	I-380	2,500
San Bruno Avenue (east)	San Mateo Avenue	7th Avenue	1,500
Laterals			5,800
TOTAL			14,300
STORM DRAIN			
El Camino Real (south)	--	--	200
San Mateo Avenue (north)	--	--	500
TOTAL			700

SOURCE: Mark Thomas & Company, Inc., 2009; MIG, 2010.

(e) San Bruno Avenue:

- The proposed 12-inch water main loop would provide adequate capacity for future development along San Bruno Avenue. This improvement should eventually "loop" the San Mateo Avenue, El Camino Real and San Bruno Avenue corridors.

- An approximately 1,500-foot long, 10-inch sewer line is proposed to replace the existing six-inch sewer line in San Bruno Avenue and connect to the new 18-inch sewer trunk line in El Camino Real.

3.7 PROJECT BUILDOUT ASSUMPTIONS

Table 3.5 identifies the buildout assumptions used in this EIR. As shown in Table 3.5, the Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area within approximately 20 years, or by 2030. These totals include development of the three catalytic opportunity sites described above as well as infill development and redevelopment throughout the Plan area. The amount of new development allowed under the Plan would represent an increase over the amount of development allowed under the current General Plan of approximately 890 housing units, 19,100 square feet of retail, 666,600 square feet of office, and 190 hotel rooms.

3.8 REQUIRED JURISDICTIONAL APPROVALS

Implementation of the Transit Corridors Plan would require the following City actions:

- Adoption of the Transit Corridors Plan itself;

- Adoption of General Plan amendments to achieve consistency between the General Plan and the Transit Corridors Plan provisions for land use and other development standards and proposals within the Transit Corridors Area;

- Approval of zoning amendments to reflect and implement the land uses, development standards, and design guidelines specified by the Plan; and

- Voter approval by a majority of the electorate, in a general or special election, of the Plan proposal to permit development of buildings greater than three (3) stories or fifty (50) feet and/or construction of multistory parking structures, as required by City Ordinance 1284 (see section 4.2.1[b] of this Draft EIR for a more detailed description of City Ordinance 1284).

3.9 INTENDED USES OF THE EIR

This program EIR is an informational document designed to inform the City of San Bruno Planning Commission and City Council and the public of the environmental consequences of the proposed Transit Corridors Plan. The City is the Lead Agency for environmental review of the project under CEQA. This EIR has been prepared to serve as the CEQA-required

Table 3.5
TRANSIT CORRIDORS PLAN BUILDOUT ASSUMPTIONS

Land Use	Existing	New Development Current General Plan Buildout	New Development with Transit Corridors Plan Buildout	Net New Development over General Plan
Residential (dwelling units)	Not estimated	720	1,610	890
Retail (square feet)	900,000	128,600	147,700	19,100
Office (square feet)	100,000	321,500	988,100	666,600
Hotel (rooms)	340	0	190	190

SOURCE: MIG, 2010.

environmental documentation for use by the City in its consideration of the project, including all of the associated project approvals described in section 3.6 above, and the various other associated City actions that may be necessary to implement the Transit Corridors Plan.

This CEQA document is also intended to be used as the baseline (or "first-tier") CEQA document for subsequent public and private development and improvement actions in the Plan area that are consistent with the Transit Corridors Plan. The City would examine these subsequent future activities in the context of the information contained in this program EIR to determine whether and what additional, more focused environmental review would be required.

As the Lead Agency, the City also intends this EIR to serve as the CEQA-required environmental documentation for consideration by other Responsible Agencies and Trustee Agencies that may have limited discretionary authority over future site-specific development proposals facilitated by and consistent with the Transit Corridors Plan.

4. AESTHETICS

This EIR chapter describes the potential impacts of the Transit Corridors Plan on the existing visual environment. The chapter describes existing aesthetic conditions in and around the Transit Corridors Area; the current regulatory setting related to aesthetics; the potential aesthetic impacts of the proposed Transit Corridors Plan and Plan-facilitated buildout scenario, including impacts related to scenic vistas and resources, visual character and quality, scenic highways, light, glare, sky glow, shade and shadow; and associated mitigation needs.

4.1 ENVIRONMENTAL SETTING

4.1.1 Visual Character of Transit Corridors Area and Vicinity

(a) General Visual Character. The Transit Corridors Area is characterized by a pattern of diverse land uses, building forms, parcel sizes and surface parking lots. The area's urban fabric is divided by multiple transportation and retail corridors. San Mateo Avenue has a combination of building scale and distinctive architectural elements which make it a successful pedestrian-oriented Downtown street. El Camino Real, San Bruno Avenue and Huntington Avenue are characterized by varied building setbacks, surface parking lots, inconsistent architectural styles and wide roadways. These characteristics generally deter pedestrian activity and detract from an overall sense of visual quality and identity.

Due largely to the Transit Corridors Area's diverse land use pattern, building characteristics vary greatly both in size and placement. Buildings range from small retail structures fronting on San Mateo Avenue to larger auto-oriented uses along El Camino Real. Buildings are generally smaller and much closer together along San Mateo Avenue, contributing to the avenue's fine-grain and historic "main street" character. This pedestrian-scale character of San Mateo Avenue contrasts with El Camino Real, where larger buildings are interspersed with surface parking lots and greater setbacks from the street.

In addition to neighborhood retail, San Mateo Avenue has two small parks: Posy Park at Huntington Avenue and a landscaped viewing area at Jenevein Avenue. Posy Park, which acts as the gateway to Downtown from the north, has a dense tree cover, resulting in a dark and uninviting atmosphere that may discourage pedestrian activity. The landscaped viewing area at Jenevein Avenue is a City-owned parcel that has been improved with landscaping, a fountain and murals depicting the area's natural history.

Two other major visual elements and community amenities also distinguish the Transit Corridors Area: the existing BART station and the proposed San Bruno Avenue Caltrain station (the existing Caltrain station is located on Sylvan and Huntington avenues, just outside of the Transit Corridors Area).

Visual assets, issues, and opportunities associated with each key physical component of Transit Corridors Area (see Figure 3.3, Development Framework) are described below, including

general building character, pedestrian environments, streetscapes, and parking and vacant parcel characteristics.

(b) El Camino Real. El Camino Real (State Route 82), is the main north-south road in San Bruno. The road has played a significant role in California's history. Formerly known as the "Royal Road," El Camino Real originally extended for 600 miles from Sonoma in the north to San Diego in the south, connecting 21 Spanish missions. El Camino Real functioned as the region's primary north-south auto route into the mid-20th century, when US 101 replaced it as the primary highway between San Francisco and San Jose.

Despite its rich history, El Camino Real today is primarily an auto-oriented strip. The route lacks a cohesive visual identity, sense of place and pedestrian-friendly character. El Camino Real land uses in the Plan area include gas stations, car dealerships, auto-related stores, motels, a furniture store, restaurants, low-rise offices, strip centers, and parking lots. Significant visual assets along El Camino Real include San Bruno's City Hall, public library, and fire station; no other city along the Peninsula has such a civic presence along El Camino Real.

The visual character of El Camino Real is fragmented by driveways and parking lots. Primary building entries are typically spaced far apart. Building setbacks from the street vary in depth, with some "zero lot line" structures (buildings located directly behind the sidewalk with no setbacks), and some properties where frontages are used for surface parking lots, separating building entries and windows from the sidewalk.

El Camino Real's wide center median creates a clear visual separation of northbound and south-bound traffic, and the auto-oriented streetscape creates a physical divide. Streetscape assets along El Camino Real include bus shelters, wide sidewalks, signage, and public art (in front of the library and in newly landscaped medians). In some instances, street furnishings such as light boxes, light posts, and trash receptacles encroach upon the sidewalk and reduce its width.

The City has been coordinating with Caltrans to visually upgrade the medians along El Camino Real (SR 82) with new gateway signage. In addition, the City is actively participating in the Peninsula interjurisdictional Grand Boulevard Initiative, which is aiming to update current design standards to encourage the new range of interrelated land use and transportation options along the corridor.

(c) San Mateo Avenue. San Mateo Avenue is the City's Downtown main street. Existing land uses and the associated visual character of the route are dominated by locally owned neighborhood and ethnic retail and commercial services such as restaurants, grocery stores, cafes, religious organizations, a private indoor swimming pool (for young children), a large children's furniture store, Posy Park, and the landscaped viewing area at Jenevein Avenue. The city's Chamber of Commerce is also located on the avenue. Many parcels along parallel Mastick Avenue (east of San Mateo Avenue) are dedicated to surface parking, with several residential uses in between the parking lots. North of San Bruno Avenue, uses along San Mateo Avenue become more industrial and scattered.

San Mateo Avenue has a 60-foot right-of-way, with sidewalks approximately eight to ten feet wide, parallel parking on both sides of the street, and 12-foot vehicle travel lanes. The avenue has many pedestrian-oriented visual elements, including adequate sidewalks, potted street trees, benches, pedestrian-scaled lighting and signage, bulbouts, on-street parking, and a

visually interesting building pattern. Many of these improvements have resulted from the City's Downtown Improvement Plan. In addition, about 15 San Mateo Avenue storefronts have been refurbished through the former Redevelopment Agency's Façade Improvement Program.

San Mateo Avenue generally provides a pedestrian-friendly environment with active storefronts. The corridor also includes a number of vacancies, and several storefronts currently under renovation for new retailers. Side streets include few windows or wall décor. Blank walls, parking lots without landscaping, overgrown weeds, fences, garbage cans, garages and loading areas are sometimes found behind buildings fronting the Avenue.

There are two major Downtown entrances via San Mateo Avenue: at El Camino Real to the south and at Huntington Avenue to the north. These intersections are the primary pedestrian and vehicular entries into the City core, but currently lack the distinctive and welcoming visual characteristics of a Downtown "gateway." At the San Mateo Avenue/El Camino Real intersection, there is a gas station and several underutilized properties. On the east side of the street at this location are four vacant buildings, anticipated to be redeveloped into a proposed mixed-use development (entitlements were approved in January 2009). The existing sign welcoming traffic to the Downtown from El Camino Real obstructs the view up San Mateo Avenue. At the San Mateo Avenue/Huntington Avenue intersection, Posy Park acts as the northern Downtown entrance; the park will be relocated and reconstructed in conjunction with the planned new Caltrain station development.

(d) San Bruno Avenue. San Bruno Avenue is the key east-west corridor linking Downtown San Bruno, the future Caltrain station and San Bruno residential neighborhoods with US 101, Interstate 280, and Skyline Boulevard. It is a main local connector, linking residential neighborhoods with commercial areas. A planned new Caltrain station and grade separation (under construction) are located on San Bruno Avenue at Huntington Avenue. The new Caltrain station is being designed as a primary focal point and gateway to the community. The grade separation and its associated infrastructure will provide opportunities for a stronger pedestrian-oriented streetscape (e.g., see Figure 4.2).

The Plan area segment of San Bruno Avenue includes restaurants, shops, gas stations, parking lots, religious facilities, motels, apartment complexes, and other uses. The western end of the Avenue includes a concentration of service and regional office uses. An auto dealer is located at the junction of San Mateo and San Bruno avenues. The eastern end of the Avenue has a number of single-family homes; low-, mid- and high-density apartment units; auto-related uses; and small shops. There is currently no gateway feature on the eastern end of San Bruno Avenue to denote the route's function as a key entry to the Downtown and greater San Bruno.

San Bruno Avenue also currently lacks a visually inviting pedestrian environment due to inconsistent building edges that create an uneven sequence of pedestrian entries; blank walls and parking surfaces abutting the sidewalk; inconsistent landscaping in the public right-of-way and on private property; and under-maintained private property. In addition, fast-moving traffic and infrequent crosswalks combine to make San Bruno Avenue a barrier for pedestrians attempting to cross north-south along the street.

(e) Huntington Avenue. Huntington Avenue connects Downtown and San Bruno residential neighborhoods with the San Bruno BART station and The Shops at Tanforan local regional shopping center. The roadway runs parallel to the Caltrain tracks. South of the Transit Corridors Area, Huntington Avenue acts as a neighborhood street; north of the Plan area

boundary, the Avenue serves more as a service and access road providing access to the BART station, the Shops at Tanforan and the local post office.

Most of the buildings on Huntington Avenue are single or multi-family residences. In some instances, property owners have paved the area between building and the sidewalk, giving the appearance of a wider sidewalk. Residential structures along the route are typically even in height, bulk and distribution, and most pedestrian entries face the street, creating a visual rhythm. South of San Bruno Avenue, some neglected building façades create a pedestrian-unfriendly environment. The width of the street and sidewalks on Huntington Avenue offer opportunities for streetscape improvements; sidewalks range from five- to 10-feet wide and are in good condition.

Huntington Avenue is lined with parking lanes and newly planted street trees on its west side, creating a more protected environment for pedestrians. The sidewalk pavement is in good condition, and bulbouts exist at the intersection of Huntington and Euclid avenues, helping to calm traffic speeds. From the BART station to the intersection at San Bruno Avenue, Huntington Avenue has a landscaped center median that transitions to a turning lane approaching intersections. Median island trees are relatively small compared to the overall scale of the avenue.

(f) Station Area. The Station Area is bordered on the west by the Caltrain rail line and is currently occupied by a large parking lot, light industrial uses, and low-density housing. As the planned site for the new Caltrain station and grade separation, the Station Area has the potential to create a distinctive visual gateway into Downtown and a prominent Plan area focal point of high-density mixed-use office development and public open spaces.

Currently the Station Area is not visually integrated into the surrounding urban environment. Blank walls along Huntington Avenue and the lack of pedestrian amenities and facilities present an unwelcoming pedestrian environment. The surrounding land uses, including residential development along Huntington Avenue and the mix of service commercial uses along San Mateo Avenue, could influence the scale and massing of future development within the Station Area.

4.1.2 Existing Scenic Vistas

Hills to the north and west provide a prominent visual backdrop to the Transit Corridors Area and the city. Various vantage points throughout the Transit Corridors Area and surrounding neighborhoods have views of the western and northern ridgelines, including San Bruno Mountain and Sweeney Ridge, which have elevations of over 1,200 feet. The city's western neighborhoods have views over the Transit Corridors Area to San Francisco Bay, the Oakland hills, and Mount Diablo (in central Contra Costa County). San Bruno General Plan policies require that development on sites visible from multiple locations undergo design review to ensure they are not visually over-dominant (see Policy LUD-69 in subsection 4.2.2 of this EIR chapter).

4.1.3 Existing Scenic Highways

The California Scenic Highway Program protects scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to identified scenic highways. A highway may be designated as a "State Scenic Highway" by Caltrans depending on how much of the

natural landscape can be seen by travelers, the scenic quality of the visible landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. Within San Bruno, Skyline Boulevard (State Route 35) and Interstate 280 are designated by Caltrans as State Scenic Highways.

In addition, El Camino Real south of Crystal Springs Road, Crystal Springs Road, and Sharp Park Road are designated by San Mateo County as County Scenic Roads, and Sneath Lane is designated by the City as a scenic corridor.

None of these state and locally designated scenic corridors traverse the Transit Corridors Area; however, development within the Transit Corridors Area may be partially visible from portions of these corridors.

4.1.4 Existing Light, Glare and Sky Glow

Existing sources of nighttime light in and around the Transit Corridors Area include those common to urban areas, including street and freeway lights, parking lot lighting, building lighting, illuminated signs, vehicle headlamps and interior lighting visible through windows. Existing sources of glare in and around the Transit Corridors Area are also those common to such urban areas, including reflection of sunlight and artificial light off of windows, buildings and other surfaces in the day, and glare from inadequately shielded and improperly directed light sources at night.

4.1.5 Existing Shade and Shadow Conditions

(a) Shade and Shadow Issues. The issue of shade and shadow as it pertains to the Transit Corridors Area involves the blockage of direct sunlight by existing or proposed structures, and associated effects on adjacent properties. The effects of shading by one structure upon another element (structure, space, etc.) can be either positive or negative depending upon the site-specific circumstances. Potential beneficial effects of shading may be the desired cooling effect during warm weather. Perceived adverse effects of shading may include loss of desirable natural light, including natural light for passive or active solar energy applications, or loss of desired warming influences during cool weather. Factors influencing the perceived impact of shadow are site-specific and can include building placement; the height, bulk and setback of structures; the time of year; the duration of shading in a day; weather; landscaping; and the sensitivity of adjacent land uses to loss of sunlight.

(b) Shade and Shadow Characteristics. Shadows cast by structures vary in length and direction throughout the day and from season to season. The longest shadows are cast during the winter months, when the sun is lowest on the horizon; the shortest shadows are cast during the summer months. Shadows are longer in the early morning and late afternoon. Shadow lengths increase during the "low sun" or winter season and are longest on December 21-22, the winter solstice. The winter solstice, therefore, represents the "worst-case" shadow condition and the time when the potential for loss of access to sunlight due to an adjacent structure is greatest. Shadow lengths are shortest on June 21-22, the summer solstice. Shadow lengths fall midway between the summer and winter extremes on March 20-21 and September 22-23, the spring and fall equinoxes, respectively.

Shadows are cast to the west by objects during the morning hours when the sun is coming up on the horizon in the east. During late morning and early afternoon, the shadows of objects

move northerly and by late afternoon they are cast easterly as the sun moves across the sky from east to west.

(c) Shade and Shadow Sensitivities. Land uses are generally considered shadow-sensitive when sunlight is important to function, physical comfort, or the conduct of commerce. Facilities and operations identified as potentially sensitive to the loss of sunlight may include public parks, plazas and open space areas; routinely usable outdoor areas of residential properties; commercial uses such as pedestrian-oriented outdoor spaces or restaurants with outdoor eating areas; and existing solar energy collectors.

Shadow-sensitive land uses and features of concern in the Transit Corridors Area, as identified by City staff and members of the community, include public open space areas (e.g., Posy Park and the Jenevein Avenue landscaped area), parcels with a lower maximum permitted height adjacent to parcels with a higher maximum permitted height (e.g., edges of the Plan area near single-family residential uses), and solar-sensitive portions (e.g., private and common yards and balconies) of residential parcels.

4.2 REGULATORY SETTING

4.2.1 State of California

(a) California Scenic Highway Program. The California Scenic Highway Program protects scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to identified scenic highways. "Officially Designated State Scenic Highways" must have a scenic corridor protection program, or its equivalent adopted by the local jurisdiction, to preserve the scenic quality of the corridor and address land use, development density, earthmoving, landscaping, building design, and outdoor advertising, including billboards, within the corridor.

As described previously in section 4.1.3, Caltrans-designated State Scenic Highways within San Bruno include Skyline Boulevard (SR 35) and I-280. In addition, El Camino Real south of Crystal Springs Road, Crystal Springs Road, and Sharp Park Road are designated by San Mateo County as County Scenic Roads, and Sneath Lane is designated by the City as a scenic corridor. Although none of these routes traverse the Transit Corridors Area, development within the Plan area may be visible from portions of these routes.

(b) Title 24 Outdoor Lighting Zones. In 2001, the California Legislature passed a bill requiring the California Energy Commission (CEC) to adopt energy-efficient standards for outdoor lighting for both the public and private sector. In November 2003, the CEC adopted changes to the Building Energy Efficient Standards within Title 24. The standards specify outdoor lighting requirements for residential and non-residential development. The intent of these standards is to improve the quality of outdoor lighting and reduce the impacts of light pollution, light trespass and glare. The standards regulate lighting characteristics, such as maximum power and brightness, shielding, and use of sensor controls to turn lighting on and off. Different State lighting standards have been established for four "lighting zone" classifications. Based on population figures in the 2000 Census, areas can be designated by this State specification system as LZ1 (dark), LZ2 (low), LZ3 (medium), or LZ4 (high). State lighting standards for rural areas are stricter for example, to provide appropriate protection from new sources of light

pollution and light trespass. San Bruno falls within the State LZ3 classification--i.e., an urban environment.[1]

4.2.2 City of San Bruno

(a) San Bruno General Plan. The following San Bruno General Plan policies are relevant to consideration of the potential aesthetic impacts of the proposed Transit Corridors Plan and associated buildout scenario:

LUD-I Engage in a new streetscaping and banner program at the City's major gateways to help foster San Bruno's sense of place.

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 [of the General Plan]. *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.*

[1] http://www.energy.ca.gov/title24/2008standards/outdoor_lighting/

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-18 Upgrade the appearance of Downtown through combined efforts of the City, merchants, and property-owners. (With the loss of redevelopment funding, investigate other sources of funding to assist merchants and property owners with façade improvements)

- *Integrate Civic Center as part of an expanded Downtown that "embraces" El Camino Real (as shown in Figure 2-5* [of the General Plan]*). Undertake streetscape improvements to link the Civic Center Complex with San Mateo Avenue.*

LUD-21 Strengthen the identity of the existing internal "street" network in The Shops at Tanforan and Towne Center. Encourage transition of these two centers into an outdoor/indoor shopping "district," as illustrated in Figure 2-6 [of the General Plan]. *Implement the following design techniques:*

- *Promote reuse and infill of existing surface parking lots.*
- *Strengthen the existing internal street network (as shown in the concept diagram) to promote walkability between stores, services, and restaurants.*
- *Ensure that the street network links the two shopping centers and preserves the visibility of the existing shopping complexes from El Camino Real.*
- *Design all new commercial spaces to be located and oriented toward the walkable internal streets and toward Sneath Lane, with clear connections to enclosed mall entrances.*
- *Create fluid and visible pedestrian connections to and from the San Bruno BART station.*
- *In accordance with Ordinance 1284, consider construction of necessary parking structures to replace existing surface parking lots. Locate parking structures along the edges of the shopping district to minimize vehicular traffic on internal pedestrian-oriented streets.*
- *Improve landscaping along El Camino Real to differentiate and announce the "district" from other developments along El Camino Real.*
- *Incorporate gateway features on El Camino Real near the northern edge of Towne Center where San Bruno's northern boundary exists.*
- *Develop a uniform signage plan to coordinate signs along the internal shopping streets with signs along El Camino Real.*
- *Coordinate with the San Bruno Chamber of Commerce to market the new "district" as a regional marketplace.*

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.

LUD-31 Develop a green buffer along Huntington Avenue, as illustrated in Figure 2-7 [of the General Plan] *to buffer residents from BART and Caltrain activities.*

LUD-32 Extend the landscaped median along Huntington Avenue to the north and connect it with the planned bikeway along the BART alignment through South San Francisco.

LUD-33 Plant additional street trees along the existing buffer between Huntington Avenue and the residential frontage road due east of the San Bruno BART station.

LUD-34 As opportunities arise, consider creating a new four- to five-feet wide planted median that serves to buffer residential development from railway activities along Huntington Avenue.

LUD-35 Consider widening Bayshore Circle and use the extra space to improve the large median strip into a pedestrian path/linear park that promotes access to the BART station.

LUD-43 Work with CalTrans to plant landscaping on properties fronting El Camino Real, and maintain the landscaped median that continues north from the City of Millbrae. Consider comprehensive streetscape and sidewalk improvements along El Camino Real, should CalTrans choose to abandon the right-of-way as a State highway.

LUD-44 Require multi-use developments along El Camino Real to provide a pedestrian-friendly environment along the street frontage, as follows:

- *Require a minimum ground floor transparency requirement for all development north of Crystal Springs Road.*
- *Encourage pedestrian-scale architectural articulation (that is, awnings at appropriate heights).*
- *Require that buildings are located adjacent to the sidewalk, and that main entries are oriented toward the sidewalk.*
- *Locate parking lots at the side or rear of parcels. Buffer parking areas from the sidewalk with landscaping.*
- *Minimize curb cuts and parking access from El Camino Real.*
- *Limit front setbacks to create an active street frontage.*

LUD-46 Develop a program of streetscape improvements--including street trees, sidewalk widening, signage, bus shelters, and pedestrian-scale lighting--along El Camino Real to create a sense of identity for the City of San Bruno.

LUD-48 Promote transit-oriented design along San Bruno Avenue, east of Huntington Avenue. Permit a diverse mix of commercial employers with retail frontage, streetscaping, pedestrian connections, and transit shelters.

LUD-49 Minimize building setbacks, orient building entrances toward the street (not parking lots), and vary features along the building façades on San Bruno Avenue.

LUD-50 Install gateway features—such as welcome signs, streetlights, and landscaping—along San Bruno Avenue, east of the planned San Bruno Avenue Caltrain station.

LUD-67 Foster a sense of place in San Bruno through development of a coordinated signage and landscaping program near the BART and Caltrain station areas, within Downtown, and at gateways into the City.

LUD-69 Conduct a design review of all development in "Areas visible from all sites" in Figure 2-3 [of the General Plan] *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.

LUD-71 Orient the view platform or plaza of the planned Caltrain station at San Bruno Avenue and Huntington Avenue toward San Bruno Mountain and Downtown.

LUD-72 Require buildings in Downtown and in Transit-oriented Development district to screen mechanical equipment 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.

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.*
- *Improve the appearance of the following major gateways to the City with landscaping and improved architectural design:*
    - *San Bruno Avenue, western city limits;*
    - *El Camino Real, northern and southern city limits;*
    - *Skyline Boulevard, northern and southern city limits; and*
    - *Sharp Park Road, western city limits.*

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

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.

(b) Ordinance 1284. As established by San Bruno Ordinance 1284, adopted in 1977 and retroactive to 1974, implementation of the Transit Corridors Plan would require voter approval by a majority of the electorate in order to permit development of buildings greater than three (3) stories or fifty (50) feet and/or construction of multi-story parking structures. Until approved by a majority of San Bruno voters in a general or special election, Ordinance 1284 prohibits building permits, grading permits or other approvals to allow construction of the buildings, other structures, land development projects or land uses described below:

- Buildings or other structures exceeding 50 feet in height;
- Buildings or other structures exceeding three stories in height;
- Buildings or other structures, modifications or redevelopment thereof, in residential districts which increase the number of dwelling units per acre or occupancy, within each acre or portion ·thereof, in excess of limits permitted on October 10, 1974, under the then existing Zoning Chapter of the City of San Bruno;
- Multi-story parking structures or buildings; or
- Buildings or other structures, modifications or redevelopment thereof, which encroach upon, modify, widen or realign the following streets hereby designated as scenic corridors: Crystal Springs Road between Oak Avenue and Junipero Serra Freeway.

The Ordinance also requires a town-hall hearing where experts, proponents and opponents may be heard and questioned by voters.

(c) Downtown Design Guidelines. The City-adopted Downtown Design Guidelines have established a design review framework to guide private development actions in Downtown San Bruno so that individual projects work together to create a well-formed and well-used Downtown district. The Guidelines address the renovation and design of individual structures (renovations, restorations or new construction), and provide a framework for enhancing the visual character and identity of the Downtown as a whole. The Guidelines also outline architectural and streetscape elements that should be emphasized as a means of unifying the district into a memorable and distinctive town center. The Guidelines are administered through the City's Architectural Design Review process. The Transit Corridors Plan is intended to work in concert with the Downtown Design Guidelines.

4.3 IMPACTS AND MITIGATION MEASURES

4.3.1 Significance Criteria

Based on the CEQA Guidelines[1], the Transit Corridors Plan and associated buildout scenario would be considered to have a significant impact related to aesthetics if they would potentially:

(a) Substantially degrade the existing visual character or quality of the site and its surroundings;

(b) Have a substantial, adverse effect on a scenic vista;

(c) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway; or

(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Although neither the CEQA Guidelines nor the City has a significance criterion for shade and shadow effects, this issue is evaluated qualitatively in this EIR chapter to address related concerns identified by City staff and the public.

4.3.2 Relevant Transit Corridors Plan Provisions

(a) Key Aesthetic Objectives. Key aesthetic objectives of the Transit Corridors Plan are to enhance the visual quality and distinct character of the Transit Corridors Area, including the five identified Character Areas, and to establish the Transit Corridors Area as a "vibrant and memorable" community focal point and gathering place. The Plan's "public realm" and "private realm" development standards and design guidelines seek to improve existing streetscapes and upgrade the visual quality of development. A detailed description of these Transit Corridors Plan objectives, standards and guidelines is included in chapter 3 (Project Description) of this EIR.

(b) Zoning Designations and Development Standards. The Transit Corridors Plan contains a set of proposed mandatory development standards to guide the development of the private realm in the plan area. The Plan would establish more detailed land use, height, setback, and stepback standards within specific zoning designations that generally correspond to each of the five Character Areas. The five Plan-proposed zoning designations for the Transit Corridors Area and corresponding Character Areas are as follows:

- *TOD-SO (TOD-Station Office)*--Station Area: High Intensity TOD;
- *TOD-MXD1 (Medium-Higher Density Mixed-Use)*--San Bruno Avenue/Huntington Avenue Area: Mixed-Use TOD Corridor;
- *TOD-MXD2 (Higher-Density Mixed-Use)*--El Camino Real Area: Mixed-Use Housing and Commercial Corridor;

[1] CEQA Guidelines, Appendix G, Items I(a) through (d).

- *CBD (Central Business District)*--San Mateo Avenue Area: Revitalized Downtown Core; and

- *P/QP (Public/Quasi-Public)*--Civic Center portion of El Camino Real Area.

(1) Maximum and Minimum Height Limits. The Transit Corridors Plan proposes the following *maximum* height limits for each proposed zoning designation (see Figure 4.1):

- 90 feet (7 stories) in the TOD-SO Station Area;

- 65 feet (5 stories) in the TOD-MXD1 San Bruno Avenue/Huntington Avenue Area;

- 70 feet (5 stories) in the TOD-MXD2 El Camino Real Area;

- 55 feet (4 stories) in the CBD Downtown; and

- 70 feet (5 stories) in the PQP/Civic Center. (Within the P/QP [Public/Quasi Public] zone, development fronting onto existing residential streets is limited to 50 feet [3 stories]).

The Transit Corridors Plan also proposes *minimum* heights of 60 feet (4 stories) in the TOD-SO Station Area zone, and 40 feet (3 stories) in the TOD-MXD1 San Bruno Avenue/Huntington Avenue zone and TOD-MXD2 El Camino Real zone.

The plan also proposes that architectural features promoting high-quality urban design which extend beyond setbacks and height limits may be advocated or authorized through the Planning Commission design review process.

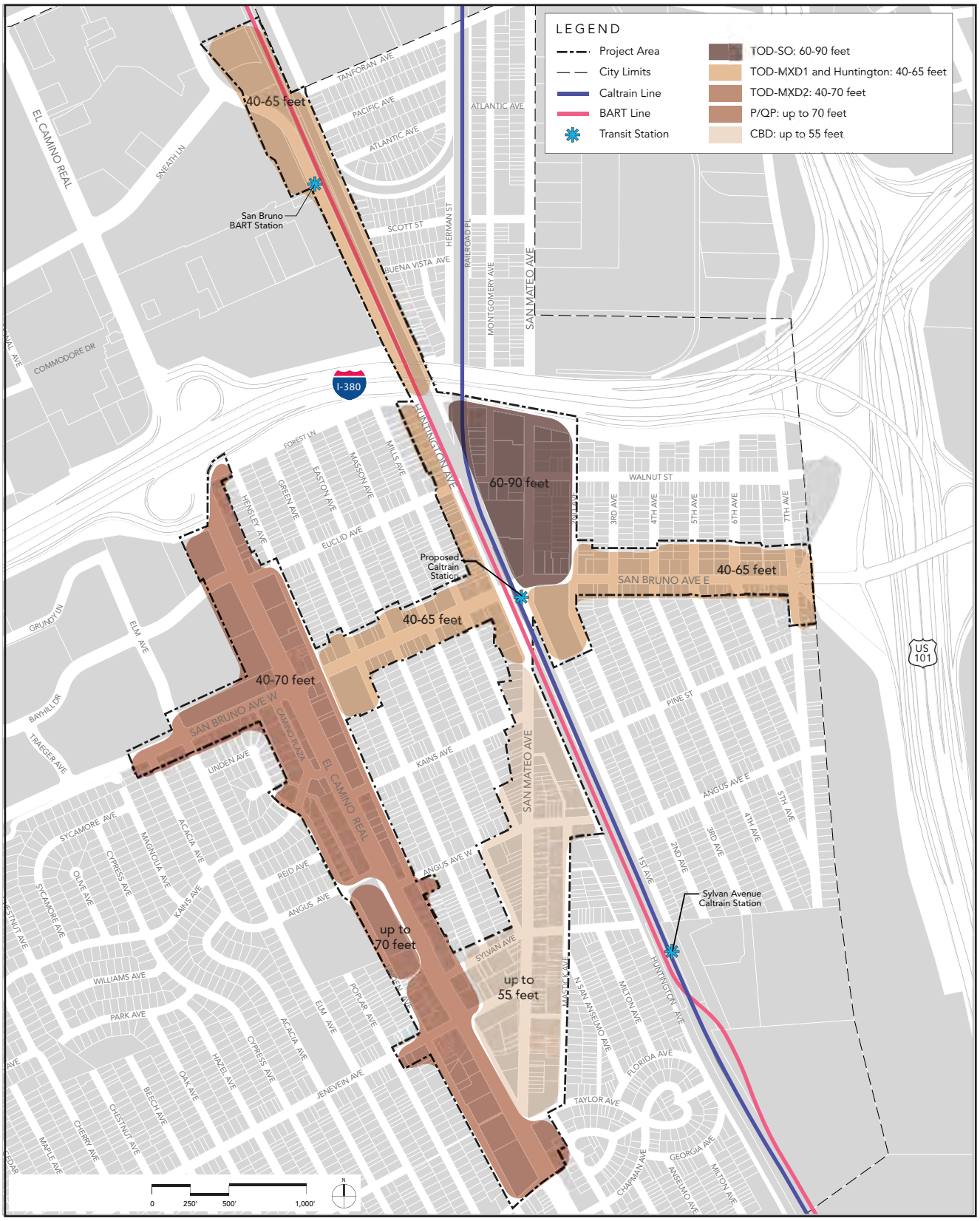
As established by San Bruno Ordinance 1284, implementation of these proposed Transit Corridors Plan height limits would require voter approval by a majority of the electorate in order to permit development of buildings greater than three (3) stories or fifty (50) feet in height and/or construction of multi-story parking structures.

(2) Setbacks. The Transit Corridors Plan would require a minimum 10-foot rear setback where development backs onto existing single-family homes in all zones.

(3) Stepbacks. The Transit Corridors Plan would require a minimum 15-foot stepback above 50 feet where development faces adjacent lower density residential neighborhoods in the TOD-SO Station Area, TOD-MXD1 San Bruno Avenue/Huntington Avenue, and TOD-MXD2 El Camino Real zones, and a minimum 10-foot stepback above 50 feet in the CBD Downtown zone.

(c) Private Realm Design Guidelines. The Transit Corridors Plan would also establish non-mandatory private realm design guidelines, including Overarching Design Guidelines (addressing site layout and building design, parking and circulation design, sustainability design) that would pertain throughout the Transit Corridors Area, as well as Character Area Design Guidelines specific to each of the five Character Areas.

(d) Public Realm Design Guidelines. The Transit Corridors Plan also contains a set of proposed non-mandatory design guidelines to guide public realm improvements within the Transit Corridors Area, including: Overarching Guidelines that direct streetscape design



SOURCE: Wagstaff/MIG

Figure 4.1

PROPOSED BUILDING HEIGHT LIMITS

throughout the Transit Corridors Area; Character Area Guidelines that provide specific design guidance for the five Character Areas; and Open Space Guidelines that outline design parameters for creating active, vital open spaces.

(e) Catalytic Opportunity Sites. The Transit Corridors Plan highlights three catalytic opportunity sites, identified in partnership with the private sector, that have the potential to significantly influence and transform the Transit Corridors Area and should be considered a top planning priority. The sites are considered "catalytic" due to their prime location at key gateways and their ability to provide needed uses or services currently lacking within the Transit Corridors Area. The three catalytic opportunity sites are depicted in Figures 3.4 through 3.6 in chapter 3 (Project Description) of this EIR. Related visual factors are described below. The opportunity site descriptions are purely conceptual and are not intended to prescribe the details of potential future development proposals.

(1) Catalytic Opportunity Site #1: Caltrain Station. The Plan envisions buildings up to 7 stories high containing a mix of approximately 350,000 square feet of office and ground floor retail uses. Centrally located between the railroad tracks and San Mateo Avenue at the corner of San Bruno Avenue, the Plan indicates that this visually prominent gateway site should include iconic architectural elements. To balance the high intensity of uses, the Plan indicates that the site also has the potential to provide a public gathering space in the form of a park, plaza or other open space amenity. The site would need to accommodate parking for the Caltrain station, potentially in a below-grade parking structure, as well as office and retail uses.

(2) Catalytic Opportunity Site #2: Southwest Corner of San Bruno and Huntington Avenues. The Plan envisions a 5-story mixed-use building on this site, including approximately 9,000 square feet of ground floor retail and housing above. Strategically located at the corner of Huntington Avenue and San Bruno Avenue, just west and south of the future Caltrain station, this site provides an opportunity to develop a visually distinct gateway connection from the Station Area to Downtown. The site is identified as a prime location for a prominent building with active storefronts and uses, and distinctive architectural elements that announce entry into Downtown.

(3) Catalytic Opportunity Site #3: San Mateo Avenue/El Camino Real Gateway. The Plan envisions a 4-story development with a 50,000 square-foot facility at the terminus of the triangular parcel and active storefronts along San Mateo Avenue. The site is described as a location for retail or mixed-use development that can draw visitors from El Camino Real into Downtown. The site is also described as having the potential for a mixed-use medium- to high-density residential building with retail space on the ground floor to activate the street edge along San Mateo Avenue. The Plan indicates that the site would also benefit from a public plaza, park or open space element that would connect San Mateo Avenue to El Camino Real, balance the density on the site, and create a welcoming entrance to Downtown.

(f) Redesigned Intersections. The Transit Corridors Plan recommends evaluating a redesign of the San Mateo Avenue/El Camino Real intersection to create a highly visible gateway to Downtown and an outdoor public plaza, as well as improving access in and out of Downtown. The realigned intersection would be centered on the San Mateo Avenue/El Camino Real junction, rather than the existing Taylor Avenue/El Camino Real junction, to create a safer 90-degree intersection into San Mateo Avenue from El Camino Real. A redesigned (realigned) intersection is proposed to allow for new, more intensive land uses that would activate and anchor the southern end of Downtown, as well as the creation of a civic plaza or community

space to visually signify the entrance into Downtown and allow greater physical and visual connection between El Camino Real and Downtown.

(g) Pedestrian Circulation Improvements. The Plan recommends various crosswalk improvements, including raised crosswalks on San Mateo Avenue, and new crosswalks, crosswalk enhancements with bulbouts, and pedestrian refuge islands on El Camino Real, San Bruno Avenue and Mastick Avenue. The proposed "road diets" (see below) on San Bruno Avenue and Huntington Avenue would allow for wider sidewalks on these street segments.

(h) Road Diets. The Transit Corridors Plan recommends evaluating a possible future reduction of travel lanes from four travel lanes to two lanes to facilitate development of increased pedestrian and bicycle amenities on San Bruno Avenue and Huntington Avenue north of San Bruno Avenue.

(i) Roundabouts. The Plan also identifies three potential roundabout locations: the San Mateo Avenue/San Bruno Avenue, San Mateo Avenue/Huntington Avenue, and San Bruno Avenue/Elm Avenue intersections.

(j) Passive Heating and Cooling Guidelines. The Transit Corridors Plan includes passive heating and cooling guidelines as part of its sustainability provisions. The following guidelines are especially relevant to considering the potential shade and shadow effects of the Plan:

- Orient courtyards, open space, and facades to the south to maximize heat gain and natural sunlight.
- Minimize building heights on the north side of developments to reduce shadows.
- Provide light-shelves on south-facing windows and entries to maximize natural lighting.
- Orient buildings southward to receive optimal natural sunlight, when possible.

4.3.3 Impacts and Mitigations

Plan Impact on General Visual Character and Quality of Pan Area and Surroundings. As summarized in subsection 4.2.2 of this EIR chapter, development facilitated by the Transit Corridors Plan would be subject to applicable existing San Bruno General Plan standards and policies, and existing City zoning regulations and design guidelines, supplemented by the more detailed development regulations of the Transit Corridors Plan pertaining to private and public realm development activity and the desire to create a finer-grained, transit-, bicycle- and pedestrian-oriented visual character.

Implementation of the Transit Corridors Plan would be expected to promote a more appealing and coherent visual character in the Transit Corridors Area. Development facilitated by the Plan would occur as infill development on vacant land and intensification of underutilized properties consistent with City General Plan policies. Such development would result in more harmonious and compatible land use patterns and a more unified visual character within the Transit Corridors Area.

The Plan proposes substantial revisions to Plan area building height maximums with building heights up to 90 feet (7 stories) in the TOD-SO (Station Office) area, 65 feet (5 stories) in the

TOD-MXD1 (Medium-High Density Mixed-Use) area, 70 feet (5 stories) in the TOD-MXD2 (High Density Mixed Use) area, and 55 feet (4 stories) in the CBD (Downtown) area. As illustrated by Figure 4.1 these building height changes would promote an upward graduation in building heights towards the planned Caltrain station, and thus promote a more discernable and distinctive central area form and skyline, which would reinforce community identity. The visual impact of these building height increases would be controlled and minimized through required additional building setback and stepback requirements formulated to reduce shade and shadow impacts and visual perception of building mass incompatibility.

To provide an example illustration of potential Plan buildout scenario impacts on the visual character of the Transit Corridors Area, Figure 4.2 provides a "before" and "after" computer-generated visual simulation of San Bruno Avenue, looking west toward San Mateo Avenue, under the Transit Corridors Plan. The existing visual character in this illustration (top photo) is dominated by scattered vegetation, pavement and cars, with limited visual or human-scaled amenities. The simulated buildout scenario visual character shown in the "after" illustration (bottom photo) includes coordinated landscaping, gateway signage, building height stepbacks, human-scaled amenities (e.g., outdoor seating, plantings), and new lamp posts. The future Caltrain grade separation (under construction) is also illustrated in the "after" simulation, including planned landscaping and pedestrian connections at street level.

In summary, the Transit Corridors Plan would result in an overall more coherent and compatible land use pattern and a more unified visual character in the Transit Corridors Area. Development of the three proposed catalytic sites (Caltrain Station; San Bruno Avenue at Huntington Avenue; San Mateo Avenue/El Camino Real Gateway) would be subject to applicable San Bruno General Plan standards and policies, City zoning regulations and design guidelines, supplemented by the more detailed Transit Corridors Plan development regulations pertaining to private and public realm development activity formulated to create a finer-grained, transit-, bicycle- and pedestrian-oriented visual character. The areawide impact of the Transit Corridors Plan on visual character and quality of the project site and surrounding area would therefore be ***less-than-significant.***

Mitigation. No significant impact has been identified; no mitigation is required.



Existing View



Future View, including Caltrain Station grade separation

SOURCE: Wagstaff/MIG

Figure 4.2

VISUAL SIMULATION: SAN BRUNO AVENUE, LOOKING WEST TOWARD SAN MATEO AVENUE

Impact 4-1: Plan Building Height Impacts on Visually Sensitive Residential Edges. The visual impact of the Plan-proposed increases in Transit Corridors Area maximum permitted building heights, which at various locations would exceed the current citywide 3-story building height maximum by from 1 to 4 additional stories, would be minimized by Plan-proposed building setback and stepback requirements. The proposed building setback and stepback requirements have been specifically formulated to reduce shade and shadow impacts and perceptions of building height and mass incompatibilities on the Plan area edges adjacent to lower intensity residential and other uses.

Permitted new multi-story buildings along Plan corridor frontages and Plan area edges would for the most part be separated from the nearest adjacent residential uses by existing roadway rights-of-way, and would be subject to greater minimum setbacks at ground level as well as additional building "stepback" requirements above the fifth floor (above 50 feet). However, in the following site-specific instances, the potential impact of Plan-proposed maximum building heights on adjacent low-density residential properties may not be adequately mitigated by these Plan setback and stepback provisions:

- within the TOD-SO (TOD-Station Office) designation encompassing the planned new Caltrain station and adjacent areas to the north, where new buildings of up to 90 feet (7 stories) in height would be permissible adjacent to the rear yards of approximately eight existing 1-to-4-unit residential properties fronting on 2nd Avenue (the proposed minimum rear yard setback here of 10 feet and minimum stepback of 15 feet above 4 stories would reduce this potential impact, but not assuredly to a less-than-significant level);

- at edges of the TOD-MXD1 (Medium-High Density Mixed-Use) designation along the San Bruno and Huntington Avenue corridors, where new buildings up to 65 feet (5 stories) in height would be permissible directly adjacent to the side yards of roughly a dozen existing 1-to-5-unit residential properties along San Bruno Avenue East (the proposed minimum stepback of 15 feet above 4 stories would reduce this potential impact, but not assuredly to a less-than-significant level);

- at edges of the TOD-MXD2 (High-Density Mixed-Use) designation along the El Camino Real corridor, where the visual impact of new buildings up to 70 feet (5 stories) in height would be permissible directly adjacent to the rear yards of roughly eight or nine 1-to-5-unit residential properties fronting on Hensley Avenue north of Euclid Avenue, and roughly seven or eight 1-to-4-unit residential properties fronting on Hensley Avenue north of Sylvan Avenue (the Plan-proposed minimum ground level rear yard setback of 10 feet and minimum stepback of 15 feet above 4 stories would reduce this potential impact, but not assuredly to a less-than-significant level); and

(continued)

Impact 4-1 (continued):

- within the proposed CBD (Central Business District) designation along San Mateo Avenue, where new buildings of up to 55 feet (4 stories) in height would be permissible adjacent to the rear yards of approximately four existing single-family properties, including one on Mills Avenue south of San Bruno Avenue, one on Masson Avenue south of Kains Avenue, and up to two on Angus Avenue south of San Mateo Avenue (the proposed minimum rear yard setbacks here of 10 feet and minimum stepback of 10 feet above the third floor would reduce this potential impact, but not assuredly to a less-than-significant level).

The potential Plan building height impacts on visually sensitive residential edges would represent a ***significant adverse impact*** (see criterion [a] under subsection 4.3.1, "Significance Criteria," above).

Mitigation 4-1: Establish an additional "transition area" along these particular Transit Corridors Area residential edges where building heights within the first 20 feet of adjacent rear yard depth and first 10 feet of adjacent side yard depth would include a minimum stepback of 10 feet above the third floor. The addition of this provision to the Transit Corridors Plan would reduce this potential impact to a ***less-than-significant level***.

Plan Impacts on Scenic Vistas. No scenic vistas or view corridors would be substantially obstructed or degraded by future development in accordance with the Transit Corridor Plan. The San Bruno General Plan does not identify any specific scenic vistas within the community. Development-facilitated by the Transit Corridors Plan would not be expected to substantially block or degrade any prominent vistas. Scenic vistas in San Bruno are available primarily in the city's western hills. The city's western neighborhoods have views over the Transit Corridors Area to San Francisco Bay, the Oakland hills, and Mount Diablo (in central Contra Costa County). The Transit Corridors Plan would allow taller buildings in the Plan area, increasing allowed heights by up to 4 stories to a maximum height of 7 stories. Given the elevation of the Plan area relative to these vantage points, as well as the expansiveness of views from these locations, this change would not substantially obstruct or degrade scenic vistas. The Plan would facilitate a "mounding" of buildings concentrated towards the planned Caltrain station, and thus promote a more discernable and distinctive central area form and skyline, which would reinforce community identity.

Infill development on vacant land, and intensification and redevelopment of underutilized properties, would be expected to result in a more unified and coherent development character, thereby improving the quality of both internal and external views of the Plan area. The proposed building height transitions, design regulations and guidelines, and streetscape improvements would ultimately improve the visual quality and character of the Plan area and thereby enhance views from adjacent residential neighborhoods, travel corridors, and other nearby vantage points.

Also, Plan Design Guideline A14-11 states, "Orient upper stories and rooftops where possible to capture views of the hills, San Bruno Mountain, and the bay to take advantage of the prime geographic setting of the City." The site layout, massing/scale, height, setback, and stepback provisions of the Plan would result in framed vistas from within the plan area and provide public and private vistas outward beyond the plan area.

The impacts of the Transit Corridors Plan on scenic vistas would therefore be ***less-than-significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Plan Impacts on Scenic Highways. Within San Bruno, Skyline Boulevard (State Route 35) and Interstate 280 are designated by Caltrans as State Scenic Highways. El Camino Real south of Crystal Springs Road, Crystal Springs Road, and Sharp Park Road are designated by San Mateo County as County Scenic Roads. Sneath Lane is designated by the City as a scenic corridor. Although none of these scenic corridors traverse the Transit Corridors Area, development facilitated by the Transit Corridors Plan within the Plan area may be partially visible from portions of these scenic corridors. The more coherent and compatible land use patterns and more unified visual character facilitated by the Transit Corridors Plan would be expected to have a ***beneficial aesthetic effect*** on views from identified scenic roadway corridors.

Mitigation. No significant impact has been identified; no mitigation is required.

Plan Light, Glare, and Sky Glow Impacts. Future development within the Transit Corridors Area would result in additional lighting and increased light emanating from the plan area. New sources of light would be installed as part of new buildings and site improvements to illuminate entries, parking areas, sidewalks and open spaces, for safety and security, and to highlight architectural features. New development within the Transit Corridors Area would be subject to an additional layer of more detailed lighting standards and guidelines set forth in Transit Corridors Plan section 5.2 (Private Realm Design Guidelines, A7: Lighting) and chapter 6 (Public Realm Design Guidelines, A4: Street). Newly installed outdoor lighting equipment would also be subject to State-mandated Lighting Zone 3 (LZ3: urban environment) standards contained in Title 24, Parts 1 and 6, Building Energy Efficiency Standards, of the state Public Resources Code. Required future development and improvement compliance with this combination of Transit Corridors Plan lighting standards and Title 24 lighting power allowances would be expected to adequately control and prevent unnecessary brightness of lighting, debilitating glare, and sky glow. Therefore, the light, glare, and sky glow impacts of the Transit Corridors Plan would be ***less-than-significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Impact 4-2: Plan Building Height Shade and Shadow Impacts. Subject to voter approval pursuant to City Ordinance 1284, the Transit Corridors Plan would allow taller buildings throughout the Transit Corridors Area, increasing maximum allowable buildings heights within specific zones to 55 feet (4 stories), 65 feet (5 stories), 70 feet (6 stories), or 90 feet (7 stories). The increased building height limits could result in increased shadows on shadow-sensitive neighboring residential properties and public spaces at some locations within and immediately adjacent to the Transit Corridors Area. Areas identified as particularly sensitive to shadow impacts include:

- Posy Park (San Mateo Avenue at Huntington Avenue),
- the Plan-proposed Jenevein Avenue landscaped area (San Mateo Avenue at Jenevein Avenue),
- the Plan-proposed plaza at the future Caltrain station (Catalytic Site #1, internal and at corner),
- the Plan-proposed gateway plaza at the San Mateo Avenue/El Camino Real intersection (Catalytic Site #3, internal and at corner), and
- existing adjacent residential areas.

Plan shade and shadow impacts on these areas are described below:

Similar to the Plan's relationship to scenic vistas, the site layout, massing/scale, height, setback, and stepback provisions of the Plan would help minimize shade and shadow effects by allowing sunlight into public open space and plazas and into adjacent residential areas, while also creating comfortable areas of shade where this amenity is currently lacking.

Posy Park is located at the northern tip of the proposed CBD zone, where the Plan-proposed maximum building height would be 55 feet (4 stories)--i.e., five feet above the existing applicable Ordinance 1284 height limit of 50 feet (3 stories). Construction of a permitted 4 story structure on the adjacent parcel to the south, could cast a shadow on the southern edge of the park during the longest shadow period in December, but the majority of the park would remain unaffected.

The Plan-proposed corner plaza at the future Caltrain station site within the proposed TOD-Station Office zone (at the southern tip of Catalyst Site #1; see Figure 3.4 herein) would be open to the San Bruno Avenue and San Mateo Avenue right-of-way. As a result, the site would not be subject to shadow impacts during the longest shadow periods of the year (December).

(continued)

Impact 4-2 (continued):

Similarly, the Plan-proposed corner plaza at San Mateo Avenue and El Camino Real would not be subject to shadow impacts during the longest December shadow period due to its open orientation towards El Camino Real and San Mateo Avenue.

However, Plan-proposed building height maximums would result in potentially significant shadow impacts at all of the residential edges identified under Impact 4-1 (Plan Building Height Impacts on Visually Sensitive Residential Edges), as well as at the Plan-proposed internal plazas in Catalytic Sites #1 and #3. Plan-permitted building heights could case shadows during the morning and afternoon hours of September through march over portions of these shadow-sensitive residential edges and internal public plazas. Such shadowing effects could substantially degrade the existing visual character or quality at these locations, representing a ***potentially significant environmental impact*** (see criterion [c] under subsection 4.3.1, "Significant Criteria," above).

Mitigation 4-2: Implement Mitigation 4-1. In addition, revise the Plan to incorporate a similar "transition area" along the edges of Posy Park where new building heights within the first 20 feet of adjacent rear yard depth and first 10 feet of adjacent side yard depth would include a minimum stepback of 10 feet above the third floor. The addition of this provision to the Transit Corridors Plan would reduce the shadow impacts of the Plan on these identified shadow-sensitive residential edges and internal public open space areas to a ***less-than-significant level***.

Cumulative Aesthetics Impacts. New development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development within San Bruno in accordance with the General Plan, would be expected to result in an estimated cumulative total of approximately 2,640 new housing units and 2,340,200 square feet of new non-residential development by 2030. Cumulative aesthetic impacts resulting from anticipated General Plan buildout were previously analyzed by the San Bruno General Plan EIR. With implementation of identified Mitigations 4-1 and 4-2 above, the Transit Corridors Plan would be expected to result in beneficial impacts or less-than-significant impacts with respect to visual character and quality; scenic vistas; scenic highways; light, glare and sky glow; and shade and shadow. The Plan's contribution to cumulative aesthetics impacts would therefore be ***less-than-significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

5. AIR QUALITY

This EIR chapter describes the impacts of the Transit Corridors Plan on local and regional air quality. The chapter was prepared using methodologies and assumptions recommended within the latest (June 2010) air quality impact assessment guidelines of the Bay Area Air Quality Management District (BAAQMD), the regional air quality regulatory agency.[1] The project has been evaluated with respect to BAAQMD guidelines for plans. In keeping with these guidelines, the chapter describes existing air quality, short-term construction-related emissions, potential direct and indirect long-term emissions, the impacts of these emissions at both the local and regional scale, and mitigation measures to avoid or reduce significant impacts. Impacts associated with the potential release of asbestos during demolition and construction activities are discussed in Chapter 8, Hazards and Hazardous Materials.

5.1 ENVIRONMENTAL SETTING

5.1.1 Air Basin Topographic and Meteorological Characteristics

The Bay Area's climate, as with all California coastal areas, 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

[1] Bay Area Air Quality Management District, CEQA Air Quality Guidelines, June 2010.

elevations in the gap are below 200 feet, marine air flows through the gap in the direction of the Bay.

San Bruno includes 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 ridge 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. The average annual rainfall for the city is approximately 19.71 inches. 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.

The amount of a given pollutant in the atmosphere is determined by the amount of pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain and, for photochemical pollutants, sunshine.

San Francisco Bay strongly influences the climate and air quality of the Transit Corridors Area. Bay breezes from the north dominate the area during the spring and summer months. The dominance of the Bay or sea breeze results in a mild climate. Low clouds during the late night and early morning are common in spring and summer.

The prevailing wind direction is from the northwest. Average wind speed (measured at San Francisco Airport) is 11 miles per hour annually, with June having the highest average wind speed and December having the lowest.[1] The project vicinity often experiences persistent afternoon winds, especially in the spring and summer months.

Temperatures are mild. January is the coolest month with an average maximum temperature of 58 degrees Fahrenheit (F), while July and August are the warmest with an average maximum of 81 degrees F. Precipitation is about 20 inches per year.

The pollution potential of the Transit Corridors Area is moderate compared to other portions of the Bay Area. Ventilation is relatively good. During periods of light or calm winds, which typically occur in the fall and winter months, the entire Bay Area air basin is subject to stagnation and poor air quality where particulate levels become elevated.

5.1.2 Air Pollutants and Air Quality Standards

Air pollutant levels are typically described in terms of “concentrations,” which refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). The federal and California Clean Air Acts have established ambient air quality standards for different pollutants. The National Ambient Air Quality Standards (NAAQS) were established by the federal Clean Air Act for six

[1] Western Regional Climate Center, http://www.wrcc.dri.edu/htmlfiles/westwind.final.html

criteria pollutants, including ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulates (PM_{10} and $PM_{2.5}$), and lead (Pb). Pollutants regulated under the California Clean Air Act are similar to those regulated under the federal Clean Air Act. The California Ambient Air Quality Standards (CAAQS) are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) review ambient air quality standards on a regular basis and make necessary adjustments in response to updated scientific information. A summary description of these six criteria pollutants and their potential health effects is presented in Table 5.1. The federal and State ambient air quality standards are presented in Table 5.2.

(a) Ozone (O_3). Ground-level ozone is the principal component of smog. Ozone is not directly emitted into the atmosphere, but instead forms through a photochemical reaction of reactive organic gases (ROG) and nitrogen oxides (NO_X), which are known as ozone precursors. Ozone levels are highest from late spring through autumn when precursor emissions are high and meteorological conditions are warm and stagnant. Motor vehicles create the majority of ROG and NO_X emissions in the Bay Area.

Exposure to levels of ozone above current ambient air quality standards can lead to human health effects such as lung inflammation and tissue damage and impaired lung functioning. Ozone exposure is also associated with symptoms such as coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms. The greatest risk for harmful health effects belongs to outdoor workers, athletes, children, and others who spend greater amounts of time outdoors during smoggy periods. Elevated ozone levels can reduce crop and timber yields, as well as damage native plants. Ozone can also damage materials such as rubber, fabrics, and plastics.

(b) Carbon Monoxide (CO). CO is a non-reactive pollutant that is highly toxic, invisible, and odorless. It is formed by the incomplete combustion of fuels. The largest sources of CO emissions are motor vehicles, wood stoves, and fireplaces. Unlike ozone, CO is directly emitted to the atmosphere. The highest CO concentrations occur during the nighttime and early mornings in late fall and winter. CO levels are strongly influenced by meteorological factors such as wind speed and atmospheric stability.

The health threat from elevated ambient levels of CO is most serious for those who suffer from heart disease, such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at relatively low levels may cause chest pain and reduce that person's ability to exercise; repeated exposure may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death. CO levels measured in the Bay Area are well below the health-based standards.

(c) Nitrogen Dioxide (NO_2). NO_2 is a combustion by-product, but it can also form in the atmosphere by chemical reaction. NO_2 is a reddish-brown colored gas often observed during the same conditions that produce high levels of O_3 and can affect regional visibility. NO_2 is one compound in a group of compounds consisting of oxides of nitrogen (NO_x). As described above, NO_x is an ozone precursor compound. Home heaters and stoves using natural gas produce NO_2 in indoor settings.

Table 5.1
MAJOR CRITERIA AIR POLLUTANTS AND HEALTH EFFECTS

Pollutant	Characteristics	Health Effects	Major Sources
Ozone (O_3)	A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (primarily reactive organic gases and oxides of nitrogen). Often called photochemical smog.	▪ Eye Irritation ▪ Respiratory function impairment	The major sources of ozone precursors are combustion sources such as factories and automobiles, and evaporation of solvents and fuels.
Carbon Monoxide (CO)	Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels.	▪ Impairment of oxygen transport in the bloodstream ▪ Aggravation of cardiovascular disease ▪ Fatigue, headache, confusion, dizziness ▪ Can be fatal in the case of very high concentrations	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces
Nitrogen Dioxide (NO_x)	Reddish-brown gas that discolors the air, formed during combustion	▪ Increased risk of acute and chronic respiratory disease	Automobile and diesel truck exhaust, industrial processes, fossil-fueled power plants
Sulfur Dioxide (SO_2)	Sulfur dioxide is a colorless gas with a pungent, irritating odor.	▪ Aggravation of chronic obstruction lung disease ▪ Increased risk of acute and chronic respiratory disease	Diesel vehicle exhaust, oil-powered power plants, industrial processes
Particulate Matter (PM_{10} and $PM_{2.5}$)	Solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time.	▪ Aggravation of chronic disease and heart/lung disease symptoms	Combustion, automobiles, field burning, factories and unpaved roads. Also a result of photochemical processes.
Lead (Pb)	Component of particulate matter. Levels have dropped 98 percent in last 30 years due to elimination of lead from gasoline.	▪ Learning disabilities ▪ Brain and kidney damage ▪ Children particularly susceptible	Leaded gasoline (no longer allowed), smelters, resource recovery

SOURCE: Wagstaff/MIG 2010.

Table 5.2
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal Primary Standard[a]	State Standard[b]
Ozone (O_3)	8-Hour	0.075 ppm	0.070 ppm
	1-Hour	---	0.09 ppm
Carbon Monoxide (CO)	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.180 ppm
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	0.03 ppm	---
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	---	0.25 ppm
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	---	20 $\mu g/m^3$
	24-Hour	150 $\mu g/m^3$	50 $\mu g/m^3$
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	15 $\mu g/m^3$	12 $\mu g/m^3$
	24-Hour	35 $\mu g/m^3$	--
Lead (Pb)	Calendar quarter	1.5 $\mu g/m^3$	--
	30-day	--	1.5 $\mu g/m^3$

SOURCE: California Air Resources Board, Ambient Air Quality Standards (2/16/10) and http://www.arb.ca.gov.aqs/aaqs2.pdf, viewed June 23, 2010.

ppm = Parts Per Million; $\mu g/m^3$ = Micrograms Per Cubic Meter.

[a]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.

[b]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. The standards for lead are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average, then some measurements may be excluded. In particular, measurements are excluded that the ARB determines would occur less than once per year on the average.

The major health effect from exposure to high levels of NO_2 is the risk of acute and chronic respiratory disease. Besides causing adverse health effects, NO_2 is responsible for the visibility-reducing reddish-brown tinge seen in smoggy air in California. NO_2 is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract. Studies suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children. Levels measured in the Bay Area are well below current air quality standards.

(d) Sulfur Dioxide (SO_2). SO_2 is a colorless gas with a pungent, irritating odor. Its major sources are diesel vehicle exhaust, oil-powered power plants, and various industrial processes. SO_2 can aggravate "chronic obstruction" lung disease and increase the risk of acute and chronic respiratory disease.

(e) Particulate Matter (PM_{10} and $PM_{2.5}$). Particulate matter (PM) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals (including lead), soot, soil, and dust. Particles 10 microns or less in diameter are defined as "respirable particulate matter" or "PM_{10} ". Particles that are 2.5 microns or less in diameter are defined as “fine particulate matter” or “$PM_{2.5}$”. Both PM_{10} and $PM_{2.5}$ can contribute significantly to regional haze and reduction of visibility. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the Bay Area are emitted either directly or indirectly by motor vehicles, industry, construction, agricultural activities, and wind erosion of disturbed areas. Most $PM_{2.5}$ is comprised of combustion products such as smoke.

Extensive research reviewed by the ARB indicates that exposure to outdoor PM_{10} and $PM_{2.5}$ levels exceeding current ambient air quality standards is associated with increased risk of hospitalization for lung and heart-related respiratory illness, including emergency room visits for asthma. PM exposure is also associated with increased risk of premature deaths, especially in the elderly and people with pre-existing cardiopulmonary disease. In children, studies have shown associations between PM exposure and reduced lung function and increased respiratory symptoms and illnesses. Besides reducing visibility, the acidic portion of PM (nitrates, sulfates) can harm crops, forests, and aquatic and other ecosystems.

In 1983, the ARB replaced the standard for “suspended particulate matter” with a standard for suspended PM_{10}. This standard was set at 50 $\mu g/m^3$ for a 24-hour average and 30 $\mu g/m^3$ for an annual average. The ARB revised the annual PM_{10} standard in 2002, pursuant to the Children's Environmental Health Protection Act. The revised PM_{10} standard is 20 $\mu g/m^3$ for an annual average. $PM_{2.5}$ standards were first promulgated by the EPA in 1997 and were revised in 2006 to lower the 24-hour $PM_{2.5}$ standard to 35 $\mu g/m^3$. That same action by EPA revoked the annual PM_{10} standard due to lack of scientific evidence correlating long-term exposures of ambient PM_{10} with health effects. The ARB has only adopted an annual average $PM_{2.5}$ standard, which is set at 12 $\mu g/m^3$. This is more stringent than the NAAQS of 15 $\mu g/m^3$.

(f) Toxic Air Contaminants (TACs). TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) and include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and

commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an ambient air quality standard or emission-based threshold.

Diesel particulate matter is the predominant TAC in urban air, with the potential to cause cancer. It is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the ARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the ARB, and are listed as carcinogens either under California's Proposition 65 or under the federal Hazardous Air Pollutants programs. California has adopted a comprehensive diesel risk reduction program, and the ARB has adopted many of the rules to implement this plan, including recent rules that require replacement or retrofitting of construction equipment and truck fleets.

(g) 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 BAAQMD Regulation 7, which establishes general limitations on odorous substances and specific emission limits 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. The San Bruno Transfer Station, located at 1721 Montgomery Avenue to the north of the Transit Corridors Area, is identified as a potential source of nuisance odors within one mile of the project area.

5.1.3 Existing Air Quality

The BAAQMD operates a network of monitoring sites throughout the Bay Area; the nearest sites to the Transit Corridors Area are located in Redwood City at 897 Barron Avenue and in San Francisco at 10 Arkansas Street, Suite N. Table 5.4 summarizes the most recent air quality data available from these monitoring sites, for the five-year period 2005 through 2009. Table 5.4 shows the number of days that the State or federal standards was exceeded for several major pollutants, at each of the two monitoring sites and throughout the Bay Area.

(a) Redwood City. As shown in Tables 5.3 and 5.4, the ambient air quality standards are met in Redwood City almost every day. Attainment of air quality standards is usually evaluated based on the most recent three-year set of data. From 2007 through 2009, the CAAQS and NAAQS ozone standard was not exceeded in Redwood City. PM_{10} and $PM_{2.5}$ are measured every sixth day; however, PM_{10} monitoring was discontinued in Redwood City on June 30, 2008. From 2007 through 2009, the federal and state PM_{10} standards were exceeded on 1 to 2 measurement days per year (equating to 2 to 12 days per year) in Redwood City. $PM_{2.5}$ levels exceeded the NAAQS on 1 measurement day per year (equating to about 6 days per year).

(b) San Francisco. As shown in Tables 5.3 and 5.4, the ambient air quality standards are met in San Francisco almost every day. From 2007 through 2009, the CAAQS and NAAQS ozone

Table 5.3
SUMMARY OF AIR QUALITY MONITORING DATA 2005-2009-- REDWOOD CITY

		Measured Air Pollutant Levels				
Pollutant	Average Time	2005	2006	2007	2008	2009
Ozone (O_3)	1-Hour	0.084 ppm	0.085 ppm	0.077 ppm	0.082 ppm	0.087 ppm
	8-Hour	0.061 ppm	0.063 ppm	0.069 ppm	0.069 ppm	0.063 ppm
Carbon Monoxide (CO)	8-Hour	2.3 ppm	2.4 ppm	2.3 ppm	1.9 ppm	1.8 ppm
Nitrogen Dioxide (NO_2)	1-Hour	0.06 ppm	0.07 ppm	0.06 ppm	0.07 ppm	0.06 ppm
	Annual	0.015ppm	0.014ppm	0.013ppm	0.014ppm	0.012ppm
Respirable Particulate Matter (PM_{10})	24-Hour	**81 µg/m^3**	**70 µg/m^3**	**56 µg/m^3**	41 µg/m^3	--[1]
	Annual	**21 µg/m^3**	20 µg/m^3	20 µg/m^3	--[1]	--[1]
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	31 µg/m^3	**75 µg/m^3**	**45 µg/m^3**	28 µg/m^3	32 µg/m^3
	Annual	9 µg/m^3	10 µg/m^3	10 µg/m^3	9 µg/m^3	9 µg/m^3

SAN FRANCISCO

		Measured Air Pollutant Levels				
Pollutant	Average Time	2005	2006	2007	2008	2009
Ozone (O_3)	1-Hour	0.58 ppm	0.053 ppm	0.077 ppm	0.082 ppm	0.072 ppm
	8-Hour	0.054 ppm	0.046 ppm	0.049 ppm	0.066 ppm	0.056 ppm
Carbon Monoxide (CO)	8-Hour	2.1 ppm	2.1 ppm	1.6 ppm	2.3 ppm	2.9 ppm
Nitrogen Dioxide (NO_2)	1-Hour	0.07 ppm	0.11 ppm	0.07 ppm	0.06 ppm	0.06 ppm
	Annual	0.016ppm	0.016ppm	0.016ppm	0.016ppm	0.015ppm
Respirable Particulate Matter (PM_{10})	24-Hour	46 µg/m^3	**61 µg/m^3**	**70 µg/m^3**	41 µg/m^3	36 µg/m^3
	Annual	**20 µg/m^3**	23 µg/m^3	22 µg/m^3	22 µg/m^3	19 µg/m^3
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	**44 µg/m^3**	**54 µg/m^3**	**45 µg/m^3**	29 µg/m^3	**36 µg/m^3**
	Annual	9 µg/m^3	10 µg/m^3	9 µg/m^3	10 µg/m^3	10 µg/m^3

SOURCE: BAAQMD, 2011.
Notes: Values reported in bold exceed State or federal ambient air quality standard.
[1]PM_{10} monitoring in Redwood City was discontinued on June 30, 2008.

Table 5.4
SUMMARY OF MEASURED AIR QUALITY EXCEEDANCES, 2004-2008

Pollutant	Standard[a]	Monitoring Station	Days Exceeding Standard 2005	2006	2007	2008	2009
Ozone (O_3)	NAAQS[b] 1-hr	Redwood City	--	--	--	--	--
		San Francisco	--	--	--	--	--
		Bay Area	--	--	--	--	--
	NAAQS 8-hr	Redwood City	0	0	0	0	0
		San Francisco	0	0	0	0	0
		Bay Area	1	12	1	12	8
	CAAQS 1-hr	Redwood City	0	0	0	0	0
		San Francisco	0	0	0	0	0
		Bay Area	9	18	4	9	11
	CAAQS 8-hr	Redwood City	0	0	0	0	0
		San Francisco	0	0	0	0	0
		Bay Area	9	22	9	20	13
Respirable Particulate Matter (PM_{10})	NAAQS 24-hr	Redwood City	0	0	0	--[c]	--[c]
		San Francisco	0	0	0	0	0
		Bay Area	0	0	0	0	0
	CAAQS 24-hr	Redwood City	2	2	1	--[c]	--[c]
		San Francisco	0	3	2	0	0
		Bay Area	6	15	4	5	1
Fine Particulate Matter ($PM_{2.5}$)	NAAQS 24-hr	Redwood City	0	1	1	0	0
		San Francisco	0	3	5	0	1
		Bay Area	0	10	14	12	11
All Other (CO, NO_2, Pb, SO_2)	All Other	Redwood City	0	0	0	0	0
		San Francisco	0	0	0	0	0
		Bay Area	0	0	0	0	0

SOURCE: BAAQMD Air Pollutant Summaries for 2005, 2006, 2007, 2008, and 2009; viewed January 30, 2011.

[a]NAAQS = National Ambient Air Quality Standard; CAAQS = California Ambient Air Quality Standard.
[b]The EPA revoked the 1-hour NAAQS for ozone in June 2005.
[c]PM_{10} monitoring in Redwood City was discontinued on June 30, 2008.

standard was not exceeded in San Francisco. PM_{10} and $PM_{2.5}$ are measured every sixth day. From 2007 through 2009, the state PM_{10} standards were exceeded on 0 to 2 measurement days per year (equating to 0 to 12 days per year) in San Francisco, the federal PM_{10} standards were not exceeded. $PM_{2.5}$ levels exceeded the NAAQS on 1 to 5 measurement day per year (equating to about 6 days per year).

(c) San Francisco Bay Air Basin. As shown in Table 5.4, throughout the Bay Area from 2006 through 2008, the 8-hour ozone NAAQS was exceeded from 2 to 17 days annually, while the more stringent 8-hour CAAQS was exceeded on 9 to 22 days. The 1-hour ozone CAAQS was exceeded on 4 to 18 days over the past three years. Most exceedances of the ozone standard in the Bay Area occur in downwind portions of the basin, such as Livermore, Concord, and Gilroy. The NAAQS for PM_{10} is not exceeded anywhere in the Bay Area, but the more stringent CAAQS is sometimes exceeded in the Bay Area and most other parts of the state. The NAAQS for $PM_{2.5}$ is exceeded at about half of the monitoring stations in the Bay Area, with most exceedances occurring in Vallejo and San Jose. Some monitoring stations in the Bay Area exceed the State annual $PM_{2.5}$ standard. No other air quality standards are exceeded in the Bay Area.

(d) Toxic Air Contaminants. The BAAQMD estimates that diesel particulate matter comprises approximately 80 percent of TAC emissions that contribute to the inhalation cancer risk in the Bay Area. The BAAQMD has also been monitoring TAC inhalation cancer risk levels in potential cases per million at selected locations throughout the region as part of the BAAQMD's Community Air Risk Evaluation (CARE) program.[1] Areas along portions of certain Bay Area freeways typically have higher measured risks. Based on the latest BAAQMD modeling, the modeled inhalation cancer risk in San Bruno ranged from 200 to below 400 cases per million. More densely urbanized portions of the Bay Area, such as eastern San Francisco and western Oakland, had higher risks of nearly 1,000 in a million. With all CARE program diesel risk reduction measures implemented, the BAAQMD predicts that the overall inhalation health risk in the Bay Area will decrease substantially.

5.1.4 Regional Air Basin Ambient Air Quality Standards Attainment Status

The federal Clean Air Act and California Clean Air Act require that the ARB, based on air quality monitoring data, designate portions of the state where the federal or State ambient air quality standards are not met as "nonattainment areas." Due to the differences between the national and State standards, the designation of nonattainment areas is different at the federal and State levels.

(a) Federal. The EPA has classified the Bay Area air basin as a "marginal nonattainment" area for the 8-hour ozone standard. In 2008, the EPA adopted a more stringent 8-hour ozone NAAQS. In 2009, the EPA began the process of new rulemaking to reconsider the 2008 ozone NAAQS based on government scientific advisory committee recommendations used to establish the 2008 NAAQS. On January 19, 2010, the EPA announced delay of the final designations for the 2008 NAAQS until March 2011 to allow adequate time for reconsideration and possible revision of the 2008 NAAQS. The range of standards under consideration could result in a "nonattainment" designation for the Bay Area and much of California.

[1] BAAQMD, Workshop Draft Options Report--California Environmental Quality Act Threshold of Significance, April 2009, Figure 3, page 32.

The EPA also recently designated the Bay Area air basin as "nonattainment" for the 2006 24-hour $PM_{2.5}$ standard, as recent monitoring data indicate levels slightly above the standard (from measurements conducted in San Jose and Vallejo). Most $PM_{2.5}$ nonattainment areas would have until 2015 to attain the standards, with some extensions to 2020 if necessary.

The Bay Area has met the CO standards for over a decade and is classified "attainment" (with a maintenance plan) by the EPA. The EPA designates the air basin as "unclassified" for all other air pollutants, including PM_{10}.

(b) State. At the State level, the Bay Area air basin is considered "serious nonattainment" for ground-level ozone and "nonattainment" for PM_{10} and $PM_{2.5}$, because CAAQS are more stringent that the NAAQs. The BAAQMD is required to adopt air quality attainment plans on a triennial basis that show progress toward meeting the State ozone standard. The Transit Corridors Area is considered "attainment" or "unclassified" under State standards for all other pollutants.

5.1.5 Existing Pollutant Sources and Sensitive Receptors in the Project Vicinity

The largest existing sources of pollutants in the Transit Corridors Area are vehicles on the local roadway network. In addition, commercial businesses, houses, and industry in the vicinity contribute air pollutants through fume-producing operations and the combustion of fuels for space heating and water heating.

Some groups of people are more affected by air pollution than others. The ARB has identified the following people who are most likely to be affected by air pollution: children under 14, people over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as "sensitive receptors." Locations in and near the Transit Corridors Area that may contain a high concentration of sensitive receptors include residential areas, hospitals, daycare facilities, elder care facilities, elementary and middle schools, and parks.

5.2 REGULATORY SETTING

The federal Clean Air Act governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. At the federal level, the United States Environmental Protection Agency (EPA) administers the Clean Air Act. The California Clean Air Act is administered by the California Air Resources Board (ARB) and by the air quality management districts at the regional and local levels. The BAAQMD regulates air quality at the regional level in the nine-county Bay Area.

5.2.1 Federal

(a) United States Environmental Protection Agency. The United States Environmental Protection Agency (EPA) is responsible for enforcing the federal Clean Air Act. The EPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). The NAAQS are required under the 1977 Clean Air Act and subsequent amendments. The EPA regulates

emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The agency has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by the ARB (see below).

(b) Clean Air Act. The federal Clean Air Act, as amended, establishes air quality standards for several pollutants. These standards are divided into primary standards and secondary standards. Primary standards are designed to protect public health, and secondary standards are intended to protect public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. The federal Clean Air Act requires that regional plans be prepared for non-attainment areas illustrating how the federal air quality standards could be met.

The 1990 federal Clean Air Act Amendments also offer a comprehensive plan for achieving significant reduction in both mobile and stationary source emissions of certain designated Hazardous Air Pollutants (HAP), or TACs. All major stationary sources of designated HAP's are required to obtain an operating permit under Title V of the federal Clean Air Act Amendments.

5.2.2 State

(a) California Air Resources Board. In California, the California Air Resources Board (ARB), which is part of the California Environmental Protection Agency, is responsible for meeting the state requirements of the federal Clean Air Act, administering the California Clean Air Act, and establishing the California Ambient Air Quality Standards (CAAQS). The California Clean Air Act, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The ARB regulates mobile air pollution sources, such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. The ARB has established passenger vehicle fuel specifications and regulations that reduce emissions from construction equipment and trucks. The ARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

(b) California Clean Air Act. The California Clean Air Act (CCAA) requires nonattainment areas to achieve and maintain the State ambient air quality standards by the earliest practicable date and local air districts to develop plans for attaining the state ozone, CO, SO_2, and NO_2 standards. The CCAA also requires that once every three years the districts assess their progress toward attaining the air quality standards.

(c) Toxic Air Contaminants. Regulation of TACs is achieved through federal and State controls on individual sources.

(1) Air Toxics Hot Spots. The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), California Health and Safety Code Section 44300 et seq., provides for the regulation of over 200 air toxics and is the primary air contaminant legislation in the state. Under the Act, local air districts may request that a facility account for its TAC emissions. Local air districts then prioritize facilities on the basis of emissions, and high priority designated facilities are required to submit a health risk assessment and communicate the results to the affected public.

The TAC control strategy involves reviewing new sources to ensure compliance with required emission controls and limits, maintaining an inventory of existing sources of TACs, and developing new rules and regulations to reduce TAC emissions. The purpose of AB 2588 is to identify and inventory toxic air emissions and to communicate the potential for adverse health effects to the public.

(2) Assembly Bill 1807. Assembly Bill 1807 (AB 1807), enacted in 1983, sets forth a procedure for the identification and control of TACs in California. The ARB is responsible for the identification and control of TACs, except pesticide use. AB 1807 defines a TAC as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The ARB prepares identification reports on candidate substances under consideration for listing as TACs. The reports and summaries describe emissions in California resulting in public exposure, together with their potential health effects.

(3) Diesel Particulate Matter. In 1998, the ARB identified diesel particulate matter as a toxic air contaminant under the AB 1807 program. Diesel particulate matter is emitted into the air via heavy-duty diesel trucks, construction equipment, passenger cars and watercraft. In October 2000, the ARB released the report entitled *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. This plan identifies diesel particulate matter as the predominant TAC in California and proposes methods for reducing diesel emissions.

5.2.3 Bay Area Air Quality Management District

(a) Bay Area Air Quality Management District. The BAAQMD's role is to achieve clean air to protect public health and the environment, with a primary responsibility of attaining and maintaining the NAAQS and CAAQS. The BAAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. The BAAQMD has jurisdiction over most of the nine-county Bay Area, including San Mateo County.

(b) Bay Area 2010 Clean Air Plan. Air quality plans addressing the California Clean Air Act are developed about every three years. BAAQMD recently adopted the 2010 Bay Area Clean Air Plan that is the latest update to the 1991 Clean Air Plan addressing progress toward attaining the California ozone standard. The plan was prepared to address the more stringent requirements of the California Clean Air Act with respect to ozone, including a comprehensive strategy to reduce emissions from stationary, area, and mobile sources. The plan objective is to indicate how the region would make progress toward attaining the stricter state air quality standards, as mandated by the California Clean Air Act. The plan accomplishes the following:

- Updates the recent Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone levels;

- Provides a control strategy to reduce ozone, particulate matter (PM), toxic air contaminants (TACs), and greenhouse gases (GHGs) in a single, integrated plan;

- Reviews progress in improving air quality in recent years; and
- Establishes emission control measures to be adopted or implemented in the 2010-2012 time frame.

While the CAP addresses State requirements, it also provides the basis for developing future control plans to meet federal requirements (NAAQS) for ozone and $PM_{2.5}$. The region is required to prepare (by December 2012) a federally enforceable plan to meet the NAAQS for $PM_{2.5}$. In addition, U.S. EPA is likely to adopt a more stringent NAAQS for ozone. These new standards will likely trigger new planning requirements for the Bay Area.

While previous CAPs have relied upon a combination of stationary, mobile and transportation control measures, the 2010 CAP adds two new types of control measures: (1) Land Use and Local Impact Measures and (2) Energy and Climate measures. In addition, the plan includes Further Study Measures, which will be evaluated as potential control measures.

(c) BAAQMD California Environmental Quality Act (CEQA) Guidelines. The BAAQMD has prepared CEQA Guidelines to assist lead agencies, analysts, project proponents, and other interested parties in evaluating potential air quality impacts of projects and plans proposed in the Bay Area. The guidelines recommend procedures for evaluating projects or plans and thresholds to determine whether the impacts are significant; the guidelines are used in this EIR analysis (see section 5.3 below) to establish thresholds of significance for environmental impacts. These guidelines also provide direction for identifying measures to mitigate impacts related to air quality.

The BAAQMD adopted updated CEQA guidelines on June 2, 2010.[1] The updated BAAQMD CEQA Guidelines include new emissions-based thresholds for project-level analysis, new procedures and thresholds for evaluating community risk, and greenhouse gas emissions thresholds. The new guidelines recommend that plans identify special overlay zones around existing and planned sources of TACs and special overlay zones on each side of freeways and other high-volume roads. The new Guidelines also include a recommendation that affected communities adopt Community Risk Reduction Plans intended to reduce exposure to and health risks from TACs and $PM_{2.5}$.

(d) BAAQMD CARE Program. The BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce inhalation health risks associated with exposures to TACs in the Bay Area. The program examines TAC emissions from point sources, area sources, and on-road (i.e., cars and trucks) and off-road (i.e., construction equipment, trains, and aircraft) mobile sources with an emphasis on diesel particulate matter. The goal of the CARE program is to identify sensitive populations that are exposed to high emissions of TACs and use that information to guide policies, regulations, incentive funding, and other programs to reduce exposure.

[1] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, June 2010.

In Phase 1 of the CARE program, a 2-kilometer by 2-kilometer gridded inventory of TAC emissions was developed for the year 2000. The data were analyzed and then updated to include the 2005 emissions data. The emissions inventory was risk-weighted to reflect differences in potency of the various TACs. The Phase 1 report documents results and presents the emissions inventory along with demographics regarding sensitive populations and asthma hospitalization rates for children.[1] The Phase I study identifies diesel emissions from heavy-duty trucks as a major source of TAC emissions and identifies programs available to reduce these emissions. New (i.e., model 2007 or newer) trucks have much lower emission rates. Turnover of the fleet will reduce emissions but slowly, since diesel trucks tend to be in service on roadways for many years.

In Phase II of the CARE program, BAAQMD performed regional and local-scale modeling to determine the significant sources of diesel particulate matter and other TAC emissions locally in those communities identified as the most at-risk (i.e., "priority communities") as well as for the entire Bay Area. The CARE program has included the development of the *Mitigation Action Plan*, which focuses BAAQMD reduction activities on the identified six "priority communities" that, based on TAC emissions levels and the presence of sensitive receptor groups, the Plan determined would benefit most from targeted mitigation.

The Mitigation Action Plan calls for the following actions for these "priority communities":

- Allocating grant and incentives to the priority communities;
- Conducting outreach efforts in these communities to solicit and gain feedback from each community on how to most effectively address and reduce TAC emissions;
- Working with local city and county health departments to reduce TAC emissions in these communities;
- Developing local land use guidance to assist city and county planners, community members, and developers in assessing risks from land use projects and exposure to mobile and stationary sources of TAC emissions (note that this guidance is included in the 2010 BAAQMD CEQA Guidelines); and
- Developing rules and regulations that would require reduction of TAC emissions from significant sources.

In Phase III of the CARE program, the BAAQMD plans to also conduct an extensive exposure assessment to identify and rank the communities as to their potential TAC exposures and determine the types of activities that places them at highest risk. The BAAQMD also intends to pursue additional mitigations and develop a metric to measure the effectiveness of these measures.

[1] Bay Area Air Quality Management District. Community Air Risk Evaluation Program--Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area, September 2006.

The BAAQMD strongly encourages the development and adoption of a Community Risk Reduction Plan (CRRP) for communities identified under BAAQMD's CARE program. These plans should include the following elements:

- A defined planning area (typically the entire community);
- Base and future year emission inventories for TACs and $PM_{2.5}$;
- BAAQMD-approved risk modeling (current and future);
- Risk and exposure reduction targets for the community;
- Feasible, quantifiable, and verifiable measures to reduce emissions and exposures;
- Procedures for monitoring and updating TAC/$PM_{2.5}$ inventories, modeling, and reduction measures in coordination with the BAAQMD; and
- Environmental review in a public process.

The concept of the CRRP is new; the BAAQMD continues to develop procedures, data, and tools that communities may use in developing such plans. The BAAQMD has been meeting with lead agencies and conducting workshops to assist with the development of the plans. The BAAQMD has proposed, but not adopted CEQA thresholds regarding community risk impacts with respect to siting new receptors.

5.2.4 City of San Bruno

(a) San Bruno General Plan. The San Bruno General Plan contains the following policies relevant to consideration of the air quality impacts of the Transit Corridors Plan:

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

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

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

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

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 work-site to food service establishments, commercial areas, and transit stations, to reduce the number of automobile trips.

5.3 IMPACTS AND MITIGATION MEASURES

5.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] BAAQMD CEQA thresholds of significance,[2] and current State and federal ambient air quality standards,[3] the Transit Corridors Plan would have a significant impact related to air quality if it would:

(1) Conflict with or obstruct implementation of the applicable air quality plan;

(2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

(3) 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;

(4) Expose sensitive receptors to substantial pollutant concentrations, including, but not limited to, substantial levels of toxic air contaminants; or

(5) Create objectionable odors affecting a substantial number of people.

In addition, for construction period air emissions impacts, the BAAQMD significance threshold for construction dust (fugitive dust) impact is based on the appropriateness of construction dust controls. The BAAQMD Guidelines provide feasible control measures for construction emission of PM_{10}. If the appropriate construction controls are to be implemented, then air pollutant emissions for construction activities would be considered less than significant.

[1] CEQA Guidelines, Appendix G, item III(a-e).

[2] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, June 2010.

[3] See Table 5.2 above.

5.3.1 Impacts and Mitigation Measures

Impact 5-1: Plan-Related Short-Term Construction Emissions. Demolition or construction activities facilitated by the Transit Corridors Plan may generate temporary emissions of ROG, NO_X and PM_{10} that exceed BAAQMD thresholds of significance. In addition, related construction dust could cause localized health and nuisance impacts on adjacent residential sensitive receptors. These possible effects represent a ***potentially significant impact*** (see criteria 2 through 4 in subsection 5.3.1, "Significance Criteria," above).

Future redevelopment-facilitated development within the Amendment No. Four Area, could generate short-term temporary emissions of dust, fuel combustion exhaust, and gases from architectural coatings and other building materials. The most substantial air pollutant emissions would be fugitive dust generated from demolition of buildings and other site improvements, loading debris into trucks for disposal, grading and earth-moving, and wind erosion of exposed ground areas. Construction activities could also generate exhaust emissions from vehicles, equipment and worker commute trips, primarily in the form of particulate matter (PM_{10} and $PM_{2.5}$) and nitrogen oxides. Solvents in adhesives, non-water-based paints, thinners, some insulating materials, and caulking materials can evaporate into the atmosphere and participate in the photochemical reaction that creates urban ozone. Asphalt used in paving is also a source of organic gases for a short time after its application.

BAAQMD has adopted emission-based thresholds that would apply to exhaust and evaporative emissions from construction activities. Development in accordance with the Transit Corridors Plan would occur over a period of many years, where some years may have considerable construction and other years may have little or no construction. Exhaust construction emissions would be dependent on the year that construction occurs and the age of the construction fleet used, especially for large construction equipment. Recent State law requires retrofit or replacement of construction equipment, which will result in substantial decreases in future nitrogen oxides (NO_X) and particulate matter (including diesel particulate matter) emissions from construction equipment. In addition, State law would also require retrofitting or replacement of large trucks that are typically used in construction.

Mitigation 5-1. All discretionary approvals for private or public realm grading, demolition, or construction activity in the Transit Corridors Area shall be conditioned to implement the following or similar best management practices:

(a) The following dust control measures by construction contractors, where applicable:

During *demolition* of existing structures:

- Water active demolition areas to control dust generation during demolition of structures and break-up of pavement.
- Cover all trucks hauling demolition debris from the site.
- Use dust-proof chutes to load debris into trucks whenever feasible.

During all *construction phases*:

- Water all active construction areas at least twice daily.
- Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).

(continued)

Mitigation 5-1 (continued):

- Limit traffic speeds on unpaved roads to 15 miles per hour.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.
- Consult with the BAAQMD prior to demolition of structures suspected to contain asbestos to ensure that demolition/construction work is conducted in accordance with BAAQMD rules and regulations.

(b) The following best management controls on emissions by diesel-powered construction equipment used by construction contractors, where applicable:

- When total construction projects at any one time would involve greater than 270,000 square feet of development or demolition, a mitigation program to ensure that only equipment that would have reduced NO_X and particulate matter exhaust emissions shall be implemented. This program shall meet BAAQMD performance standards for NO_x standards--e.g., should demonstrate that diesel-powered construction equipment would achieve fleet-average 20 percent NO_X reductions and 45 percent particulate matter reductions compared to the year 2010 ARB statewide fleet average.
- Ensure that visible emissions from all on-site diesel-powered construction equipment do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired or replaced immediately.
- The contractor shall install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g., compressors).
- Diesel equipment standing idle for more than three minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on-site and away from residences.

(continued)

Mitigation 5-1 (continued):

- Signs shall be posted to alert workers that diesel equipment standing idle for more than five minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on-site and away from residences.

- Properly tune and maintain equipment for low emissions.

The above measures are BAAQMD-identified "feasible control measures" for construction emissions. Implementation of these measures would reduce the short-term construction-related air quality impact of the Transit Corridors Plan to a ***less-than-significant level***.

Transit Corridors Plan Consistency with the Bay Area 2010 Clean Air Plan. According to the BAAQMD CEQA Guidelines, in order to meet the threshold of significance for operational-related criteria air pollutant and precursor emissions impacts for plans, a proposed plan must: (1) be consistent with current air quality plan control measures; and (2) result in a projected rate of increase in vehicle use less than or equal to its projected rate of increase in population. Transit Corridors Plan consistency with these two Clean Air Plan objectives is described below:

(a) Consistency with Control Measures. The Bay Area 2005 Ozone Strategy included seven transportation control measures that require participation at the local level.

1. Support Voluntary Employer-Based Trip Reduction Programs
9. Improve Bicycle Access and Facilities
12. Improve Arterial Traffic Management
15. Local Land Use Planning and Development
17. Conduct Demonstration Projects
19. Improve Pedestrian Access and Facilities
20. Promote Traffic Calming Measures

The Bay Area 2010 Clean Air Plan, adopted September 15, 2010 and currently in effect, updated the Bay Area 2005 Ozone Strategy transportation control measures. The land use, transportation, bicycle, pedestrian and vehicle trip reduction characteristics of the Transit Corridors Plan support the primary goals of the Clean Air Plan. The Transit Corridors Plan would be consistent with and would further implementation of the applicable Clean Air Plan transportation control measures. The Transit Corridors Plan would not disrupt or hinder the implementation of any control measures.

(b) Increase in Vehicle Use. According to the recently updated BAAQMD CEQA Air Quality Guidelines, in order for the Transit Corridors Plan to be consistent with the Clean Air Plan, the projected rate of increase in vehicle use (e.g., vehicle trips) under the Transit Corridors Plan must be less than or equal to its projected service population (residents plus employers) rate of

increase. The Transit Corridors Plan would result in 15,039 daily vehicle trips over existing conditions (from 18,000 currently to 33,039 at Plan buildout), or an 84 percent increase.[1] The projected increase in service population with the Transit Corridors Plan would be 8,339 persons (from 4,554 currently to 12,893 at Plan buildout), or 183 percent.[2] Therefore, the projected increase in vehicle trips under the Transit Corridors Plan (84 percent) would be less than the projected increase in service population (183 percent).

In summary, the Transit Corridors Plan would not interfere with implementation of Clean Air Plan control measures, and the projected increase in vehicle use under the Transit Corridors Plan would be less than the projected increase in service population. Therefore, the Transit Corridors Plan would be consistent with the Clean Air Plan and the regional criteria pollutant and precursor impacts of the Transit Corridors Plan would be ***less than significant.***

Mitigation: No significant impact has been identified; no mitigation is required.

Plan-Related Localized Carbon Monoxide Concentrations Impacts. Development facilitated by the Transit Corridors Plan would generate new vehicle trips and change traffic patterns. At the local level, the resultant pollutant of greatest concern is CO. Concentrations of CO are greatest near intersections and roadways with congested traffic. CO emissions are typically highest in wintertime when stagnant meteorological conditions occur (i.e., very little vertical or horizontal mixing of air in the lower atmosphere).

Monitoring data from all ambient air quality monitoring stations in the Bay Area indicate that existing carbon monoxide levels are currently below national and California ambient air quality standards. Monitored CO levels have decreased substantially since 1990 due to newer vehicles with greatly improved exhaust emission control systems replacing older vehicles. The Bay Area has been designated as attainment for the CO standards. The highest measured levels in San Francisco or Redwood City (i.e., the closest monitoring stations to the Transit Corridors Area) during the past three years are 5.7 ppm for 1-hour averaging periods and 2.3 ppm for 8-hour averaging periods.

Even though current CO levels in the Bay Area are well below ambient air quality standards and there have been no exceedances of CO standards in the Bay Area since 1991, elevated levels of CO still warrant analysis since CO hotspots (occurrences of localized high CO concentrations) could occur near busy congested intersections. Recognizing the relatively low CO concentrations experienced in the Bay Area, the BAAQMD revised the screening methodology in its CEQA Air Quality Guidelines. According to the BAAQMD, a project would have a less-than-significant impact if the project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. Since intersections affected by the project would have volumes less than the threshold of 44,000 vehicles per hour, the impact of the project related to localized CO concentrations would therefore be ***less than significant***.

Mitigation. No significant impact has been identified; no mitigation is required.

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[1] See EIR Table 14.15.

[2] See EIR Table 12.2.

Impact 5-2: Plan-Related Community Risk and Hazard Impacts. Future development in accordance with the Transit Corridors Plan could expose sensitive receptors to levels of toxic air contaminants (TACs) or $PM_{2.5}$ that cause an unacceptable cancer risk or hazard, which represents a ***potentially significant impact*** (see criterion 4 in subsection 5.3.3, "Significance Criteria," above).

According to the most recently adopted BAAQMD CEQA Air Quality Guidelines (June 2010), for a plan to have a less-than-significant impact with respect to TACs, buffer zones must be established around existing and proposed land uses that would emit these air pollutants. Buffer zones to avoid TAC impacts must be reflected in local plan policies, land use maps, or implementing ordinances. The proposed Transit Corridors Plan and the San Bruno General Plan do not contain such buffer zones.

The BAAQMD CEQA Air Quality Guidelines consider exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard to be significant. For cancer risk, which is a concern with diesel particulate matter and other mobile-source TACs, the BAAQMD considers an increased risk of contracting cancer that is 10 in one million chances or greater to be significant for a single source. The BAAQMD CEQA Guidelines also consider exposure to annual $PM_{2.5}$ concentrations that exceed 0.3 micrograms per cubic meter (µg/m3) to be significant.

The Transit Corridors Plan would permit and facilitate the development of new sensitive receptors (e.g., new homes) in locations near two freeways, a number of large arterial roadways, and the Caltrain line. Screening modeling indicates that sensitive receptors within the Transit Corridors Area would be exposed to levels of TACs and or $PM_{2.5}$ that could cause an unacceptable cancer risk or hazard near the following freeways, roadways and train lines. Table 5.5 identifies the screening level exposures for these sources.

- *Interstate 101.* Interstate 101 is over 1,000 feet away from and does not pose a significant cancer risk to the Transit Corridors Area.

- *Interstate 380.* According to the BAAQMD Risk and Hazard Screening Tools for San Mateo County (May 2010 version), Interstate 380 traffic poses a cancer risk of 10 in one million at a distance of about 200 feet from the roadway. Traffic from this freeway does not pose a non-cancer health risk, but significant annual $PM_{2.5}$ concentrations (at 0.3 $\mu g/m^3$) extend out about 50 feet. Therefore, new residential uses or other sensitive receptors located within 200 feet of Interstate 380 could be exposed to a significant risk.

- *El Camino Real.* BAAQMD screening tools, adjusted for traffic volumes reported by Caltrans, indicate significant cancer risks extend out less than 25 feet from the roadway. Significant $PM_{2.5}$ concentrations extend out to 10 feet. Therefore, new residential uses or other sensitive receptors located within 25 feet of El Camino Real could be exposed to a significant risk.

- *San Bruno Avenue.* BAAQMD screening tables, adjusted for traffic volumes, indicate that less-than-significant cancer risks, non-cancer risks, and $PM_{2.5}$ concentrations occur at distances of 10 feet or greater. Therefore, new residential uses or other sensitive

receptors located along San Bruno Avenue or other local roadways would not experience exposures that result in significant community risk impacts.

- *Caltrain Line.* Caltrain operates diesel-powered locomotives that are a source of diesel particulate matter, which is a TAC. Approximately 100 trains pass through San Bruno on weekdays with fewer trains on weekends. CARB and BAAQMD have not developed recommended buffers for sensitive receptors or methods to evaluate impacts from emissions associated with railroads. The necessary setback is expected to be relatively small due to the limited size of the trains and the limited frequency of events. Significant exposure to diesel particulate matter is not expected at locations closer than 100 feet to the railroad. Caltrain's plans to modernize the system, expand capacity, improve safety, and electrify the system by 2015, which would eliminate diesel particulate matter emissions from Caltrain. In the interim, until the system is electrified, significant exposures would extend out 200 feet from the rail line.

There are no existing major stationary sources of TACs or $PM_{2.5}$ within the Transit Corridors Area. According to the BAAQMD, stationary sources of TACs within the Transit Corridors Area include gasoline stations, dry cleaners, auto body shops and emergency diesel generators. None of these sources was identified by the BAAQMD as exceeding the BAAQMD thresholds of significance (i.e., causing a cancer risk greater than 10 in one million, a hazard index greater than 1.0, or $PM_{2.5}$ concentrations above 0.3 $\mu g/m^3$). Therefore, stationary sources do not pose a significant community risk to future residential development or other sensitive receptors within the Transit Corridors Area.

Future introduction of new discretionary stationary sources of TACs in the Transit Corridors Area would also be subject to the new BAAQMD rules and regulations. BAAQMD Regulation 2, Rule 5 requires that new stationary sources meet applicable BAAQMD risk evaluation requirements to ensure that health risks associated with TAC emissions would be acceptable.[1] Sources of air pollutant emissions complying with all applicable BAAQMD permit requirements generally would not be considered to have an individual significant air quality impact. Stationary sources that are exempt from BAAQMD permit requirements due to low emissions would also be considered to not have a significant air quality impact.

[1]BAAQMD risk policy requires that these sources have a cancer risk of less than 10 in one million, which is the same as the BAAQMD recommended CEQA threshold.

Table 5.5
SCREENING SETBACK DISTANCES FOR SOURCES OF TACs AND $PM_{2.5}$

Source	Distance in Feet[1]	Notes
Interstate 380	200 feet	Due to TAC cancer risk
El Camino Real	25 feet	Due to TAC cancer risk
San Bruno Avenue	10 feet	Due to TAC cancer risk
Caltrain	200 feet	No impact if Caltrain electrified

SOURCE: Illingworth & Rodkin, 2011; BAAQMD, 2010; MIG, 2010.

[1] As measured from the edge of the nearest through travel lane or rail track.

Mitigation 5-2. For Transit Corridor Area locations within the following specified distances from the identified sources of TACs and $PM_{2.5}$, implement the mitigation measure listed below:

- Interstate 380 – 200 feet,
- El Camino Real – 25 feet,
- San Bruno Avenue – 10 feet, and
- Caltrain – 200 feet.

(Site-specific modeling for future development projects proposed within these distances may provide a data basis upon which this buffer distance may be reconsidered and reduced.)

Future individual discretionary development projects within the Transit Corridors Area that would place air quality sensitive receptors within these specified distances from identified sources, shall either:

(a) For projects within the specified distances from identified sources, conduct a site-specific health risk assessment using air quality dispersion modeling methodologies and screening thresholds recommended by the BAAQMD to demonstrate that, despite a location within the screening setback distances, modeled site-specific exposures would be less-than-significant.

or

(continued)

Mitigation 5-2 (continued):

(b) Mitigate anticipated community risks and hazards through implementation of the following mitigations:

- Where residential uses or other sensitive receptors are proposed to be located within the setback distances specified above, or identified through site-specific health risk assessment using air quality dispersion modeling to indicate potentially significant exposure, then air filtration units shall be installed and maintained. The ventilation systems shall be installed to achieve BAAQMD effectiveness performance standards in removing $PM_{2.5}$ from indoor air. The system effectiveness requirement shall be determined during final design, when the exact level of exposure is known, based on proximity to these sources;

- Locate ventilation air intakes and operable windows away from these sources;

- Where appropriate, install passive (drop-in) electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph);

- Consider tiered plantings of trees, such as redwood, deodar cedar, live oak and oleander, between sensitive uses and these sources;

- Consider plan implementation phasing that delays occupancy of units with highest exposure so that source emissions regulations and vehicle fleet turnover that would result in lower emissions may take more effect and lower exposure levels (since emission rates will decrease in the future, projects developed later in the Transit Corridors Plan buildout timeframe would have less exposure);

- Avoid locating truck loading zones near sensitive units;

- Require rerouting of nearby heavy-duty truck routes;

- Enforce illegal parking and/or idling restrictions on heavy-duty trucks in the vicinity;

- Install indoor air quality monitoring units in buildings.

With implementation of this mitigation, the potential TAC and $PM_{2.5}$ exposure impacts of the Transit Corridors Plan would be reduced to a ***less-than-significant level.***

(continued)

Mitigation 5-2 (continued):

Potential future preparation and implementation by the City of a Community Risk Reduction Plan (CRRP) to bring TAC and $PM_{2.5}$ concentrations for the entire community down below BAAQMD thresholds of significance as an alternative to addressing community health risk on a project-by-project basis would also reduce this impact to a ***less-than-significant level***.

Impact 5-3: Odor Impacts of Plan-Facilitated Mixed Use Development. Development facilitated by the Transit Corridors Plan could result in the introduction of food service uses (e.g., restaurants) or other odor-generating uses in close proximity or in the same building as residential or other odor-sensitive uses. This possibility represents a ***potentially significant impact*** (see criterion 5 in subsection 5.3.3, "Significance Criteria," above).

Mixed use developments in accordance with the Transit Corridors Plan could result in food service uses (e.g., restaurants), painting facilities, or dry cleaning facilities in close proximity or in the same building as residential or other odor-sensitive uses. Food service uses can generate odors as a result of cooking processes and waste disposal. Char broilers, deep-fryers, and ovens tend to produce food odors that can be considered offensive to some people, and food waste can putrefy if not properly managed.

The Transit Corridors Area contains numerous auto service uses, including auto body shops with paint spraying operations. Although controlled by BAAQMD permits and regulations, these types of uses can produce solvent type odors that may be objectionable. Without proper controls or setbacks, there is a potential for land use conflicts that could result in odor complaints.

Mitigation 5-3. All discretionary local use approvals for food service (e.g., restaurants) or other odor generating uses in close proximity or in the same building as residential or other odor sensitive uses in the Transit Corridors Area shall be conditioned to implement a combination of the following measures which, to City satisfaction, will sufficiently reduce odors and potential conflicts and complaints:

- for restaurant or cooking uses, use of such devices as integral grease filtration or grease removal systems, baffle filters, electrostatic precipitators, water cooling/cleaning units, disposable pleated or bag filters, activated carbon filters, oxidizing pellet beds, and catalytic conversion, as well as proper packaging and frequency of food waste disposal, and exhaust stack and vent location with adequate consideration of nearby receptors; and

- for new residential dwellings within 300 feet of existing paint spraying operations (e.g., auto body shops), cleaning operations (e.g., dry cleaners), or other uses with the potential to cause odors, identification and adequate disclosure of potential odor impacts in notices to prospective buyers or tenants.

With implementation of this mitigation, the potential odor impacts of the Transit Corridors Plan would be reduced to a ***less-than-significant level.***

Plan-Related Cumulative Air Quality Impacts. As previously described, the Bay Area is considered non-attainment for both State and federal ambient air quality standards for ozone and particulate matter. Past and present projects have contributed to these air quality problems on a cumulative basis. According to the BAAQMD CEQA Air Quality Guidelines, "No single project is sufficient in size to, by itself, result in non attainment of ambient air quality standards." Therefore, air pollution is largely a cumulative impact. BAAQMD emission-based and plan-based thresholds measure whether a project or plan's emissions would be cumulatively considerable. Potentially significant impacts from TACs were identified, but could be mitigated to a less-than-significant impact with Mitigation 5-2. Since the plan with mitigation measures would not have a significant impact as assessed under the latest BAAQMD CEQA Air Quality Guidelines, the plan would also not result in a significant cumulative impact on regional air quality.

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

6. CLIMATE CHANGE

This EIR chapter addresses the climate change impacts that could occur from land use and transportation changes facilitated by the Transit Corridors Plan. In particular, the chapter describes the current climate change science and regulatory framework and the anticipated greenhouse gas emissions impacts of the Transit Corridors Plan. Potential increases in flooding within the Transit Corridors Area resulting from anticipated sea level rise due to global climate change are addressed in Chapter 9, Hydrology.

6.1 ENVIRONMENTAL SETTING

6.1.1 Background

The term *climate change* is often used interchangeably with the term global warming. *Climate change* refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from a variety of causes, both natural and human induced. *Global warming* refers to an average increase in the temperature of the atmosphere near the Earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities.[1]

Gases that trap heat in the atmosphere are referred to as "greenhouse gases" (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. Over the past 200 years, GHG emissions and deforestation have caused the concentrations of heat-trapping GHGs to increase significantly in our atmosphere. These gases prevent heat from escaping to space. Since the early 1990s, scientific consensus has held that the world's population is releasing GHGs faster than the earth's natural systems can absorb them. These GHGs are released as by-products of fossil fuel combustion, waste disposal, energy use, land-use changes, and other human activities.

This release of GHGs creates a blanket around the earth that allows light to pass through but traps heat at the surface preventing its escape into space. Models show that this greenhouse effect phenomenon will lead to a two- to ten-degree Fahrenheit (F) temperature increase over the next 100 years. The Intergovernmental Panel on Climate Change (IPCC), an international group of scientists and representatives, warns that most of the warming observed over the last 50 years is attributable to human activities. The accumulation of GHGs has been implicated as a driving force for global climate change.

[1] U.S. Environmental Protection Agency (EPA) website, Climate Change, Basic Information, September 30, 2008.

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming, although there is uncertainty concerning the magnitude and rate of the warming.

Carbon dioxide (CO_2) accounts for approximately 85 percent of total human activity-generated GHG emissions. Emissions of other GHGs, such as methane (CH_4) and nitrous oxide (N_2O), have also increased due to human activities. Methane and nitrous oxide emissions account for almost 14 percent of total greenhouse gas emissions. Each of these gases, however, contributes to global warming at a different relative rate. Methane has a global warming potential 23 times that of carbon dioxide, while the global warming potential of nitrous oxide is 296 times that of the same amount of carbon monoxide. To account for these differences, estimates of greenhouse gas emissions are often described in terms of *carbon dioxide equivalents* (CO_2e).

6.1.2 Existing Conditions

The existing environmental conditions or setting, without the project, constitutes the baseline physical condition for determining whether a project's impacts are significant.

(a) Global GHG Emissions. A report of the Intergovernmental Panel on Climate Change (IPCC) predicts a global temperature increase of between 2.0 and 11.5 degrees Fahrenheit (F) (1.1 and 6.4 degrees Celsius) by the end of the 21st century under six different scenarios of emissions and carbon dioxide equivalent concentrations.[1] Sea levels are predicted to rise by 0.18 to 0.59 meters (7 to 23 inches) during this time, with an additional 3.9 to 7.8 inches possible depending upon the rate of polar ice sheets melting from increased warming. The IPCC reports that the increase in hurricane and tropical cyclone strength since 1970 can also likely be attributed to human-generated greenhouse gases.

Global GHG inventory data published in 2007 by the United Nations[2] indicated that worldwide GHG emissions of in 2004 totaled 27 billion metric tons.[3]

(b) U.S. GHG Emissions. In the U.S., energy-related activities account for three-quarters of human-generated GHG, mostly in the form of carbon dioxide emissions from burning fossil fuels. More than half the energy-related emissions come from large stationary sources such as power plants, while about a third comes from transportation. Industrial processes (such as the production of cement, steel, and aluminum), agriculture, forestry, other land use, and waste management are also important U.S. sources of GHG emissions.[4]

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[1] IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

[2] Combined total of Annex I and Non-Annex I Country CO_2eq emissions. United Nations Framework Convention on Climate Change (UNFCCC), 2007, *Greenhouse Gas Inventory Data*. Information available at http://unfcc.int/ghg_data/ghg_data_unfccc/time_series_annex_i/items/3814.php and http://maindb.unfccc.int/library/view_pdf.pl?url=http://unfccc.int/resource/docs/2005/sbi/eng/18a02.pdf.

[3] A metric ton is equivalent to approximately 1.1 tons.

[4] EPA website.

The latest EPA-published national inventory of U.S. GHG emissions shows that in 2005 the U.S. emitted over 7.2 billon metric tons of GHG. (A million metric tons of CO_2e is roughly equal to the annual GHG emissions of an average U.S. power plant.)

(c) State GHG Emissions. According to the California Air Resources Board (ARB) emissions inventory estimates, California emitted approximately 480 million metric tons of GHGs in 2004.[1] This large number is due primarily to the sheer size of California compared to other States. By contrast, California has the fourth lowest per-capita GHG emission rate from fossil fuel combustion in the country, due to the success of its energy efficiency and renewable energy programs and commitments that have lowered the State's GHG emissions rate of growth by more than half of what it would have been otherwise.[2]

The California EPA Climate Action Team stated in its March 2006 report that the composition of gross climate change pollutant emissions in California in 2002 (expressed in terms of CO_2e) was as follows:

- Carbon dioxide (CO_2) accounted for 83.3 percent;
- Methane (CH_4) accounted for 6.4 percent;
- Nitrous oxide (N_2O) accounted for 6.8 percent; and
- Fluorinated gases (HFCs, PFC, and SF_6) accounted for 3.5 percent.[3]

The ARB is responsible for developing the California Greenhouse Gas Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities within the State of California and supports the AB 32 Climate Change Program. ARB's current GHG emission inventory covers the year 1990-2004 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, agricultural lands, etc.). The emission inventory estimates are based on the actual amount of all fuels combusted in the State, which accounts for over 85 percent of the GHG emissions within California.

The ARB estimates that transportation was the source of approximately 38 percent of the State's GHG emissions in 2004, followed by electricity generation (both in-State and out-of-State) at 23 percent, and industrial sources at 20 percent. The remaining sources of GHG emissions in 2004 were residential and commercial activities at 9 percent, agriculture at 6

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[1]California Air Resources Board (ARB), Greenhouse Gas Inventory Data - 1990 to 2004. http://www.arb.ca.gov/cc/inventory/data/data.htm. Viewed November 2008.

[2]California Energy Commission (CEC). Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report, publication # CEC-600-2006-013-SF, Sacramento, CA, December 22, 2006; and January 23, 2007 update to that report.

[3]California Environmental Protection Agency. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March 2006.

percent, high global warming potential gases at 3 percent, and recycling and waste at 1 percent.[1]

Potential Future Emissions. ARB staff has also projected anticipated 2020 unregulated GHG emissions--i.e., the emissions that would be expected to occur statewide in the absence of any GHG reduction actions. ARB staff estimates the statewide 2020 unregulated GHG emissions would be 596 million metric tons (of CO_2e).

GHG emissions in 2020 from the transportation and electricity sectors as a whole are expected by ARB staff to increase, but remain at approximately 38 percent and 23 percent of total GHG (CO_2e) emissions, respectively. The industrial sector consists of large stationary sources of GHG emissions and the percentage of the total 2020 emissions from that sector is projected by ARB staff to be 17 percent of total GHG emissions. The remaining sources of GHG emissions anticipated in 2020 are high global warming potential gases at 8 percent, residential and commercial activities at 8 percent, agriculture at 5 percent, and recycling and waste at 1 percent.[2]

Potential Statewide Impacts. Potential impacts of global warming in California include loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.[3] The Sierra snowpack, an important source of water supply for the state, has shrunk 10 percent in the last 100 years. It is expected to continue to decrease by up to 25 percent by 2050. Secondary effects are likely to include impacts to agriculture, changes in disease vectors, changes in habitat and biodiversity, and contribution to global rise in sea level.

(d) Bay Area Emissions. The Bay Area Air Quality Management District (BAAQMD), the regional air quality regulatory agency, established a climate protection program in 2005 to acknowledge the link between climate change and air quality. The BAAQMD regularly prepares inventories of criteria and toxic air pollutants to support planning, regulatory and other programs. The most recent GHG emissions inventory estimates reported by the BAAQMD for the San Francisco Bay Area are for base year 2007.[4]

In 2007, an estimated 102.6 million metric tons of GHGs were emitted by the San Francisco Bay Area. Fossil fuel consumption in the transportation sector was the single largest source of these estimated GHG emissions. The transportation sector, including on-road motor vehicles, locomotives, shops and boats, and aircraft, contributed over 40 percent of the estimated GHG

[1]California Air Resources Board (ARB), http://www.climatechange.ca.gov/inventory/indesx.html. September 2008.

[2]California Air Resources Board (ARB). http://www.arb.ca.gov/cc/inventory/data/forecast.htm. September 2008.

[3]California Air Resources Board (ARB), 2006. Climate Change website (http://www.arb.ca.gov/cc/120106workshop/intropres12106.pdf), viewed December 4, 2007; and http://www.arb.ca.gov/cc/factsheets/ccbackground.pdf, viewed February 17, 2009.

[4]Bay Area Air Quality Management District. *Source Inventory of Bay Area Greenhouse Gas Emissions*. December 2008.

emissions. The industrial and commercial sector (excluding electricity and agriculture) was the second largest contributor with 34 percent of total GHG emissions. Energy production activities such as electricity generation and co-generation were the third largest contributor accounting for approximately 15 percent of total GHG emissions. Off-road equipment such as construction, industrial, commercial, and lawn and garden equipment contributed 3 percent of GHG emissions.

6.2 REGULATORY SETTING

CEQA requires an EIR to identify the plan and policy setting within which the project is proposed and discuss any inconsistencies between the proposed project and these applicable plans and policies (CEQA Guidelines section 15125[d]). CEQA also indicates that this plan and policy consistency discussion should be limited to the context of evaluation and review of environmental impacts (CEQA Guidelines section 15124[b]).

Agencies at the international, national, statewide, and local levels are considering or have adopted strategies to control emissions of gases that contribute to global climate change. Adopted and anticipated plans, policies, regulations and programs pertinent to consideration of the climate change impacts of the proposed Transit Corridors Plan are described below.

6.2.1 International Greenhouse Gas Regulations

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts to global warming and to develop strategies that nations could implement to curtail global climate change. The U.S. joined several countries around the world to sign the United Nation's Framework Convention on Climate Change (UNFCCC) agreement (Kyoto Protocol) in November 1998. However, the U.S.'s signing of the Kyoto Protocol was never ratified by the United States Congress. In 2001, the Bush Administration disengaged from the Kyoto Protocol in favor of studying potential domestic actions that might be made towards the reduction of GHG in the U.S. The Kyoto Protocol is set to expire in 2012.

In December 2009, representatives from 170 countries convened to prepare an updated international treaty for GHG emission reductions, known as the Copenhagen Protocol. The Copenhagen Protocol seeks to establish a two degree limit (Celsius) on global warming by 2050. However, this agreement is not considered legally binding on the nations that have executed it and therefore has no effect on any state or local regulations.

6.2.2 Federal Greenhouse Gas Regulations

(a) Supreme Court Ruling. The U.S. Environmental Protection Agency (EPA) is the Federal agency responsible for implementing the Clean Air Act (CAA). The U.S. Supreme Court ruled in its decision in Massachusetts et al. v. Environmental Protection Agency et al. ([2007] 549 U.S. 05-1120), issued on April 2, 2007, that carbon dioxide (CO_2) is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs.

(b) Mandatory Greenhouse Gas Reporting Rule. In response to the mounting issue of climate change, EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions. On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large

GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. An estimated 85 percent of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule. This publically available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial greenhouse gases along with vehicle and engine manufacturers will report at the corporate level.

(c) Endangerment Finding. On April 23, 2009, EPA published their "Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the CCA" (Endangerment Finding) in the Federal Register. The Endangerment Finding is based on Section 202(a) of the CAA, which states that the Administrator (of EPA) should regulate and develop standards for "emission[s] of air pollution from any class of classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." The proposed rule addresses Section 202(a) in two distinct findings. The first addresses whether or not the concentrations of the six key GHGs (i.e., carbon dioxide [CO_2], methane [CH_4], nitrous oxide [N_2O], hydrofluorocarbons [HFCs], perflurorocarbons [PFCs], and sulfur hexafluoride [SF_6]) in the atmosphere threaten the public health and welfare of current and future generations. The second addresses whether or not the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs and therefore the threat of climate change.

The Administrator proposed the finding that atmospheric concentrations of GHGs endanger the public health and welfare within the meaning of Section 202(a) of the CCA. The evidence supporting this finding consists of human activity resulting in "high atmospheric levels" of GHG emissions, which are very likely responsible for increases in average temperatures and other climatic changes. Furthermore, the observed and projected results of climate change (e.g., higher likelihood of heat waves, wild fires, droughts, sea level rise, higher intensity storms) are a threat to the public health and welfare. Therefore, GHGs were found to endanger the public health and welfare of current and future generations.

The Administrator also proposed the finding that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. The proposed finding cites that in 2006, motor vehicles were the second largest contributor to domestic GHG emissions (24 percent of total) behind electricity generation. Furthermore, in 2005, the U.S. was responsible for 18 percent of global GHG emissions. Therefore, GHG emissions from motor vehicles and motor vehicle engines were found to contribute to air pollution that endangers public health and welfare.

6.2.3 State Greenhouse Gas Regulations

(a) Assembly Bill 1493 (2002). In 2002, then-Governor Gray Davis signed Assembly Bill (AB) 1493. AB 1493 required that ARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the state."

To meet the requirements of AB 1493, in 2004 ARB approved amendments to the California Code of Regulations (CCR) adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 (13 CCR 1900, 1961), and adoption of Section 1961.1 (13 CCR 1961.1) require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily for the transportation of persons), beginning with the 2009 model year. For passenger cars and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 pounds or less, the GHG emission limits for the 2016 model year are approximately 37 percent lower than the limits for the first year of the regulations, the 2009 model year. For light-duty trucks with LVW of 3,751 pounds to gross vehicle weight (GVW) of 8,500 pounds, as well as medium-duty passenger vehicles, GHG emissions would be reduced approximately 24 percent between 2009 and 2016.

(b) Senate Bills 1078 and 107 and Executive Order S-14-08. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008 Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Energy Standard to 33 percent renewable power by 2020. Governor Schwarzenegger plans to propose legislative language that will codify the new higher standard.

(c) Assembly Bill 32 (2006), California Global Warming Solutions Act. In September 2006, the governor of California signed AB 32 (Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006, which enacted Sections 38500–38599 of the California Health and Safety Code. AB 32 requires the reduction of statewide GHG emissions to 1990 levels by 2020. This equates to an approximate 15 percent reduction compared to existing statewide GHG emission levels or a 30 percent reduction from projected 2020 "business as usual" emission levels. The required reduction will be accomplished through an enforceable statewide cap on GHG emissions beginning in 2012.

To effectively implement the statewide cap on GHG emissions, AB 32 directs ARB to develop and implement regulations that reduce statewide GHG emissions generated by stationary sources. Specific actions required of ARB under AB 32 include adoption of a quantified cap on GHG emissions that represent 1990 emissions levels along with disclosing how the cap was quantified, institution of a schedule to meet the emissions cap, and development of tracking, reporting, and enforcement mechanisms to ensure that the state achieves the reductions in GHG emissions needed to meet the cap.

In addition, AB 32 states that if any regulations established under AB 1493 (2002) cannot be implemented then ARB is required to develop additional, new regulations to control GHG emissions from vehicles as part of AB 32.

(d) Senate Bill 1368 (2006). SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the California Public Utilities Commission (PUC) to establish a GHG emissions performance standard for baseload generation from investor owned utilities by February 1, 2007. The California Energy Commission (CEC) was required to establish a similar standard for local publicly owned utilities

by June 30, 2007. These standards cannot exceed the GHG emission rate from a baseload combined-cycle natural gas fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

(e) Senate Bill 97 (2007). SB 97, signed by governor of California in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code, Sections 21083.05 and 21097), acknowledges climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Resources Agency by July 1, 2009 guidelines for mitigating GHG emissions or the effects of GHG emissions, as required by CEQA. The California Resources Agency was required to certify and adopt these guidelines by January 1, 2010. Amendments to the CEQA Guidelines pursuant to SB 97 were adopted in March 2010.

(f) Executive Order S-1-07. Governor Schwarzenegger signed Executive Order S-1-07 in 2007 which proclaimed the transportation sector as the main source of GHG emissions in California. The executive order proclaims the transportation sector accounts for over 40 percent of statewide GHG emissions. The executive order also establishes a goal to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020. In particular, the executive order established a Low-Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by CEC on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the LCFS on April 23, 2009.

(g) California Climate Action Team Report Standards. Per Executive Order S-05-05, signed in June 2005, the State of California mandates the preparation of biennial science assessment reports on climate change impacts and adaptation options for the state. The first California Climate Action Team (CCAT) Assessment Report was produced in March 2006, followed by an updated report in 2008. A Draft 2009 Climate Action Team Report has been prepared and includes a host of implementation strategies to reduce GHG emissions. The strategies relate to water use efficiency, solid waste, transportation emissions, and green building initiatives.

(h) Senate Bill 375 (2008). SB 375, signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. As part of the alignment, SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) which prescribes land use allocation in that MPO's Regional Transportation Plan (RTP). The ARB, in consultation with MPOs, is required to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. The ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned GHG emission reduction targets. If MPOs do not meet the GHG reduction targets, transportation projects located in the MPO boundaries would not be eligible for funding programmed after January 1, 2012.

This bill also extends the minimum time period for the Regional Housing Needs Allocation (RNHA) cycle from 5 years to 8 years for local governments located in an MPO that meets certain requirements. City or County land use policies (e.g., General Plans) are not required to be consistent with the RTP including associated SCSs or APSs. Qualified projects consistent with an approved SCS or APS and categorized as "transit priority projects" would receive incentives under new provisions of CEQA.

(i) AB 32 Climate Change Scoping Plan. In December 2008, the ARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 169 million metric tons (MMT) of CO_2e, or approximately 30% from the state's projected 2020 emission level of 596 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10 percent, from 2002-2004 average emissions). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e);
- the Low-Carbon Fuel Standard (15.0 MMT CO_2e);
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e); and
- a renewable portfolio standard for electricity production (21.3 MMT CO_2e).

The ARB has not yet determined what amount of GHG reductions it recommends from local government operations; however, the Scoping Plan does state that land use planning and urban growth decisions will play an important role in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions(meanwhile, ARB is also developing an additional protocol for community emissions). ARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined (ARB 2008). With regard to land use planning, the Scoping Plan expects approximately 5.0 MMT CO_2e will be achieved associated with implementation of SB 375.

(j) California Attorney General's Office Strategies. The California Attorney General's Office developed a set of strategies and mitigation measures with the intent of reducing GHG emissions per the direction of AB 32. This list was last updated in January 2010. The Attorney General's Office also provides guidance to local jurisdictions in determining climate change impacts as part of the public review process.

(k) State Green Building Standards Code (CALGreen). The State Green Building Standards Code (CALGreen) supplements the California Building Standards Code (Title 24) and requires

all new buildings in the state to incorporate energy saving features. New standards include the following:

- Water efficiency: New buildings must demonstrate at least a 20 percent reduction in water use over typical baseline conditions.

- Construction waste: At least 50 percent of construction waste must be recycled, reused, or otherwise diverted from landfilling.

- Interior finishes: Interior finishes such as paints, carpet, vinyl flooring, particle board, and other similar materials must be low-pollutant emitting.

- Landscape irrigation: In nonresidential buildings, separate water meters must be provided for a building's indoor and outdoor water use. Large landscape projects must use moisture-sensing irrigation systems to limit unnecessary watering.

(l) CEQA Guidelines. Amendments to the CEQA Guidelines, effective March 2010 and pursuant to SB 97 include a new section 15064.4 designed to assist lead agencies in determining the significance of the impacts of GHG emissions. Section 15064.4 encourages lead agencies to quantify the greenhouse gas emissions of proposed projects where possible and recommends lead agencies consider several factors in determining significance: (1) the extent to which the project may increase or reduce GHG emissions compared with the existing environment, (2) whether the emissions exceed a threshold of significance that applies to the project, and (3) the extent to which the project complies with requirements adopted to implement a statewide, regional, or local plan for reduction of GHG emissions. The amendments (section 15126.4, Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects) also suggest that mitigation measures include (1) measures contained in an existing plan to reduce GHG emissions; (2) reductions in GHG emissions through project design, such as those contained in Appendix F to the CEQA Guidelines (Energy Conservation); (3) off-site measures, including offsets; (4) measures that sequester GHG emissions (i.e., capture at the source); and (5) in the case of the adoption of a plan--such as a general plan, long-range development plan, or plans for the reduction of greenhouse gas emissions--mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

6.2.4 Regional Greenhouse Gas Regulations

The BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

6.2.5 City of San Bruno

San Bruno has not conducted a greenhouse gas emissions inventory or adopted a Climate Action Plan, performance standards, or a GHG efficiency metric. However, the San Bruno General Plan includes numerous goals, policies, and programs which, if implemented, will reduce San Bruno's impacts on global climate change and reduce the threats associated with global climate change on the city.

The following San Bruno General Plan policies are particularly relevant to reducing greenhouse gas emissions within the city and the Transit Corridors Area.

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 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-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.

6.3 IMPACTS AND MITIGATION MEASURES

The GHG emissions from any individual project, even a very large development project, would not individually generate GHG emissions sufficient to measurably influence global climate change. However, the GHG emissions from individual projects contribute to cumulative GHG emissions on a global, national, and regional scale. Consideration of the impact of a project or plan on global climate change involves, therefore, analysis of its contribution to a cumulatively significant global impact through its GHG emissions.

6.3.1 Significance Criteria

CEQA Guidelines Section 15064.4 provides direction to lead agencies in determining the significance of impacts from GHG emissions. Section 15064.4(a) calls on lead agencies to make a good faith effort, based on available information, to "describe, calculate, or estimate" the amount of GHG emissions resulting from a project. The lead agency has the discretion to determine, in the context of a particular project, how to quantify GHG emissions.

The following climate change impact analysis uses the significance criteria contained in the CEQA Guidelines and the thresholds of significance for GHG emissions impacts suggested by the BAAQMD CEQA Air Quality Guidelines.

(a) Significance Criteria. The project would be considered to have a significant climate change impact if it would:

(1) Substantially impede the attainment of the State's GHG emissions reduction goal of reducing state GHG emissions to 1990 levels by the year 2020, or 80 percent below 1990 levels by 2050; or

(2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

(b) BAAQMD Thresholds of Significance. Neither the CEQA statute nor the CEQA Guidelines prescribe specific thresholds of significance for determining climate change impacts for individual projects. This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and expert sources. This analysis uses the thresholds of significance suggested by the BAAQMD CEQA Air Quality Guidelines, which have been formulated to be consistent with and not impede attainment of the State's GHG emissions reduction goal of reducing GHG emissions to 1990 levels by 2020, or 80 percent below 1990 levels by 2050, as set forth in AB 32.

According to the BAAQMD CEQA Air Quality Guidelines, the threshold of significance for operational-related GHG emissions of plans, other than General Plans, is a GHG efficiency-based metric of 4.6 metric tons (MT) per service population per year.[1] If annual emissions would exceed this level, the proposed plan would result in a cumulatively considerable contribution to global climate change and a significant impact.

[1]Service population is defined as the number of residents plus the number of jobs.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, the lead agency is encouraged to incorporate best management practices (BMPs) to reduce GHG emissions during construction, as applicable. Best management practices may include, but are not limited to: using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet; using local building materials of at least 10 percent; and recycling or reusing at least 50 percent of construction waste or demolition materials.

6.3.2 Impacts and Mitigation Measures

Plan-Related GHG Emissions Impacts. By facilitating higher intensity infill development in an existing urban area at transit corridor locations with good local and regional transit access, including convenient San Mateo County Transit District (SamTrans) bus service, Bay Area Rapid Transit District service (San Bruno BART station), and Caltrain commuter rail service (new San Bruno Caltrain station), project-related vehicle trips and vehicle miles traveled would be minimized, and the project's transportation-related greenhouse gas (GHG) emissions would be less than rates produced by the same amount of population and employment growth elsewhere in the vicinity and Bay region where transit service is less available. Based on an additional service population at buildout of 8,339 (4,363 new residents and 3,976 additional workers),[1] development under the Transit Corridors Plan would generate estimated CO_2e emissions of 24,800 metric tons per year if full buildout were to occur by 2020 or 23,598 metric tons per year with full buildout in 2030. The Transit Corridors Plan would result in CO_2e emissions of approximately 3.0 metric tons per year per service population in 2020 and 2.8 metric tons per year per service population in 2030, which in both years would be below the significance threshold of 4.6 metric tons per year per service population recommended by the BAAQMD. GHG emissions resulting from occupancy and operation under Transit Corridors Plan buildout would represent a less-than-considerable contribution to the significant cumulative impact of global climate change, and thus a ***less-than-significant impact*** (see criteria (a) and (b) in subsection 6.3.1, "Significance Criteria, above).

Explanation: Ongoing occupancy and operation of development under the Transit Corridors Plan would result in a net increase in CO_2 and other greenhouse gas emissions due primarily to energy use, solid waste disposal and increases in vehicle miles traveled:

- *Transportation.* The project would increase GHG emissions in San Bruno by facilitating development and thereby increasing the number of vehicle trips associated with transporting people and goods to, from and within the proposed Transit Corridors Area. The mixed-use, higher density character of development under the Transit Corridors Plan would promote walking, biking, and transit use.

- *Energy Use.* Energy use includes building space heating and cooling, water heating, and energy associated with water use and wastewater treatment. Energy usage includes natural

[1] Service population assumes an additional 1,610 new dwelling units, 147,700 square feet of new retail uses, 988,100 square feet of new office development, and 190 new hotel rooms that would be facilitated by the proposed Transit Corridors Plan over the amount of existing development within the Transit Corridors Area. Also, service population assumes 2.71 persons per household, one employee per 300 square feet of retail or office uses, and one employee per hotel room. See EIR Table 12.2.

gas consumption in Transit Corridors Plan-facilitated developments and emissions outside the area from the generation of electricity.

- *Consumer Products and Solid Waste Disposal.* Consumption in homes, businesses and public facilities creates demand for products that require upstream, energy-intensive production processes, which result in associated GHG emissions. Efforts to recycle and reduce consumption will help keep waste out of landfills, where it releases methane, a particularly powerful greenhouse gas.

The URBEMIS2007 model and the BAAQMD Greenhouse Gas Model (BGM) were used to predict GHG emissions. Daily trip generation rates developed by Fehr & Peers, Transportation Consultants, which are described in subsection 14.5.2 of EIR Chapter 14, Transportation, were used in the model in place of the default values. These trip generation rates more accurately account for the trip reduction benefits of mixed-use development and include reductions for transit use, walking and biking, internal trips that begin and end within the Transit Corridors Area, and retail pass-by reductions. Electricity emissions reported by the BGM were adjusted to reflect lower actual emission rates reported by Pacific Gas and Electric Company (PG&E).[1] Energy use in new construction was further reduced by 20 percent to account for new State building codes that increase energy efficiency.

As suggested by the BAAQMD CEQA Guidelines, GHG emissions for the Transit Corridors Plan were estimated for the years 2020 (the AB 32 benchmark year) and 2030 (assumed Transit Corridors Plan buildout year). For this analysis, full buildout of the Transit Corridors Plan was assumed for both 2020 and 2030. In 2030, emissions were forecasted to decrease slightly due to California motor vehicle fleet emissions reductions. While there would also be substantial decreases in other emissions sources, in particular electricity generation, these were not accounted for in the URBEMIS2007 and BGM modeling.

As shown in Table 6.1, based on an additional service population of 4,363 new residents and 3,976 new workers at buildout, development facilitated by the Transit Corridors Plan over the existing conditions within the Transit Corridors Area would generate estimated CO_2e emissions of 24,800 metric tons per year in 2020 and 23,598 metric tons per year in 2030. The Transit Corridors Plan would result in CO_2e emissions of approximately 3.0 metric tons per year per service population in 2020 and 2.8 metric tons per year per service population in 2030, which in both years would be below the significance threshold of 4.6 metric tons per year per service population recommended by the BAAQMD.

Mitigation: No significant impact has been identified; no mitigation is required.

[1]The BGM default statewide GHG emissions rate for electricity generation is 804 pounds per megawatt, whereas the average PG&E GHG emissions rate over the period 2004-2007 was 537 pounds per megawatt. In addition, PG&E is mandated by State regulations to increase the renewable portion of its electricity generation portfolio from 13 percent to 20 percent.

Table 6.1
ESTIMATED ANNUAL ADDITIONAL CO_2e EMISSIONS WITH THE TRANSIT CORRIDORS PLAN

Emissions	Units	2020	2030
Transportation	Metric tons/yr	12,721	11,524
Area Sources	Metric tons/yr	7	7
Electricity	Metric tons/yr	4,554	4,554
Natural Gas	Metric tons/yr	2,709	2,709
Water/Wastewater Conveyance	Metric tons/yr	216	210
Solid Waste	Metric tons/yr	4,593	4,594
TOTAL EMISSIONS	Metric tons/yr	24,800	23,598
Estimated Population	Residents	4,363	4,363
Estimated Employment	Employees	3,976	3,976
SERVICE POPULATION		8,339	8,339
EMISSIONS PER SERVICE POPULATION	Metric tons/ year/service population	3.0	2.8

SOURCE: Wagstaff/MIG and Illingworth & Rodkin, Inc., October 2011.

7. CULTURAL RESOURCES

This chapter describes the existing conditions and regulatory setting related to cultural resources in and around the Transit Corridors Area, and the potential cultural resources impacts of the Transit Corridors Plan. Under CEQA, cultural resources may include historic-period buildings or structures, prehistoric or historic-period archaeological resources, or paleontological resources.

7.1 ENVIRONMENTAL SETTING

7.1.1 History of San Bruno and the Transit Corridors Area[1]

(a) Pre-European Settlement. At the time of Euro-American contact, the Native Americans in the region tended to live along alluvial terraces and the historic San Francisco Bay margins. San Bruno was originally inhabited by Ohlone who spoke Ramaytush, one of the Coastanoan languages. The Oholone lived along the bay shores, foothills and hills of the Peninsula, subsisting off of plentiful food resources, particularly those available from the Bay.

(b) European Settlement. The first Spanish explorers arrived in the San Bruno area in 1775, and subsequent development took place first along routes that passed around San Bruno Mountain and/or that linked San Francisco to Monterey and San Jose, and later along the railroad lines. Spanish explorers along the western shore of San Francisco Bay used two pathways around San Bruno Mountain that converged in present-day San Bruno and later became known as Bayshore Road and Mission Road. In 1776, the Spanish Government, based in the Monterey area, established a mission in San Francisco. El Camino Real, which ran along the alignment of Mission Road, between the coastal mountains and the Bay marshes through present-day San Bruno, was established to connect the mission to the Monterey area. Development along these early roads included a resting place established at the current intersection of El Camino Real and San Mateo Avenue in the early 1850s for changing and watering horses, which later became an eating and gaming establishment, and remained a landmark until it was demolished in 1949. Financed by the counties of San Francisco, Santa Clara and San Mateo, the San Francisco and San Jose Railroad Company (later part of the Southern Pacific Railroad Company) railroad tracks passed through eastern San Bruno, parallel to El Camino Real.

In the 1820s, San Bruno became part of a 15,000-acre land grant given to Jose Antonio Sanchez by the Republic of Mexico for his military service. Following the Treat of Guadalupe-Hidalgo in 1848, the land was lost by the Sanchez family and much of it was later purchased by the founder of the Bank of California, Darius Mills.

[1]City of San Bruno, San Bruno Redevelopment Project Area Plan Draft Environmental Impact Report, SCH#98112029, March 1999, pp. III.N-2 and III.N-3.

By the 1880s, most of the land in San Bruno was used for ranches that provided horses, milk and meat to the San Francisco area and San Bruno remained rural and agricultural ranchland until after 1890. Development of San Bruno's Downtown had begun by the late 1880s. The USGS map of San Mateo County indicated that six buildings, the Southern Pacific Railroad grade, and two roadways (El Camino Real and San Mateo Avenue) were established by 1896. In 1899, the Tanforan Racetrack, opened along the eastern side of El Camino Real on land previously used for pastures. The Tanforan Racetrack was named after Torribio Tanforan, the grandson-in-law of the one-time land grant owner, Jose Antonio Sanchez. The racetrack played a prominent role in local, State, regional and national history over the years, becoming the takeoff site of the first airplane flight on the west coast, and later used for military purposes during World War I.

(c) Post-Earthquake Era. The first large-scale housing development took place along El Camino Real and near the railroad tracks in the San Bruno Park Addition area, as part of the post-earthquake regional boom spurred by displaced persons following the 1906 Earthquake took place. In 1914, when San Bruno officially incorporated as a city, its population was approximately 1,400 and its boundaries encompassed the Tanforan Racetrack and adjacent lands; the neighborhoods now known as San Bruno Park, Belle Air North, Belle Air, Belle Air South, and Mills Park; and the commercial/business areas of Bayhill and the central business district.

Despite this initial development, San Bruno remained a rural town until the 1940s when the U.S. government temporarily took control of the Tanforan Racetrack during World War II and built additional facilities on the west side of El Camino Real. The racetrack was used temporarily as a detention center for nearly 8,000 Bay Area persons of Japanese descent before they were transferred to centers in western Utah. After the Tanforan Assembly Center was closed, the centers structures were used temporarily by the U.S. Navy to provide housing and subsistence facilities for 4,000 of its men, with an eventual capacity for 7,000 military personnel, known as the U.S. Naval Advance Base Personnel Department. Following World War II, the racetrack continued to operate until it burned down in 1964.

(d) Post-World War II Era. Following Work War II, San Bruno quickly expanded its boundaries by annexing nearby areas to accommodate a building boom initiated by returning war veterans and GI benefits, more than tripling the original land area encompassed by the original city boundaries in 1914. Annexations included the Golden Gate National Cemetery (1940); the El Crystal area (1945); the City Park area and the Capuchino High School area (1946); the San Bruno Heights area (1949); Mills Park (1950); a school site on Niles Avenue and the Golden Gate Estates areas (1953); the Parkview, Lomita Park and Crestmoor Park areas (1954); the "Western Sloped Lands" (1955); the Pacific Heights area (1956), and the Portola Highlands area (1963).

7.1.2 Archaeological Resources

(a) Pre-Historic Archaeological Resources. Native American archaeological resource sites in San Mateo County have been found primarily along the Bay margin and its associated wetlands, near sources of fresh water including perennial and intermittent streams and springs, and on alluvial fans. Ohlone camp sites in San Bruno have been discovered along San Bruno Creek and near the creek flowing through Crestmoor Canyon.

An archival literature review conducted in 1998 by the Northwest Information Center (NWIC) of the California Historical Resources Information System for the San Bruno Redevelopment Project Area Plan Draft Environmental Impact Report (the 1998 Redevelopment Project Area encompassed all of the currently designated Transit Corridors Area) revealed that: (1) approximately 10 percent of the Redevelopment Project Area had been surveyed for cultural resources; and (2) the Transit Corridors Area contains no recorded Native American archaeological resources. Nevertheless, numerous Native American resources have been recorded in the general vicinity, and the three creeks that historically traversed the Transit Corridors Area, and the area's location along the Bay margin, indicate that the area has a high archaeological sensitivity.[1]

(b) Historic Period Archaeology Resources. The State Office of Historic Preservation has determined that buildings, structures and objects 45 years or older may be of historical value. Development of downtown San Bruno dates to the late 1880s and the Transit Corridors Area contains numerous structures 45 years or older.

Based on a March 2003 Historic Resources Inventory of the San Bruno Redevelopment Project Area, which encompassed all of the Transit Corridors Area, there are 10 listed historical resources within the Transit Corridors Area and 4 listed historical resources immediately adjacent to the Transit Corridors Area. These 14 listed historical resources within or adjacent to the Transit Corridors Area are identified in Table 7.1 and Figure 7.1.

In addition, the San Mateo Avenue/El Camino Real intersection is identified by the California Register of Historical Resources as a California Point of Historical Interest as the historic beginning of the California State Highway System, where ground was broken in August 1913.[2]

The City-designated Cupid's Row Historic District is also located immediately adjacent to the Transit Corridors Area, near the San Mateo Avenue/El Camino Real intersection within the San Bruno Park 3rd Addition area, bounded by Mastick, Taylor, Florida, Huntington, Georgia, and Chapman avenues.[3] The Cupid's Row Historic District contains housing units built between 1909 and 1951, on a curvilinear heart-shaped novelty street pattern, and is an excellent example of an early San Francisco peninsula railroad/streetcar and automobile suburb.[4]

Also located outside but immediately adjacent to the Transit Corridors Area, the site of the former Tanforan Racetrack and Japanese Assembly Center, now The Shops at Tanforan, is a California Historical Landmark (No. 934) and is listed on the California Register of Historical Resources.[5]

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[1]City of San Bruno, San Bruno 2025: General Plan Draft EIR, December 2008, p. 3-149.

[2]City of San Bruno, San Bruno 2025: General Plan Draft EIR, December 2008, p. 3-149.

[3]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.

[4]City of San Bruno, San Bruno 2025: General Plan Draft EIR, December 2008, p. 3-149.

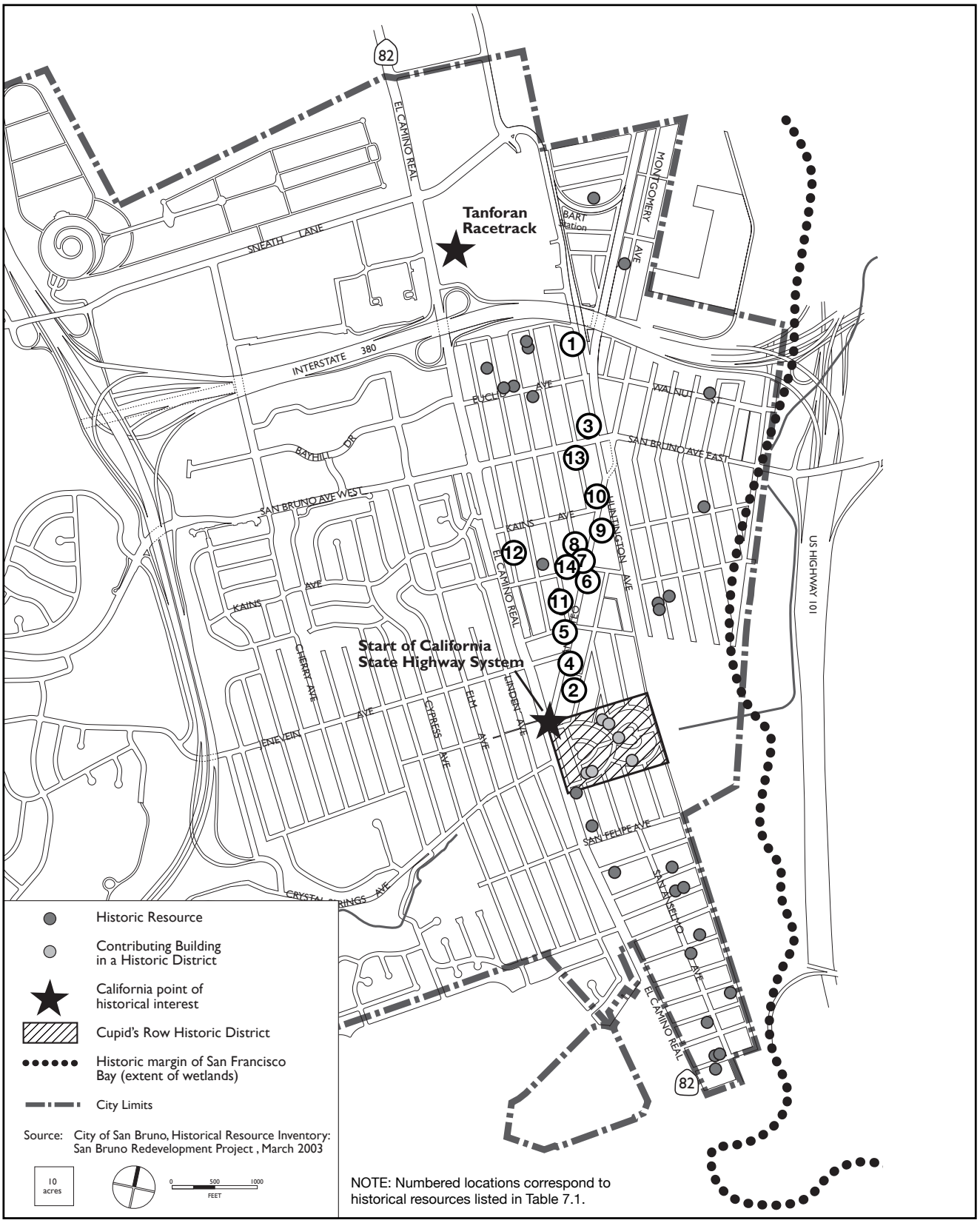
[5]City of San Bruno, San Bruno 2025: General Plan Draft EIR, December 2008, p. 3-149.

Table 7.1
PREVIOUSLY RECORDED SIGNIFICANT HISTORICAL RESOURCES WITHIN AND ADJACENT TO THE TRANSIT CORRIDORS AREA[1]

Figure Key[2]	Property Name	Address	Assessor's Parcel Number	Year Built	NRHP Status Code[3]	In or Adjacent
1	Rooming House	973 Huntington Avenue	020-101-050	1914	5S1	In
2	A. Hyde Green House	433 Mastick Avenue	020-364-040	1914	5S1	In
3	San Bruno Funeral Home	200 W. San Bruno Avenue	020-112-340	1935	5S1	In
4	Club Barber Shop	460 San Mateo Avenue	020-363-120	1940	5S1	In
5	Barney Ward Building	495 San Mateo Avenue	020-361-080	1906	5S1	In
6	First EiMac Corp. Office	598 San Mateo Avenue	020-142-210	1932	5S1	In
7	--	601-605 San Mateo Avenue	020-132-350	1930	5S1	In
8	Debenedetti Building	609-613-617 San Mateo Avenue	020-132-360	1909	5S1	In
9	Artichoke Joe's	678 San Mateo Avenue	020-131-570	1907	5S1	In
10	Della Maggiora General Store	733 San Mateo Avenue	020-	1907	5S1	In
11	William Schade House	549 Easton Avenue	020-144-080	1925	5S1	Adjacent
12	J. A. Helm House	652 Hensley Avenue	020-135-170	1933	5S1	Adjacent
13	J. H. Galleher House	785 Mills Avenue	020-122-030	1922	5S1	Adjacent
14	Carpenter's Union Social Hall	300 West Angus Avenue	020-133-110	1910	5S1	Adjacent

SOURCE: City of San Bruno, Redevelopment Project Area Historical Inventory; updated December 2011 by City staff.

[1]Significant historical resources within or immediately adjacent to the Transit Corridors Area previously recorded by the City in a March 2003 historical inventory of the Redevelopment Project Area.
[2]Resource number keys to Figure 7.1
[3]The appropriate code that best describes the resource's relationship to the national Register of Historic Places and is entered on standard historical inventory form DPR 523A. All resources within or adjacent to the Transit Corridors Area are designated 5S1, which indicates that the resource was determined ineligible for the National Register but is still of local interest and is considered a significant historical resource for purposes of CEQA.



SOURCE: Dyett & Bhatia

Figure 7.1

SIGNIFICANT HISTORICAL RESOURCES

7.1.4 Paleontological Resources

Paleontological resources include fossil remains, as well as fossil localities and rock or soil formations that have produced fossil material. Fossils are the remains or traces of prehistoric animals and plants. Fossils are important scientific and educational resources because of their use in: (1) documenting the presence and evolutionary history of particular groups of now extinct organisms, (2) reconstructing the environments in which these organisms lived, and (3) determining the relative ages of the strata in which they occur and of the geologic events that resulted in the deposition of the sediments that formed these strata and in their subsequent deformation.

The age and abundance of fossils depend on the location, topographic setting, and particular geologic formation in which they are found. The Colma Formation, the geologic formation which underlies the Transit Corridors Area, is Quaternary-aged (about 1 million years old). The Colma Formation is likely to contain only occasional small marine and non-marine invertebrate fossils.[1]

7.2 REGULATORY SETTING

The treatment of cultural and historic resources is governed by federal, State, and local laws, policies, and guidelines. These provisions set forth specific criteria for determining whether prehistoric and historic sites or objects are significant and/or protected by law. Federal and State significance criteria generally focus on the resource's integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. Some resources that do not meet federal significance criteria may be considered significant under State (CEQA) criteria.

7.2.1 Federal Laws, Regulations, Standards and Guidelines

(a) National Historic Preservation Act. The National Historic Preservation Act of 1966 established the National Register of Historic Places (National Register) as the official designation of historical resources, including districts, sites, buildings, structures and objects. Sites less than 50 years in age, unless of exceptional importance, are not eligible for the National Register. Listing in the National Register does not entail specific protection for a property, but project effects on properties listed or eligible for listing in the National Register must be evaluated under CEQA.

For a property to be eligible for listing in the National Register, it must be significant and possess integrity. According to the National Register criteria for evaluation,[2] a property is significant in American history, architecture, archaeology, engineering or culture if it is:

A. associated with events that have made a significant contribution to the broad patterns of our history; or

B. associated with the lives of significant persons in or past; or

[1] City of San Bruno, San Bruno 2025: General Plan Draft EIR, December 2008, p. 3-150.

[2] Code of Federal Regulations, 36 CFR Part 60.4.

C. embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. has yielded or may be likely to yield, information important in history or prehistory.

(b) Secretary of the Interior's Standards for the Treatment of Historic Properties. The U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties (Secretary Standards) promote responsible practices that help protect our Nation's irreplaceable cultural resources. The Secretary Standards are neither technical nor prescriptive, and cannot, in and of themselves, be used to make essential decisions about which features of the historic building should be saved and which can be changed. But once a treatment is selected, the Secretary Standards provide philosophical consistency in the work. An individual set of Secretary Standards has been formulated for each of four identified treatment approaches: Preservation, Rehabilitation, Restoration, and Reconstruction. The four approaches are defined below:

- *Preservation* requires retention of the greatest amount of historic fabric, along with the building's historic form, features, and detailing as they have evolved over time.

- *Rehabilitation* acknowledges the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character.

- *Restoration* allows for the depiction of a building at a particular time in its history by preserving materials from the period of significance and removing materials from other periods.

- *Reconstruction* establishes a limited framework for re-creating a vanished or non-surviving building with new materials, primarily for interpretive purposes.

Of the four treatment approaches, only the Standards for Rehabilitation allow alterations or additions to a historic resource to allow new uses while retaining the resource's historic character. The Standards for Rehabilitation include the following standards which are particularly relevant to the historical resources within the Transit Corridors Area:

1. A property will be used as it was historically or be given new use that requires minimal changes to its distinctive materials, features, spaces and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alterations of features, spaces and spatial relationships that characterize a property will be avoided.

3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New addition, exterior alterations, or related new construction will not destroy historic materials, features and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

(c) Secretary of the Interior's Standards for Architectural and Engineering Documentation. The U.S. Secretary of the Interior Standards for Architectural and Engineering Documentation address the development of documentation for historic buildings, sites, structures and objects. This documentation, which usually consists of measured drawings, photographs and written data, provides important information on a property's significance for use by researchers, preservationists, architects and others interested in preserving and understanding historic properties. Documentation permits accurate repair or reconstruction of parts of a property, or may present information about a property that is to be demolished. These Standards are intended for use in developing documentation to be included in the Historic American Building Survey (HABS) and the Historic American Engineering Record (HAER) Collections in the Library of Congress. The requirements for content, quality, materials and presentation may also be applied to documentation for other purposes such as State or local archives.

(d) Secretary of the Interior's Professional Qualifications Standards. The Secretary of the Interior's Professional Qualifications Standards define minimum education and experience required to perform historic resources identification, evaluation, registration, and treatment activities.[1]

(e) Paleontological Resources Preservation Act. Paleontological resources are classified as non-renewable scientific resources and are protected by federal and state statutes, most notably the 1906 federal Antiquities Act. The federal Paleontological Resources Preservation Act of 2002 codifies the generally accepted practice of limited vertebrate fossil collection and

[1]Code of Federal Regulations, 36 CFR Part 61.

limited collection of other rare and scientifically significant fossils by qualified researchers. Researchers must obtain a permit from the appropriate state or federal agency and agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers. Professional standards for assessment and mitigation of adverse impacts on paleontological resources have been established by the Society for Vertebrate Paleontology.

7.2.2 State Laws and Regulations

(a) CEQA Guidelines. State Public Resources Code and CEQA Guidelines provisions for cultural and historic (archaeological) resources are summarized below:

(1) Cultural (Archaeological) Resources: Public Resources Code Section 21083.2 and Section 15126.4 of the CEQA Guidelines specify lead agency responsibilities to determine whether a project may have a significant effect on archaeological resources. If it can be demonstrated that a project will damage a unique archaeological resource, the lead agency may require reasonable efforts for the resources to be preserved in place or left in an undisturbed state. Preservation in place is the preferred approach to mitigation. The Code also details required mitigation if unique archaeological resources are not preserved in place.

Section 15064.5 of the CEQA Guidelines also specifies procedures to be used in the event of an unexpected discovery of Native American human remains on non-federal land. This CEQA Guidelines section and related Public Resources Code sections protect such remains from disturbance, vandalism and inadvertent destruction, establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, and establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

(2) Historical Resources: Section 15064.5 of the State CEQA Guidelines states that a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant impact on the environment. The CEQA Guidelines define the following four ways that a property can qualify as a significant historical resource for purposes of CEQA compliance:

- The resource is listed in or determined eligible for listing in the California Register of Historical Resources, as determined by the State Historical Resources Commission.

- The resource is included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code, or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- The lead agency determines the resource to be significant as supported by substantial evidence in light of the whole record.

- The lead agency determines that the resource may be a historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1 (CEQA Guidelines Section 15064.5) which means, in part, that it may be eligible for the California Register.

For historic resources, CEQA Guidelines Section 15064.5 (b) (3) indicates that a project that follows the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), shall mitigate impacts to a less than significant level.

(b) California Register of Historic Resources. The California Register of Historic Resources establishes a list of properties to be protected from substantial adverse change (Public Resources Code Section 5024.1). A historical resource may be listed in the California Register if it is determined to be historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California, and meets any of the following criteria:

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

The California Register includes properties that are listed or have been formally determined eligible for listing in the National Register, State Historical Landmarks and eligible Points of Historical Interest. Other potential resources require nomination for inclusion in the California Register.

(c) Health and Safety Code Section 7052 and 7050.5. Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC).

(d) California Native American Historical, Cultural and Sacred Sites Act. The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. The Act requires that upon discovery of human remains, construction or excavation activity cease and the county coroner notified. If the remains are of a Native American, the coroner must notify the NAHC. The NAHC then notifies those persons most likely to be descended from the Native American remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

(e) Public Resources Code Section 5097. Public Resources Code Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on non-Federal public lands. The disposition of Native American burials fall within the jurisdiction of the NAHC, which prohibits willfully damaging any historic, archaeological or vertebrate paleontological site or feature on public lands.

7.2.3 City of San Bruno

The following policies of the Environmental Resources and Conservation Element of the San Bruno General Plan are relevant to consideration of the cultural resources impacts of the Transit Corridors Plan:

ERCRC-36 Preserve historic structures and resources during reuse and intensification within the city's older neighborhoods.

ERCRC-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.

ERCRC-38 Work cooperatively with the owners of The Shops at Tanforan to preserve the historic marker on site.

ERCRC-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.

ERCRC-40 Ensure that new development adjacent to historic structures is compatible with the character of the structure and the surrounding neighborhood.

7.3 IMPACTS AND MITIGATION MEASURES

7.3.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines,[1] the Transit Corridors Plan would be considered to have a significant adverse impact on cultural resources if it would:

(a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5;

(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5;

(c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or

(d) Disturb any human remains, including those interred outside of formal cemeteries.

[1] CEQA Guidelines, Appendix G, Items V(a) through (d).

7.3.2 Impacts and Mitigation Measures

Impact 7-1: Plan-Related and Cumulative Disturbance of Archaeological Resources. Development activities facilitated by the Transit Corridors Plan could disrupt, alter or eliminate as-yet undiscovered archaeological sites, potentially including Native American remains. Also, the loss of archaeological resources under the plan would be a cumulatively considerable contribution to a loss of archaeological resources throughout San Bruno and the surrounding region. This possibility represents a ***potentially significant impact*** (see criteria (b) and (d) under subsection 7.3.1, "Significance Criteria," above).

At the time of Euro-American contact, Native Americans in the Bay Area typically lived along alluvial terraces and the historic margins of San Francisco Bay. Three creeks historically traversed the Transit Corridors Area and the area was historically along the Bay margin, and is therefore an area of high archaeological sensitivity. Ground-disturbing activities during previous development of the area would likely have disturbed archaeological resources that may have existed within the area. Despite the history of disturbance, future development in accordance with the Transit Corridors Plan could potentially disrupt, alter or eliminate as-yet undiscovered archaeological sites, potentially including Native American remains.

New development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development, would result in an estimated cumulative total of 2,640 new housing units and 2,340,200 square feet of new non-residential development by 2030 (see Table 10.3 in chapter 10, Land Use and Planning). Cumulative development has the potential to cause substantial adverse changes in significant archaeological and historic resources and to destroy significant paleontological resources, which would be considered a significant cumulative impact. The loss of significant archaeological, historic, or paleontological resources caused by the Transit Corridors Plan would be a cumulatively considerable contribution to a loss of cultural resources throughout San Bruno and the surrounding region, and thus a significant impact.

Mitigation 7-1: If prehistoric or historic-period archaeological resources are encountered during future grading or excavation in the Transit Corridors Area, work shall avoid altering the materials and their context until a qualified professional has evaluated, recorded and determined appropriate treatment of the resource, in consultation with the City. Project personnel shall not collect cultural resources. Cultural resources shall be recorded on DPR 523 historic resource recordation forms. If it is determined that the proposed development could damage a unique archaeological resource, mitigation shall be implemented in accordance with Public Resources Code Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. This measure would reduce the potential plan-related impact on archaeological resources to a ***less-than-significant level.***

Impact 7-2: Plan-Related and Cumulative Impacts on Historic Resources. Future development on or adjacent to properties within the Transit Corridors Area that contain a historic resource may cause the demolition, destruction or alteration of the historic resource such that the significance of the resource is "materially impaired." Also, the loss of historic resources under the plan would be a cumulative considerable contribution to a loss of historic resources throughout San Bruno and the surrounding region. This possibility represents a ***potentially significant impact*** (see criteria (a) in subsection 7.3.1, "Significance Criteria," above).

Future development on or adjacent to properties within the Transit Corridors Area that contain a historic resource may cause the demolition, destruction or alteration of the historic resource such that the significance of the resource is "materially impaired," which would constitute a significant impact under CEQA.

Generally, under the CEQA Guidelines, a project involving modification to or effects on a historic resource that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties would mitigate impacts on the historic resources to a less-than-significant level. Of the four treatment approaches set forth in the Secretary of the Interior's Standards for the Treatment of Historic Properties, only the Standards for Rehabilitation allow alterations or additions to a historic resource to allow new uses. Under the Standards for Rehabilitation, new additions, alterations, or adjacent new construction must not destroy character-defining features, spaces and spatial relationships. New work must be differentiated from the old and must be compatible with the historic materials, features, size, scale, proportion, and massing. New additions, alterations and new construction must be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

In some cases, it can be very challenging to accommodate the needs of new uses while fully adhering to the Standards for Rehabilitation and, in many situations, it can be altogether infeasible. As a result, it cannot be determined at this time, without consideration of a specific development proposal, whether it would be feasible to mitigate to a less-than-significant level the impacts of any given subsequent plan-facilitated development project involving properties that contain historic resources. Although the following mitigation measures are intended to mitigate impacts on historic resources to the extent feasible, the impacts to historic resources may nonetheless remain significant and unavoidable.

Mitigation 7-2. For any future discretionary private or public project within the Transit Corridors Area that involves a property that contains a historic resource, the City shall make a preliminary determination as to whether or not the project may have a potentially significant adverse effect on the historic resource. If the City determines that the project may have a potentially significant effect, the City shall require the applicant to implement the following mitigation measures where applicable:

(a) To the extent feasible, the applicant shall, to City satisfaction, ensure that the project adheres to one or both of the following standards:[1]

- Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings; or

- Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), Weeks and Grimmer.

The project shall be reviewed by a qualified architect or architectural historian approved by the City and meeting the Secretary of the Interior's Professional Qualifications Standards published in the Code of Federal Regulations (36 CFR part 61), who shall make a recommendation to the City as to whether the project fully adheres to the Standards for Rehabilitation, and any specific modifications necessary to do so. The final determination as to a project's adherence to the Standards for Rehabilitation shall be made by the City body with final decision-making authority over the project. Such a determination of individual project adherence to the Secretary Standards will constitute mitigation of the project historic resource impacts to a ***less-than-significant level*** (CEQA Guidelines section 15064.5).

(b) If measure (a) is not feasible, and if relocation of the historic resource is a feasible alternative to demolition, the historic resource shall be moved to a new location compatible with the original character and use of the historic resource, and its historic features and compatibility in orientation, setting, and general environment shall be retained, such that the resource retains its eligibility for listing on the

(continued)

[1]Under the CEQA Guidelines (section 15064.5(b)(3)), a project's adverse impact on a historic resource can be mitigated to a less-than-significant level by following either of these standards.

Mitigation 7-2 (continued):

California Register.[1] Implementation of measure (b) would reduce the impact to a ***less-than-significant level***.

If neither measure (a) nor measure (b) is feasible, the City shall, as applicable and to the extent feasible, implement the following measures in the following order:

(c) Document the historic resource before any changes that would cause a loss of integrity and loss of continued eligibility. The documentation shall adhere to the Secretary of the Interior's Standards for Architectural and Engineering Documentation. The level of documentation shall be proportionate with the level of significance of the resource.[2] The documentation shall be made available for inclusion in the Historic American Building Survey (HABS) or the Historic American Engineering Record (HAER) Collections in the Library of Congress, the California Historical Resources Information System and the Bancroft Library, as well as local libraries and historical societies, such as the San Bruno Public Library.

(d) Retain and reuse the historic resource to the maximum feasible extent and continue to apply the Secretary of the Interior's Standards for Rehabilitation to the maximum feasible extent in all alterations, additions and new construction.

(e) Through careful methods of planned deconstruction to avoid damage and loss, salvage character-defining features and materials for educational and interpretive use on-site, or for reuse in new construction on the site in a way that commemorates their original use and significance.

(f) Interpret the historical significance of the resource through a permanent exhibit or program in a publicly accessible location on the site or elsewhere within the Transit Corridors Area.

(continued)

[1]The State Historical Resources Code encourages the retention of historical resources on site and discourages the non-historic grouping of historic buildings into parks or districts. However, it is recognized that moving a historic building, structure, or object is sometimes necessary to prevent its destruction. Therefore, a moved building, structure, or object that is otherwise eligible may be listed in the California Register if it was moved to prevent its demolition at its former location and if the new location is compatible with the original character and use of the historical resource. A historical resource should retain its historic features and compatibility in orientation, setting, and general environment. California *Office* of Historic Preservation, *California Register and National Register: A Comparison,* Technical Assistance Series 6; Sacramento, CA: California Department of Parks and Recreation, 2001.

[2]California Office of Historic Preservation, viewed June 9, 2010, http://ohp.parks.ca.govf?page_id =21727

Mitigation 7-2 (continued):

Implementation of measures (c), (d), (e) and/or (f) would reduce the potentially significant impact on historic resources, but not to a less-than-significant level. Without knowing the characteristics of the potentially affected historic resource or the subject future individual development proposal, the City cannot determine with certainty that measure (a) or (b) above would be considered feasible. Consequently, this impact would be ***significant and unavoidable.***

Impact 7-3: Plan-Related and Cumulative Disturbance of Paleontological Resources. Development facilitated by the Transit Corridors Plan could potentially disrupt, alter or eliminate as-yet undiscovered paleontological resources. Also, the loss of paleontological resources under the plan would be a cumulatively considerable contribution to a loss of paleontological resources throughout San Bruno and the surrounding region. This possibility represents a ***potentially significant impact*** (see criterion (c) under subsection 7.3.1, "Significance Criteria," above).

Paleontological resources include fossil remains, as well as fossil localities and rock or soil formations that have produced fossil material. Fossils are the remains or traces of prehistoric animals and plants. Fossils are important scientific and educational resources because of their use in: (1) documenting the presence and evolutionary history of particular groups of now extinct organisms, (2) reconstructing the environments in which these organisms lived, and (3) determining the relative ages of the strata in which they occur and of the geologic events that resulted in the deposition of the sediments that formed these strata and in their subsequent deformation.

The age and abundance of fossils depend on the location, topographic setting, and particular geologic formation in which they are found. The Colma Formation, the geologic formation which underlies the Transit Corridors Area, is Quaternary-aged (about 1 million years old). The Colma Formation is likely to contain only occasional small marine and non-marine invertebrate fossils.

Ground-disturbing activities during previous development of the area would likely have disturbed, altered or eliminated paleontological resources that may have existed within the area. Despite the history of disturbance, the project could potentially disrupt, alter or eliminate as-yet undiscovered paleontological resources within or immediately adjacent to the Transit Corridors Area.

Mitigation 7-3: If paleontological resources are encountered during future grading or excavation in the Transit Corridors Area, work shall avoid altering the resource and its stratigraphic context until a qualified paleontologist has evaluated, recorded and determined appropriate treatment of the resource, in consultation with the City. Project personnel shall not collect cultural resources. Appropriate treatment may include collection and processing of "standard" samples by a qualified paleontologist to recover micro vertebrate fossils; preparation of significant fossils to a reasonable point of identification; and depositing significant fossils in a museum repository for permanent curation and storage, together with an itemized inventory of the specimens. This measure would reduce the potential plan-related impact on paleontological resources to a ***less-than-significant level.***

8. HAZARDS AND HAZARDOUS MATERIALS

This chapter discusses the existing conditions, regulatory setting and potential impacts of the Transit Corridors Plan related to hazardous materials, airport hazards, emergency response plans and wildland fires.

8.1 ENVIRONMENTAL SETTING

8.1.1 Hazardous Materials

There are a number of automobile service uses and other commercial uses within the Transit Corridors Area that store, use and dispose of hazardous materials. Most of these uses are located along San Bruno Avenue and El Camino Real.

The majority of hazardous materials sites within the Transit Corridors Area are leaking underground storage tank (LUST) cleanup sites associated with gasoline stations and automobile service uses, as well as other uses that use on-site underground storage tanks.[1] Active and closed hazardous materials sites within the Transit Corridors Area are summarized in Table 8.1, based on information from the DTSC's EnviroStor[2] database, the State Water Resources Control Board's ("SWRCB") Geotracker[3] database, and the Environmental Protection Agency's ("EPA") CERCLIS[4] database. As shown in Table 8.1, there are 11 active sites and 15 closed sites within the Transit Corridors Area.

[1]California State Water Resources Control Board, Geotracker website, https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=san+bruno, viewed January 12, 2011. U.S. Environmental Protection Agency, Superfund Site Information, http://cfpub.epa.gov/supercpad/cursites/srchrslt.cfm?start=1&CFID=41455020&CFTOKEN=57577578&jsessionid=28308d2fe2c5e5c0e7ee2545351554603a27, viewed January 12, 2011.

[2]EnviroStor is an online research and Geographic Information System tool that allows you to search for information on investigation, cleanup, permitting, and/or corrective actions that are planned, being conducted or have been completed under DTSC's oversight.

[3]The SWRCB's Geotracker is a similar online research tool as EnviroStor but pulls information from different databases, such as Leaking Underground Storage Sites ("LUST") and Spills, Leaks, Investigations, and Cleanups ("SLIC").

[4]CERCLIS is the acronym for the EPA's comprehensive environmental response, compensation, and liability information system. CERCLIS is the national database and management system that the EPA uses to track activities of hazardous waste sites considered for cleanup under the Comprehensive Environmental Response and Liability Act ("CERCLA"), which is commonly know as Superfund. Superfund sites are land within the United States that has been contaminated by hazardous waste and identified by the EPA as a candidate for remediation because it poses a risk to human health and/or the environment.

Table 8.1
IDENTIFIED ACTIVE AND CLOSED HAZARDOUS MATERIALS CONTAMINATION SITES WITHIN THE TRANSIT CORRIDORS AREA

Name	Global ID	Address	Type of Case	Clean-Up Status	Case Numbers
Autohaus	T0608100047	675 East San Bruno Avenue San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0048 Loc Case #: 880014
BP #11200	T0608100080	717 East San Bruno Avenue San Bruno, Ca 94066	Lust Cleanup Site	Open - Site Assessment	Rb Case #: 41-0085 Loc Case #: 880022
Chevron 9-2759 ECR SB Comingled	T0608100147	801 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Open - Assessment & Interim Remedial Action	Rb Case #: 41-0155 Loc Case #: 880006
European Car Service	T0608100202	900 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0212 Loc Case #: 880021
Exxon 7-0107 Sb	T0608100207	310 East San Bruno Avenue San Bruno, Ca 94066	Lust Cleanup Site	Open - Remediation	Rb Case #: 41-0217 Loc Case #: 880010
Exxon 7-0259 (Former) ECR SB Comingled	T0608100537	800 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Open - Verification Monitoring	Rb Case #: 41-0563 Loc Case #: 880013
Flat Rate Rent-A-Car	T0608100220	830 Huntington San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0231 Loc Case #: 880019
Gootnick Property	T0608100807	732 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Open - Site Assessment	Rb Case #: 41-0862 Loc Case #: 880041
Melody Toyota	T0608100890	750 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Open - Site Assessment	Rb Case #: 41-0971 Loc Case #: 880039
Midas Muffler	T0608100836	700 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0907 Loc Case #: 880035
Mills Park Cleaners	T10000001468	709 Camino Plaza San Bruno, Ca 94066	Cleanup Program Site	Open - Site Assessment	Loc Case #: 889061
Olympian Oil	T0608100366	620 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0385 Loc Case #: 880023
Robinsons Carpet	T0608100872	701 San Mateo San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0950 Loc Case #: 880036

Table 8.1 (continued)
IDENTIFIED ACTIVE AND CLOSED HAZARDOUS MATERIALS CONTAMINATION SITES
WITHIN THE TRANSIT CORRIDORS AREA

Name	Global ID	Address	Type of Case	Clean-Up Status	Case Numbers
San Bruno Cable TV	T0608100438	398 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed 880026	RB Case #: 41-0462 Loc Case #:
San Bruno Car Wash	T0608192685	512 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-1243 Loc Case #: 880050
San Bruno Fire	T0608191820	555 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Open - Site Assessment	Rb Case #: 41-1236 Loc Case #: 880051
San Bruno Ford	T0608100439	601 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0463 Loc Case #: 880016
San Bruno Ford	T0608100766	625 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0816 Loc Case #: 880032
San Bruno Inn	T0608100170	500 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Open - Site Assessment	Rb Case #: 41-0179 Loc Case #: 880018
San Bruno Lumber	T0608100441	101 San Bruno San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0465 Loc Case #: 880001
Shell ECR SB Comingled	T0608100491	798 El Camino Real San Bruno, Ca 94066	Lust Cleanup Site	Open - Verification Monitoring	Rb Case #: 41-0515 Loc Case #: 880015
The Service Zone	T0608100831	265 San Bruno San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0894 Loc Case #: 880034
Tosco #0109 (Former Unocal)	T0608100889	401 San Mateo Avenue San Bruno, Ca 94066	Lust Cleanup Site	Open - Site Assessment	Rb Case #: 41-0970 Loc Case #: 880038
Unocal #3857	T0608100573	170 West San Bruno Avenue San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Rb Case #: 41-0601 Loc Case #: 880007
Winston Tire #100	T0608111410	504 West San Bruno Avenue San Bruno, Ca 94066	Lust Cleanup Site	Completed - Case Closed	Loc Case #: 880058

SOURCE: California State Water Resources Control Board, Geotracker website, https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=san+bruno, viewed January 12, 2011.

An active hazardous materials site signifies that there is an ongoing case that has been opened by a federal or State regulatory agency and that the site is undergoing an assessment, remediation, or site monitoring. A closed hazardous materials site signifies that a federal or State regulatory agency has determined that a site does not require any further remediation. However, in some cases a closed hazardous materials site may contain land use restrictions limiting the future use of the site as a result of residual contamination that may exist.

8.1.2 Airport Hazards

San Francisco International Airport is located approximately ½-mile east of the Transit Corridors Area, on the east side of US 101. There are no private airstrips in the vicinity of the Transit Corridors Area.

The San Mateo County Airport Land Use Commission (ALUC) has prepared the San Mateo County Comprehensive Airport Land Use Plan (CALUP), which is intended to minimize public exposure to excessive noise and safety hazards, while providing for orderly growth around public airports. The CALUP is described in section 8.2.3 herein.

8.1.3 Emergency Response

The San Mateo County Sheriff's Office, Office of Emergency Services provides disaster planning for all types of natural and technological disasters. The Office of Emergency Services is responsible for the alert, warning, direction and control of personnel and resources during such disasters, and also provides the general public with information concerning disaster preparedness. The Office of Emergency Services has prepared emergency plans that address response to extraordinary emergency situations associated with natural disasters, man-made emergencies, weapons of mass destruction, terrorism and war in or affecting San Mateo County. These emergency plans seek to reduce or eliminate long-term risk to people and property from natural and human caused hazards, save lives, protect and restore property, restore public services, distribute vital supplies, coordinate operations and maintain continuity of government.[1]

8.1.4 Wildfire 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 wildfire hazards in the City occurs in areas near extensive natural vegetation, such as Crestmoor Canyon, San Francisco Water Department's Peninsula Watershed, and Junipero Serra County Park.[2]

Wildland fire protection in California is the responsibility of either the State, local government, or the federal government. Local Responsibility Areas (LRA) include incorporated cities and

[1]San Mateo County Sheriff's Office, Office of Emergency Services, viewed January 5, 2011, http://www.co.sanmateo.ca.us/portal/site/sheriffs/menuitem.cec6c78cb70d4c4374452b31d17332a0/?vgnextoid=ab81dd7c41211210VgnVCM1000001d37230aRCRD&vgnextchannel=8b81dd7c41211210VgnVCM1000001d37230a____&vgnextfmt=DivisionsLanding

[2]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-181.

cultivated agriculture lands, where fire protection is typically provided by city fire departments, fire protection districts, counties, and by the State under contract to local government. State Responsibility Areas include unincorporated areas outside communities where fire protection is typically provided by the California Department of Forestry and Fire Protection (CAL FIRE). The Transit Corridors Area lies entirely within an LRA.

The CAL FIRE Fire and Resource Assessment Program (FRAP) maps areas of significant fire hazard based on fuels, terrain, weather and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZ), then define the application of various mitigation strategies, including unique building code requirements, to reduce risk associated with wildland fires. New buildings within an LRA located in a Very-High FHSZ or in any FHSZ within SRAs must comply with emergency regulations amending the 2007 California Building Code (California Code of Regulations (CCR), Title 24, Part 2), known as the Wildland-Urban Interface Fire Area Building Standards. These standards provide for the use of ignition resistant materials and design to resist the intrusion of flame or burning embers projected by a vegetation fire and establish minimum standards for materials and material assemblies for exterior wildfire exposure protection for buildings in Wildland-Urban Interface Fire Areas.

The Transit Corridors Area is located within a Non-Very High FHSZ.[1]

8.2 REGULATORY SETTING

This section describes the federal, state and local regulatory setting related to hazardous materials that may pose a risk to human health or the environment. Table 8.2 summarizes hazardous materials regulatory authority.

8.2.1 Federal

Federal agencies that regulate hazardous materials include the U.S. Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), the United States Department of Transportation (DOT), and the National Institute of Health (NIH). The following federal laws and guidelines govern hazardous materials:

- Occupational Safety and Health Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Comprehensive Environmental Response, Compensation, and Liability Act
- Guidelines for Carcinogens and Biohazards
- Superfund Amendments and Reauthorization Act Title III
- Resource Conservation and Recovery Act
- Toxic Substances Control Act

(a) U.S. Environmental Protection Agency. The EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes responsibility for issuing permits and monitoring and enforcing compliance. EPA Region

[1]California Department of Forestry and Fire Protection, San Mateo County Very High Fire Hazard Severity Zones in LRA as Recommended by CAL FIRE, November 2008, http://frap.cdf.ca.gov/webdata/maps/san_mateo/fhszl_map.41.jpg, viewed January 5, 2011.

Table 8.2
SUMMARY OF HAZARDOUS MATERIALS REGULATORY AUTHORITY

Regulatory Agency	Authority
Federal Agencies	
U.S. Department of Transportation (DOT)	Hazardous Materials Transport Act – Code of Federal Regulations (CFR) 49
Environmental Protection Agency (EPA)	Federal Water Pollution Control Act (Clean Water Act) Clean Air Act Resource Conservation and Recovery Act (RCRA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Superfund Amendments and Reauthorization Act (SARA) Federal Insecticide, Fungicide and Rodenticide Act
Occupational Safety and Health Administration (OSHA)	Occupational Safety and Health Act and CFR 29
State Agencies	
Department of Toxic Substances Control (DTSC)	California Code of Regulations (CCR)
Department of Industrial Relations (CAL-OSHA)	California Occupational Safety and Health Act, CCR Title 8
State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board (RWQCB)	Porter-Cologne Water Quality Act Underground Storage Tank Law
Health and Welfare Agency	Safe Drinking Water and Toxic Enforcement Act
Air Resources Board and Air Pollution Control District	Air Resources Act
Office of Emergency Services (OES)	Hazardous Materials Release Response Plans/Inventory Law
Department of Food and Agriculture	Food and Agriculture Code
State Fire Marshall	Uniform Fire Code, CCR Title 19
Local Agencies	
San Mateo County Department of Environmental Health	County Hazardous Waste Management Plan

SOURCE: Wagstaff/MIG, March 2011.

IX has authority in the Bay region, regulating chemical and hazardous materials use, storage, treatment, handling, transport, and disposal practices; protects workers and the community (along with CalOSHA, see below); and integrates the federal Clean Water Act and Clean Air Act into California legislation.

(b) Superfund. The federal Superfund list started through the Comprehensive Environmental Response, Conservation and Liability Act (CERCLA) of 1980. CERLCIS is the accompanying national database and management system the EPA uses to track activities at hazardous waste sites considered for cleanup under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund.

(c) Federal Occupational Safety and Health Administration. The federal Occupational Health and Safety Administration (OSHA) establishes and enforces federal regulations related to health and safety of workers exposed to toxic and hazardous materials. In addition, OSHA sets health and safety guidelines for construction activities and manufacturing facility operations.

8.2.2 State

The management of hazardous materials and waste within California is under the jurisdiction of the California Environmental Protection Agency (Cal/EPA) and the Department of Toxic Substances Control (DTSC). The Cal/EPA was created to establish a cabinet level voice for the protection of human health and the environment and to assure the coordinated deployment of state resources. The DTSC regulates hazardous waste, clean-up of existing contamination, emergency planning, and identifies alternatives to reduce the hazardous waste produced in California. Additionally, the nine Regional Water Quality Control Boards (RWQCB) regulate the quality of water within the state, including contamination of state waters as a result of hazardous materials and/or waste. Local agencies e.g., fire department, environmental health services department, etc.) may also have jurisdiction over hazardous materials.

(a) California Environmental Protection Agency. The California Environmental Protection Agency (Cal EPA) establishes regulations governing the use of hazardous materials in the state. The Office of Emergency Services (OES) coordinates state and local agencies and resources for educating, planning, and warning citizens of hazardous materials and hazardous materials emergencies, including organized response efforts in case of emergencies. The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations.

(b) California Department of Toxic Substances Control. The California EPA, Department of Toxic Substances Control (DTSC), regulates hazardous substances and wastes, oversees remedial investigations, protects drinking water from toxic contamination, and warns public exposed to listed carcinogens.

(c) California Highway Patrol/Caltrans. The California Highway Patrol (CHP) and California Department of Transportation (Caltrans) have primary regulatory responsibility for the transportation of hazardous wastes and materials.

(d) California Occupational Safety and Health Administration. The California Occupational Safety and Health Administration (CalOSHA) is responsible for promulgating and enforcing state health and safety standards and implementing federal OSHA laws. CalOSHA's regulatory

purview includes the following provisions to minimize the potential for release of asbestos and lead during construction and demolition activities.

- *Asbestos*. CalOSHA regulations prohibit emissions of asbestos from demolition and construction activities; require medical examinations and monitoring of employees engaged in activities that could disturb asbestos; specify precautions and safe work practices to minimize the potential for release of asbestos; and require notice to federal and local government agencies before beginning demolition or construction activities that could disturb asbestos.

- *Lead.* CalOSHA establishes a maximum safe exposure level for types of construction work where lead exposure may occur, including demolition activities where materials containing lead are present; removal or encapsulation of materials containing lead; and new construction, alteration, repair, or renovation of structures with materials containing lead. Inspection, testing, and removal of lead-containing building materials must be performed by state-certified contractors who comply with applicable health and safety, and hazardous materials regulations. Building materials with lead-based paint attached are not typically considered hazardous waste unless the paint is chemically or physically removed from the building debris.

(e) Regional Water Quality Control Board. One of nine regional boards in the state, the San Francisco Bay RWQCB protects surface and groundwater quality from pollutants discharged or threatened to be discharged to the waters of the state. The RWQCB issues and enforces National Pollutant Discharge Elimination System (NPDES) permits and regulates leaking underground storage tanks and other sources of groundwater contamination.

(f) California Department of Forestry and Fire Protection. Wildland fire protection in California is the responsibility of either the State, local government, or the federal government. Local Responsibility Areas (LRA) include incorporated cities and cultivated agriculture lands, where fire protection is typically provided by city fire departments, fire protection districts, counties, and by the State under contract to local government. State Responsibility Areas include unincorporated areas outside communities where fire protection is typically provided by the California Department of Forestry and Fire Protection (CAL FIRE). The Transit Corridors Area lies entirely within an LRA.

The California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program (FRAP) maps areas of significant fire hazard based on fuels, terrain, weather and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZ), then define the application of various mitigation strategies, including unique building code requirements, to reduce risk associated with wildland fires. The Transit Corridors Area is located within a Non-Very High FHSZ.[1]

8.2.3 San Mateo County

(a) San Mateo County Department of Environmental Health. The San Mateo County Health System Division of Environmental Health (DEH) ensures a safe and healthful environment in

[1]California Department of Forestry and Fire Protection, San Mateo County Very High Fire Hazard Severity Zones in LRA as Recommended by CAL FIRE, November 2008, http://frap.cdf.ca.gov/webdata/maps/san_mateo/fhszl_map.41.jpg, viewed January 5, 2011.

San Mateo County's 20 cities and unincorporated areas through education, monitoring and enforcement of a variety of regulatory programs as well as ongoing services to the community. The DEH manages most hazardous materials regulation and enforcement in San Mateo County. Large cases of hazardous materials contamination or violations are referred to the RWQCB and the DTSC. The DEH maintains the County Hazardous Waste Management Plan (CHWMP), which addresses existing and projected hazardous waste generation from the residential, commercial and industrial sectors. Types of treatment and disposal for such wastes are identified and possible locations for treatment and disposal facilities are considered. The CHWMP also addresses emergency response programs, contaminated sites, and educational and administrative programs related to hazardous wastes. The CHWMP provides criteria that, when implemented, would minimize safety hazards associated with the use, transport, storage and disposal of hazardous materials in the County.

(b) San Mateo County Comprehensive Airport Land Use Plan. San Francisco International Airport is located approximately ½-mile east of the Transit Corridors Area, on the east side of US 101. There are no private airstrips in the vicinity of the Transit Corridors Area.

The San Mateo County Airport Land Use Committee (ALUC) is the designated Airport Land Use Commission for San Francisco International Airport. According to California law, the ALUC is 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 ALUC does not have authority over airport operations.

The ALUC has prepared the San Mateo County Comprehensive Airport Land Use Plan (CALUP), which is intended to minimize public exposure to excessive noise and safety hazards, while providing for orderly growth around public airports. Pursuant to Public Utilities Code 2 Section 1676, 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 CALUP and makes specific findings to justify not amending their regulations and general plans. The ALUC reviews general plans and specific plans prepared by local agencies, as well as proposed individual land use actions, for consistency with the CALUP. The Transit Corridors Plan is subject to formal ALUC review/action, via a CALUP consistency determination related to the applicable airport/land use compatibility criteria.

The primary objective of ALUC 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 ALUC as hazards to air navigation in the vicinity of San Francisco International Airport. 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; and
- Any use that would generate electrical interference that may interfere with aircraft communications or aircraft instrumentation.

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 Federal Aviation Regulations (FAR) Part 77, Objections Affecting Navigable Airspace. The FAR Part 77 criteria limit the location and height of structures both on and off airport property. The 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. FAR Part 77 imaginary surfaces and height restrictions associated with San Francisco International Airport extend across San Bruno and the Transit Corridors Area.

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 land use plans and regulations to the ALUC.

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 on air navigation facilities.

Airport noise levels are governed by California Administrative Code, Title 21, Subchapter 6, Noise Standards. The San Mateo County CALUP endorses these noise standards, and establishes noise compatibility standards for various land uses. Noise compatibility issues for the Transit Corridors Plan are addressed in Chapter 11, Noise, of this EIR.

The ALUC has recently prepared a draft update of the CALUP for the environs of San Francisco International Airport.[1]

(c) San Mateo County Office of Emergency Services. The San Mateo County Sheriff's Office, Office of Emergency Services provides disaster planning for all types of natural and technological disasters. The Office of Emergency Services is responsible for the alert, warning, direction and control of personnel and resources during such disasters, and also provides the general public with information concerning disaster preparedness. The Office of Emergency Services has prepared emergency plans that address response to extraordinary emergency situations associated with natural disasters, man-made emergencies, weapons of mass

[1]David F. Carbone, San Mateo County C/CAG Airport Land Use Committee (ALUC) Staff, Personal communication with Mark Sullivan, City of San Bruno Housing and Redevelopment Manager, Re: C/CAG Airport Land Use Committee (ALUC) Staff Comments on a Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) on the San Bruno Transit Corridors Plan, January 4, 2011.

destruction, terrorism and war in or affecting San Mateo County. These emergency plans seek to reduce or eliminate long-term risk to people and property from natural and human caused hazards, save lives, protect and restore property, restore public services, distribute vital supplies, coordinate operations and maintain continuity of government.[1]

(d) Bay Area Air Quality Management District. Asbestos is a fibrous mineral, which is both naturally occurring in ultramafic rock (a rock type commonly found in California) and used as a processed component of building materials. Because asbestos has been proven to cause serious adverse health effects, such as asbestosis and lung cancer, it is strictly regulated either based on its natural widespread occurrence or in its use as a building material. The Bay Area Air Quality Management District (BAAQMD) is vested with authority to regulate airborne pollutants through both inspection and law enforcement, and is to be notified 10 days in advance of any proposed demolition or abatement work. The BAAQMD regulates the demolition of buildings and structures that may contain asbestos. The provisions that cover these operations are found in BAAQMD Regulation 11, Rule 2: Hazardous Materials; Asbestos Demolition, Renovation and Manufacturing. Individual project contractors are required to implement standard state and federal procedures for asbestos containment and worker safety. The demolition or removal of asbestos-containing building materials is subject to the limitations of BAAQMD Regulation 11, Rule 2. The rule requires special handling of asbestos-containing material (e.g., by keeping materials continuously wetted). The Rule prohibits any visible emissions of asbestos-containing material to outside air. Individual project applicants are required to consult with the BAAQMD's Enforcement Division prior to commencing demolition of a building containing asbestos materials.

8.2.4 City of San Bruno

(a) San Bruno General Plan. The following General Plan policies are relevant to consideration of the hazards and hazardous materials impacts of the Transit Corridors Plan.

HS-E Ensure the health, safety, and welfare of San Bruno residents by requiring appropriate use, disposal, and transport of hazardous materials.

HS-G Ensure that all development heeds safety pre cautions from the San Francisco International Airport.

HS-23 Ensure appropriate clean-up of all former commercial and industrial sites according to relevant regulatory standards prior to reuse.

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-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.

[1] San Mateo County Sheriff's Office, Office of Emergency Services, viewed January 5, 2011, http://www.co.sanmateo.ca.us/portal/site/sheriffs/menuitem.cec6c78cb70d4c4374452b31d17332a0/?vgnextoid=ab81dd7c41211210VgnVCM1000001d37230aRCRD&vgnextchannel=8b81dd7c41211210VgnVCM1000001d37230a____&vgnextfmt=DivisionsLanding

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.

HS-48 When environmental reviews of SFO activity are conducted the City should participate in environmental analyses conducted of SFO in order to better understand and address environmental issues affecting San Bruno, including but not limited to: frequency of over flight during nighttime hours, soil and groundwater contamination in and surrounding airport property from gasoline and jet fuel or similar sources, air pollution resulting from overflight jet exhaust and idling aircrafts, airport related traffic impacts on local roads, light and glare impacts from airport generated lighting and overall noise generation, and impact of airport alterations and/or expansion.

HS-49 The City should work with the County of San Mateo and local planning directors in future Comprehensive Airport-Land Use Compatibility Plan planning efforts to raise shared concerns regarding airport impacts on the region. The SFO/Community Roundtable should help facilitate this process as well.

(b) Hazardous Materials Oversight. The City's development review process includes the referral of any development proposal that may involve or may be affected by the storage, handling, or disposal of hazardous materials to the Fire Department, Police Department, San Mateo County Department of Environmental Health and other agencies responsible for hazardous materials.

8.3 IMPACTS AND MITIGATION MEASURES

8.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] the Transit Corridors Plan would have a significant impact related to hazards and hazardous materials if it would:

(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

(b) 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;

(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

[1] CEQA Guidelines, Appendix G, items VIII(a-h).

(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;

(e) 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, result in a safety hazard for people residing or working in the project area;

(f) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;

(g) Impact implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

(h) 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.

8.3.2 Impacts and Mitigations

Plan-Related Hazardous Materials Transport, Use or Disposal Impacts. The Transit Corridors Plan primarily facilitates intensification of residential and commercial land uses in the Transit Corridors Area. Residential uses generally do not involve the transport, use, or disposal of significant volumes of hazardous substances. Hazardous wastes associated with residential uses typically involve empty or partially filled containers of liquid chemical products, fertilizers, used motor oil, automotive or electronic batteries, unused computers, etc. Such uses of hazardous materials do not generate hazardous air emissions or involve the use of acutely hazardous materials that could pose a significant threat to the environment or human health. Residents typically dispose of such wastes through the County's Household Hazardous Waste Program that offers free collection of hazardous materials to county residents.

Future business development within the Transit Corridors Area could involve the storage, use and disposal of potentially hazardous materials, including building maintenance supplies, paints and solvents, pesticides and herbicides for landscaping and pest control, vehicle maintenance products, and the like. The City would require all new commercial and other uses in the Transit Corridors Area to follow applicable regulations and guidelines regarding the storage and handling of hazardous waste. All hazardous materials are required to be stored and handled according to manufacturer's directions and local, state, and federal regulations. Some of these regulations include posting of signs, San Bruno Fire Department approval of occupants' Hazardous Materials Business Plans, and specialized containment facilities.

Storage of hazardous chemical materials (such as cleaning agents and lubricants) by local businesses is regulated by the San Mateo County Department of Public Works. City regulations for businesses proposing to use, handle or store hazardous materials include the required submittal of a Hazardous Materials Business Plan for Fire Department approval, showing the way in which chemical products would be stored safely, a complete list of chemical products that would be kept on site, and an accident prevention and response plan to deal with accidental events that involve some kind of release of hazardous materials in the environment.

The Private Realm land use provisions of the proposed Transit Corridors Plan do not allow new industrial or heavy commercial uses. Existing industrial and heavy commercial uses would, over time as properties redevelop, be expected to be replaced with new uses that involve less potential hazardous materials transport, use or disposal.

In addition, the required standard urban storm water mitigation plan, which controls post-construction stormwater runoff through source control and treatment control best management practices (BMPs), would include BMPs to minimize the possible release of hazardous materials into the environment. The California Highway Patrol (CHP) and Caltrans have primary regulatory responsibility for the transportation of hazardous wastes and materials.

Given the above existing federal, state and local hazardous materials regulation and oversight, the potential threat presented by the Transit Corridors Plan to public health and safety or the environment from hazardous materials transport, use or disposal would represent a ***less-than-significant impact.***

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related Risk of Upset or Accidents. As noted above, hazardous substances may be generated, stored, transported, used or disposed of in association with future development and activities allowed under the Transit Corridors Plan. The Plan's Private Realm Development Standards do not allow new industrial or heavy commercial uses. In addition, existing industrial and heavy commercial uses would, over time as properties redevelop, be expected to be replaced with new uses that involve less potential hazardous materials transport, use or disposal. Development facilitated by the Transit Corridors Plan may involve the transport, storage, use or disposal of hazardous materials. With existing federal, State and local regulation and oversight of hazardous materials, the risk to the public or the environment from upset and accident conditions involving the release of hazardous materials would be a ***less-than-significant impact***.

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related Hazardous Materials Near Schools. There are no schools within the Transit Corridors Area. Two schools are located within approximately one-quarter mile of the Transit Corridors Area: Decima M. Allen Elementary School (875 Angus Avenue) and Belle Air Elementary School (450 3rd Avenue). Hazardous substances may be generated, stored, transported, used or disposed of in association with future development and activities allowed under the Transit Corridors Plan. The Plan's Private Realm Development Standards do not allow new industrial or heavy commercial uses. In addition, existing industrial and heavy commercial uses would, over time as properties redevelop, be expected to be replaced with new uses that involve less potential hazardous materials transport, use or disposal. Development within the Transit Corridors Area could involve the transport, storage and use of common hazardous materials within ¼-mile of these schools. However, with existing federal, State and local regulation and oversight of hazardous materials, the potential threat to these schools from any increased hazardous materials transport, use or disposal in the Transit Corridors Area, or from the risk of upset and accident conditions involving the release of hazardous materials would be a ***less-than-significant impact.***

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related Asbestos and Lead-Based Paint Exposure. Existing structures within the Transit Corridors Area may contain asbestos siding and other asbestos-containing building materials, and, depending on the period when they were constructed, may contain lead-based paint. Asbestos is a fibrous mineral, which is both naturally occurring in ultramafic rock (a rock type commonly found in California) and used as a processed component of building materials. Because asbestos has been proven to cause serious adverse health effects, such as asbestosis and lung cancer, it is strictly regulated based both on its natural widespread occurrence) and its use as a building material. Asbestos or lead-based paint present within older structures could be released into the environment during demolition or construction activities, which could result in soil contamination or pose a health risk to construction workers or future occupants if not managed in accordance with existing laws and regulations.

Any building demolition or rehabilitation activities within the Transit Corridors Area would be required to comply with regulations pertaining to the removal and proper disposal of asbestos and lead-based paint. Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos.

Individual building demolition and rehabilitation contractors would be required to implement standard federal, State and BAAQMD procedures for asbestos containment and worker safety. The BAAQMD is vested with authority to regulate airborne pollutants through both inspection and law enforcement, and must be notified 10 days in advance of any proposed demolition or abatement work. The demolition or removal of asbestos-containing building materials is subject to the limitations of BAAQMD Regulation 11, Rule 2: Hazardous Materials; Asbestos Demolition, Renovation and Manufacturing, which requires special handling of asbestos-containing material (e.g., by keeping materials continuously wetted). The Rule prohibits any visible emissions of asbestos-containing material to outside air. Project applicants would be required to consult with the BAAQMD's Enforcement Division prior to commencing demolition of a building containing asbestos materials. The local office of the State Occupational Safety and Health Administration (OSHA) must also be notified of asbestos abatement to be carried out.

OSHA regulates worker exposure to lead based paint during construction through respiratory protection, protective clothing, and hygiene facilities. Lead based paint is considered hazardous if the lead content exceeds 1,000 parts per million. A CalOSHA certified asbestos and lead-based paint contractor would prepare a site-specific asbestos and lead hazard control plan with recommendations for the containment of asbestos or lead-based paint materials during demolition activities, for appropriate disposal methods and locations, and for protective clothing and gear for abatement personnel.

Given the common occurrence of asbestos and lead-based paint contamination in older buildings, the proven and routine methods of abatement, and applicable laws, regulations, standards and oversight currently in place, the potential impact of the Transit Corridors Plan related to asbestos and lead-based paint exposure would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Impact 8-1: Plan-Related Exposure to Existing Hazardous Materials. Jurisdictional records indicate that there are 11 active and 15 closed hazardous materials sites within the Transit Corridors Area (see Table 8.1 herein). The majority of hazardous materials sites within the Transit Corridors Area are leaking underground storage tank (LUST) cleanup sites associated with gasoline stations and automobile service uses, as well as other uses that use on-site underground storage tanks.[1] There is a related possibility that future development in accordance with the Transit Corridors Plan could expose construction workers and occupants to hazardous materials contamination. This possibility represents a ***potentially significant impact*** (see criteria [b], [c], and [d] in subsection 11.3.1, Significance Criteria, above).

Mitigation 8-1. California Department of Toxic Substances Control (DTSC) remedial investigations and actions have occurred or are ongoing on the remaining 11 active sites and 15 closed sites (in some cases, a hazardous materials site closure notice may contain land use restrictions limiting future use of the site as a result of residual contamination that may exist). Development involving disturbance or re-use of one of these 26 sites cannot proceed until required remediation actions have been completed to DTSC satisfaction. The DTSC may impose land use restrictions, which prevent the use of the property for residential, school, hospital, or day care purposes, on some sites, if warranted.

In connection with each discretionary development approval application that the City initially determines could expose construction workers or occupants to hazardous materials contamination related to one of these sites, the City shall require a Phase I environmental site assessment (Phase I ESA) prior to property development, with a Phase II ESA also required if the Phase I ESA indicates evidence of potential site contamination. The City shall also require compliance with the site assessment, remediation, removal, and disposal requirements for soil, surface water, and/or groundwater contamination enforced by the DTSC, Regional Water Quality Control Board (RWQCB), San Mateo County Department of Environmental Health, California Division of Occupational Safety and Health (CalOSHA), U.S. Environmental Protection Agency (EPA), and other jurisdictional agencies. Demonstrated compliance by such future, individual, site-specific development applications in the Transit Corridors Area with these established local, State and federal environmental site assessment procedures would provide adequate assurance that associated potential risks to human health or the environment due to existing hazardous materials contamination would be ***less-than-significant***.

[1]California State Water Resources Control Board, Geotracker website, https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=san+bruno, viewed January 12, 2011. U.S. Environmental Protection Agency, Superfund Site Information, http://cfpub.epa.gov/supercpad/cursites/srchrslt.cfm?start=1&CFID=41455020&CFTOKEN=57577578&jsessionid=28308d2fe2c5e5c0e7ee2545351554603a27, viewed January 12, 2011.

Plan-Related Airport Safety Hazards. San Francisco International Airport is located approximately ½-mile east of the Transit Corridors Area, on the east side of US 101. There are no private airstrips in the vicinity of the Transit Corridors Area.

As described in section 8.2.3(b) herein, the Transit Corridors Area is located within the San Mateo County Comprehensive Land Use Plan (CALUP) environs, and falls within the CALUP-designated Height Referral Area and San Francisco International Airport Imaginary Surfaces Height Restrictions Map boundaries. The Transit Corridors Plan standards and guidelines have therefore been formulated to comply with CALUP policies and criteria and related Federal Aviation Regulations (FAR) Part 77 Obstruction Criteria. The Transit Corridors Plan indicates that future development in the Transit Corridors Area is subject to CALUP policies and criteria related to aircraft noise, runway safety compatibility zones, height of structures/airspace protection, aircraft overflight, land use characteristics/flight hazards, infill development, grant of avigation easements, and state-mandated real estate disclosure.[1] The Transit Corridors Plan building height and noise provisions are consistent CALUP criteria regarding height limits within the Runways 28 departure corridor, and land uses within the Runways 28 safety zones, and aircraft noise contours. Thus, the airport safety hazard impact of the Transit Corridors Plan would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related Emergency Response Impacts. The Transit Corridors Plan would not interfere with emergency response or evacuation, or interfere with locally-adopted emergency response or evacuation plans. Traffic from future development in accordance with the Transit Corridors Plan would not create unacceptable traffic congestion on evacuation routes. Emergency access would be maintained to all properties within the project limits and the surrounding vicinity during construction. Following established City practice, a traffic control plan would be developed and implemented by the City for each individual project affecting a major travel route in order to maintain access to properties within the project limits and emergency access to and through the area, and to minimize traffic disruption and congestion, and traffic safety hazards. Any need for traffic lane reductions or street closure due to construction would be short-term, temporary and localized, and adequately managed through standard City traffic management practices implemented in the traffic control plan.

As explained in Chapter 8, Transportation, herein, all Transit Corridors Area intersections evaluated in this EIR would continue to operate acceptably with implementation of the Transit Corridors Plan, with the exception of the El Camino Real/San Bruno Avenue intersection, where operations would deteriorate from acceptable LOS E to unacceptable LOS F during the PM peak hour. The proposed road diets, roundabouts, intersection reconfigurations, and pedestrian, bicycle and transit improvements suggested by the Transit Corridors Plan would not

[1] David F. Carbone, San Mateo County C/CAG Airport Land Use Committee (ALUC) Staff, Personal communication with Mark Sullivan, City of San Bruno Housing and Redevelopment Manager, Re: C/CAG Airport Land Use Committee (ALUC) Staff Comments on a Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) on the San Bruno Transit Corridors Plan, January 4, 2011.

substantially increase hazards due to a related design feature. The potential impact of the Transit Corridors Plan on emergency response would therefore be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related Wildland Fire Impacts. The Transit Corridors Area is located within a Non-Very High Fire Hazard Severity Zone (FHSZ) as mapped by the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program (FRAP).[1] Given the location of the Transit Corridors Area within this low risk zone, the Area's accessible terrain, and the local availability of adequate fire suppression services, the potential impact related to wildland fire would be ***less than significant***.

Mitigation. No significant impact has been identified; no mitigation is required.

Cumulative Hazardous Materials Impacts. New development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development in San Bruno allowed by the General Plan, would result in an estimated cumulative total of 2,640 new housing units and 2,340,200 square feet of new non-residential development in San Bruno by 2030. Some of this cumulative development may involve the storage, use and disposal of potentially hazardous materials, such as common household cleaners, paints and solvents, pesticides and herbicides for landscaping and pest control, automobile maintenance products, and the like. These materials would typically not be of a type or in sufficient quantities to pose a significant hazard to public health and safety or the environment. Construction activities could potentially reveal as-yet undiscovered contamination or could potentially occur on properties with known contamination that could pose a potential threat to public health and safety or the environment. However, the General Plan contains various policies and implementation programs that would reduce cumulative hazards and hazardous materials impacts. With applicable federal and State laws, regulations, standards and oversight, and local policies and programs, the cumulative impact to the public or the environment from hazardous materials would be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

[1] California Department of Forestry and Fire Protection, Nevada County Very High Fire Hazard Severity Zones in LRA as Recommended by CAL FIRE, November 2008, http://frap.cdf.ca.gov/webdata/maps/nevada/fhszl_map.29.jpg, viewed November 7, 2010.

9. HYDROLOGY AND WATER QUALITY

This chapter describes existing conditions, the regulatory setting, and the potential impacts of the Transit Corridors Plan related to drainage, flooding and water quality.

9.1 ENVIRONMENTAL SETTING

This section describes existing conditions related to drainage, flooding and water quality.

9.1.1 Climate

San Francisco Bay strongly influences the climate and air quality of the Transit Corridors Area. Bay breezes from the north dominate the area during the spring and summer months. The dominance of the Bay or sea breeze results in a mild climate. Low clouds during the late night and early morning are common in spring and summer.

The prevailing wind direction in San Bruno is from the northwest. Average wind speed (measured at San Francisco Airport) is 11 miles per hour annually, with June having the highest average wind speed and December having the lowest.[1] The Transit Corridors Area often experiences persistent afternoon winds, especially in the spring and summer months.

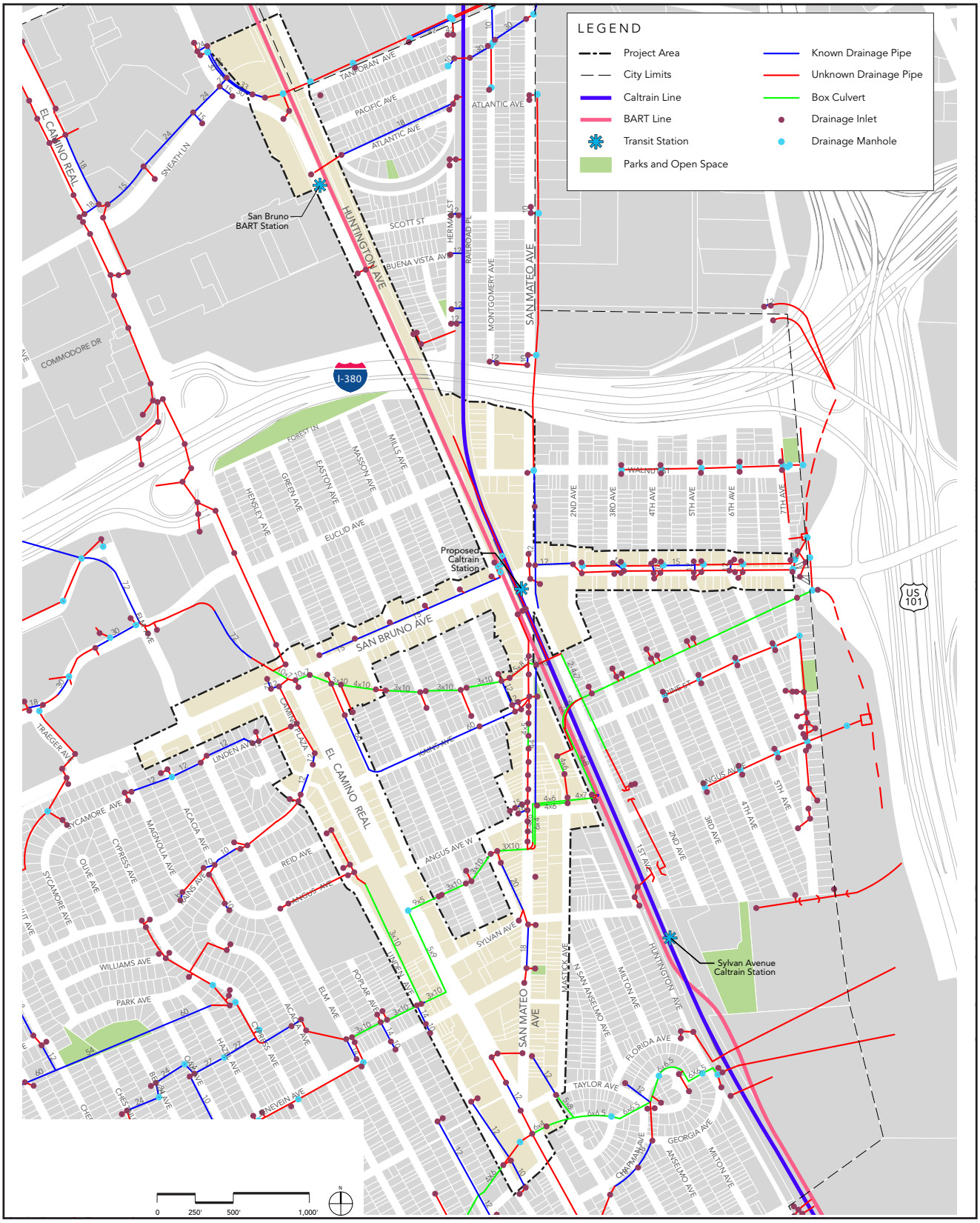
Temperatures are mild. January is the coolest month with an average maximum temperature of 58 degrees Fahrenheit (F), while July and August are the warmest with an average maximum of 81 degrees F. Precipitation is about 20 inches per year.

9.1.2 Stormwater Drainage

The Transit Corridors Area encompasses portions of four watersheds (from south to north): Crystal Springs Creek, Huntington Creek, San Bruno Creek, and Colma Creek. These drainages flow from the higher, western portions of the city to the lower, eastern portions and eventually outfall into San Francisco Bay. Within the Transit Corridors Area, these drainages are contained in culverts. San Bruno's drainage system is managed by the San Mateo County Flood Control District and maintained by the City. The drainage system is a collection of pipes, culverts, open channels and detention basins. Existing drainage facilities are shown in Figure 9.1.

Stormwater runoff is collected in one of three major trunk lines referred to as lines A, B and C in the Drainage Master Plans, updated in 2001. The Drainage Master Plan determined that the existing storm drainage system is adequate to accommodate a 25-year storm event. Storms greater than a 25-year storm event corresponding with a high tide would result in localized flooding in low lying areas. Flooding has occurred in the past along San Mateo Avenue, Mastick

[1] Western Regional Climate Center, http://www.wrcc.dri.edu/htmlfiles/westwind.final.html



SOURCE: Wagstaff/MIG

Figure 9.1

EXISTING DRAINAGE FACILITIES

Avenue, and Huntington Avenue between Kain Avenue and Sylvan Avenue. The Drainage Master Plan has identified the following drainage improvements that would reduce the occurrence of flooding within the Transit Corridors Area:

- Redirection of 200 cubic feet per second (cfs) of runoff from Line C to Line B through a Jenevein Bypass box culvert which would connect the existing box culvert at Elm Street and Jenevein Avenue to a proposed box culvert at Huntington Avenue and Taylor Avenue. This improvement would reduce flooding along Easton Avenue between Angus Avenue and Sylvan Avenue.

- Replacement of the two curved four-foot by seven-foot box culverts located between Huntington Avenue and First Avenue. This improvement would reduce flooding in the area between San Mateo Avenue, Huntington Avenue and Angus Avenue.[1]

The Caltrain San Bruno Grade Separation Project currently underway will also address drainage issues in the vicinity of that project and help alleviate localized flooding.

The City's Stormwater Fund is operated as an enterprise fund and is fully funded by a drainage parcel fee assessed against all City properties as a function of the parcel type and potential for stormwater runoff.

9.1.3 Groundwater

San Bruno derives approximately half of its water supply from groundwater wells within the city. The source aquifer for these supply wells is southernmost portion of the Westside Basin.[2] This basin is part of the deep San Mateo Plain Aquifer (Department of Water Resources Basin No. 2-9A). The San Mateo Aquifer is 32.5 square miles in size, with depth to water ranging from 100 to 500 feet. The San Mateo 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. 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 San Francisco Bay Regional Water Quality Control Board has set water quality objectives for bacteria, organic and inorganic chemical constituents, radioactivity, and taste and odor for groundwater in this area.[3]

The drinking water source aquifer in San Bruno is recharged from areas west of Interstate 280; the Transit Corridors Area is not a groundwater recharge area. Beneath the Transit Corridors Area, the aquifer is capped by a 100- to 150-foot clay layer that acts as a barrier to saltwater

[1]MIG, San Bruno Transit Corridors Plan Existing Conditions Analysis Report, October 2009, p. 56.

[2]A groundwater aquifer is an underground area composed of alluvial or porous material infiltrated by water. A water table develops in unconfined aquifers where the saturated material is not under pressure from an overlaying and confining soil or bedrock layer. The water table responds to infiltration of surface water and withdrawals from groundwater wells. An aquifer can exist below a confining layer, which typically puts the water under pressure creating an artesian aquifer.

[3]City of San Bruno, San Bruno Redevelopment Project Area Plan Draft Environmental Impact Report, March 1999, p. III.G.7.

intrusion from San Francisco Bay and vertical flows from an upper shallow aquifer, as well as contamination from surface sources.

9.1.4 Flooding

(a) Flooding. San Bruno contains no areas within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map.[1] However, portions of the Transit Corridor Area occasionally flood during combined high tides and heavy rain, due to inadequate storm drains, low elevation, and silt and debris obstruction of the storm drain system.[2]

(b) Sea Level Rise. World-wide climate changes are causing sea levels in California coastal areas to rise. About 8 inches of increase have been recorded at the Golden Gate Bridge over the past 100 years, threatening low coastal areas in the Bay Area region with inundation and serious damage from storms.[3] Predicted long-term climate change (increased temperatures) is expected to continue to cause rising sea levels along the California coastline, particularly in the San Francisco and the San Joaquin Delta areas, due to ocean expansion. According to a 2008 California Department of Water Resources report, recent peer-reviewed studies estimate a rise of between 7 to 55 inches by 2100 along California's coast.[4] A recent report by the Pacific Institute predicts that a 1.4-meter (55-inch) sea level rise along California's coast will put 480,000 people at risk of a 100-year flood event, given today's population. This amount of sea level rise is also expected to accelerate erosion, resulting in a loss of 41 square miles (over 26,000 acres) of California's coast by 2100.[5]

The San Francisco Bay Conservation and Development Commission (BCDC) has mapped two sea level rise scenarios: (1) a predicted mid-century sea level rise of 16 inches, and (2) an end-of-century sea level rise of 55 inches. According to the BCDC Central Bay West Shore maps, which include the Transit Corridors Area, portions of the Transit Corridors Area along San Bruno Avenue east of approximately 4th Avenue (as well as the residential neighborhoods to the north and south outside the Transit Corridors Area) may be vulnerable to both an approximately 16-inch sea level rise in San Francisco Bay by mid-century and an approximately 55-inch sea level rise in the bay by end-of-century.[6] However, in order for sea level rise to impact the Transit

[1]Federal Emergency Management Agency, Map Service Center, FEMA Issued Flood Maps, http://msc.fema.gov, viewed January 5, 2011. City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-181.

[2]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-181.

[3]California Air Resources Board, Draft Climate Change Scoping Plan, Page 6.

[4]California Department of Water Resources, Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water, October 2008, page 6. (http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf)

[5]California Climate Change Center, The Impacts of Sea-Level Rise on the California Coast, prepared by Matthew Heberger, Heather Cooley, Pablo Herrera, Peter H. Gleick, and Eli Moore of the Pacific Institute, March 2009, page xi. (http://www.pacinst.org/reports/sea_level_rise/report.pdf)

[6]San Francisco Bay Conservation and Development Commission, San Francisco Bay Scenarios for Sea Level Rise, are at http://www.bcdc.ca.gov/planning/climate_change/maps/16_55/SPbay_Carqz.pdf, viewed February 17, 2011).

Corridors Area, it would have to first inundate most of San Francisco International Airport, and regional mitigation strategies directed at the airport may also protect San Bruno.[1]

The BCDC Adapting to Rising Tides (ART) project is a collaborative effort involving community officials and stakeholders to understand how sea level rise and other climate change impacts will affect the Bay Area's communities, ecosystems, infrastructure, and economy. Additionally, the project will identify strategies for community-based adaptation planning to address these challenges and manage these risks.

(c) Levees. No portion of the Transit Corridors Area or San Bruno is protected by levees.

(d) Dams. The California Office of Emergency Services (CA OES) dam failure inundation mapping and emergency procedure program establishes emergency procedures for the evacuation and control of populated areas below dams which could be used to save lives and reduce injury in the event of a dam failure. The California Office of Emergency Services (CA OES) dam failure inundation mapping and emergency procedure program establishes emergency procedures for the evacuation and control of populated areas below dams. Dam owners submit inundation maps which are sent to the emergency services coordinators of affected local jurisdictions, which are required to adopt emergency procedures.

The Transit Corridors Area is not located within an area subject to inundation in the event of a failure of any dam, according to the ABAG dam failure inundation hazard map for San Bruno.[2] There would be no impact on the Transit Corridors Area related to dam or levee failure inundation.

9.2 REGULATORY SETTING

9.2.1 Federal Regulations

(a) Clean Water Act. The major federal legislation governing surface waters and water quality is the Clean Water Act, as amended by the Water Quality Act of 1987. The objective of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." In general, implementation of many aspects of the Clean Water Act has been delegated to individual states.

Important applicable sections of the Clean Water Act are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity which may result in a discharge to "waters of the United States" to obtain certification from the state that the discharge will comply with other provisions of the Act. In California, certification is provided by the respective Water Board.

[1]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-181.

[2]Association of Bay Area Governments, Dam Failure Inundation Hazard Map for San Bruno, viewed on January 5, 2011, http://www.abag.ca.gov/cgi-bin/pickdamx.pl

- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting program for the discharge of any pollutant (except for dredge or fill material covered under Section 404 below) into waters of the United States. The NPDES program is administered by the Water Board and is discussed further below.

The Clean Water Act places the primary responsibility for surface water pollution control and water resources development planning with the states. However, the act requires the states to follow certain guidelines in developing their programs and allows the U.S. Environmental Protection Agency (EPA) to withdraw control from states with inadequate implementation mechanisms. The Clean Water Act requires states to adopt water quality standards for receiving surface water bodies and to have those standards approved by the EPA. Water quality standards consist of designating beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply and fishing), along with water quality criteria necessary to support those uses. Water quality criteria can be either prescribed concentrations or levels of constituents, such as lead, suspended sediment, and fecal coliform bacteria or narrative statements which represent the quality of water that supports a particular use.

Section 402 National Pollutant Discharge Elimination System General Construction Storm Water Permit. In 1972, the Federal Water Pollution Control Act (later referred to as the Clean Water Act) was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to navigable waters of the U.S. from any point source. In 1987, the Clean Water Act was amended to require that the EPA establish regulations for the permitting of municipal and industrial stormwater discharges under the NPDES permit program. The EPA published final regulations regarding stormwater discharges on November 16, 1990. The regulations require that municipal storm sewer system discharges to surface waters be controlled by a NPDES permit. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

(b) Floodplain Development. The Federal Emergency Management Agency (FEMA) is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineers studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps (FIRMs), which are used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas, including the 100-year floodplain. In some identified flood hazard zones, certain types of construction and/or uses are prohibited or are required to carry flood insurance. FEMA allows non-residential development in the floodplain. However, construction activities are restricted within the flood hazard areas depending upon the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR). Cities and other jurisdictions use FIRMs to establish zoning districts, buffers, or other regulatory requirements intended to protect people and property from flood damage and minimize the cost of physical flood control mechanisms.

9.2.2 State Regulations

(a) Porter-Cologne Water Quality Control Act. California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code). The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) grants the State Water Resources Control Board (SWRCB) and each of the nine Regional Water Quality Control

Boards (Water Boards) power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the federal Clean Water Act. The applicable Water Board for the project area is the San Francisco Bay Water Board. Under the Porter-Cologne Act, the SWRCB and Water Boards have the authority and responsibility to adopt plans and policies, regulate discharges to surface and groundwater, regulate waste disposal sites and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

(b) Regional Water Quality Control Plan (Basin Plan). As required by the California Water Code (Section 13240) and supported by the Clean Water Act, each Water Board must formulate and adopt a water quality plan (Basin Plan) for its region. The Basin Plan includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain water quality standards. Water quality problems and their causes are listed in the Basin Plan, as well as actions for improving water bodies with water quality below the levels needed to meet identified beneficial uses.

(c) NPDES General Permit For Stormwater Discharges Associated With Construction Activity. As described previously, NPDES permits are required for discharges of pollutants to navigable waters of the U.S. The RWQCB issues NPDES permits in lieu of direct issuance by the EPA. The discharge of pollutants must be eliminated or reduced to the maximum extent practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code, and which are referred to in the significance criteria in Section 9.3.1 below.

To expedite permit issuance, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB issues general permits for stormwater runoff from construction sites statewide. Stormwater discharges from industrial and construction activities can be covered under these general permits, which are administered jointly by the SWRCB and Water Board.

Construction activities disturbing one acre or more of land are subject to the permit requirements of the NPDES program. The applicant must file a Notice of Intent (NOI) to seek coverage under the statewide General Construction Activity Stormwater Permit (General Permit) prior to the beginning of construction and prepare and maintain a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must identify, construct, implement and maintain best management practices (BMPs) to reduce or eliminate pollutants in stormwater discharges from the construction site during construction. The SWPPP must also develop a maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs).

(d) San Mateo Countywide Water Pollution Prevention Program. Although the majority of communities within San Mateo County have a population that is less than the NPDES population threshold of 100,000, the County is still required to develop, implement, and maintain a control program to prevent the increase of pollutants in stormwater discharges. Under this program the County, each of its incorporated cities and towns, and the Flood Control District

(collectively called San Mateo Permittees) share a common municipal NPDES permit. The San Mateo Permittees are currently subject to a host of NPDES Permits to discharge stormwater runoff from storm drains and water courses within their jurisdictions.[1] On February 11, 2009, the San Francisco Bay Water Board issued, for public comment, a revised Tentative Order to NPDES Permit No. CAS6 12008 to implement a new Municipal Regional Stormwater Permit (MRP) for all Bay Area communities, including the San Mateo Permittees. Additionally, as of July 1, 2010, the SWRCB will require that all dischargers obtain a Construction General Permit, which would also apply to San Mateo County.[2]

The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) combines the countywide program and local programs while providing regional support and oversight for the local programs. The SMCWPPP was established to reduce pollutant discharge in stormwater runoff so as to minimize pollution of surface water resources (local creeks, San Francisco Bay, the Pacific Ocean). As part of this program, the comprehensive plan includes guidance on pollution reduction activities for construction sites, industrial sites, illegal discharges, and illicit connections, new development, and municipal operations. The program also includes public education efforts, target pollutant reduction strategies, and a monitoring program. These local programs are now in force in San Bruno and all other major cities in San Mateo County.

In May 2001, the Technical Advisory Committee for the SMCWPPP approved new policies to govern new and redevelopment projects within its jurisdiction.[3] The document discusses subjects such as erosion and sedimentation reduction, general stormwater pollution prevention, post-construction best management practices and controls incorporation, impervious surface minimization, sensitive area restoration and protection, and watershed planning. San Bruno has adopted these new policies and associated implementing measures in order to maintain the City's ongoing compliance with the SMCWPPP and NPDES permits. The RWQCB, which monitors compliance with NPDES requirements, is promoting incorporation of post-construction stormwater treatment guidelines into the permit process, requiring that construction and post-construction best management practices and source controls be implemented for new and redevelopment projects.

The series of permit amendments issued by the RWQCB imposed new requirements on the San Mateo Permittees, including new policies that govern new and redevelopment projects within its jurisdiction.[4] The requirements address subjects such as erosion and sedimentation reduction, general stormwater pollution prevention, post construction best management

[1]NPDES Permit No. CAS0029921 issued by Order No. 99-059 on July 21, 1999, amended by Order No. R2-2003-0023 on February 19, 2003, amended by Order Nos. R2-2004-006 and R2-2004-0062 on July 21, 2004, and amended by Order R2-2007-0027 on March 14, 2007.

[2]Construction General Permit Order 2009-0009-DWQ.

[3]San Mateo Public Works Department, San Mateo Countywide Stormwater Pollution Prevention Program New Development Subcommittee: Model Development Policies, 2001.

[4]San Mateo Public Works Department, San Mateo Countywide Stormwater Pollution Prevention Program New Development Subcommittee: Model Development Policies, 2001.

practices and controls incorporation, impervious surface minimization, sensitive area restoration and protection, and watershed planning.[1]

The City (as well as the other San Mateo Permittees) must comply with the provisions of the County permit by ensuring that new development and redevelopment mitigate, to the maximum extent practicable, water quality impacts to stormwater runoff both during construction and operation. Required permit provisions are detailed in Water Board Order R2- 2003-0023. Development under the Transit Corridors Plan would be subject to Provision C.3, which requires:

- *Numeric Sizing Criteria for Pollutant Removal Treatment Systems.* Projects must include source controls, site design measures, and treatment controls to minimize stormwater pollutant discharges. Pollution treatment controls must be sized to treat the volume of annual runoff required to achieve 80 percent or more capture of average annual runoff (in the Bay Area this is equivalent to having the capacity to repetitively treat storm events of about 1 inch of precipitation).

- *Operation and Maintenance of Treatment Measures.* Projects must include an operations and maintenance program to ensure that treatment measures are adequately maintained and continue to effectively operate as intended and installed.

- *Limitation on Increase of Peak Stormwater Runoff Discharge Rates.* Projects must evaluate the potential for hydromodification in receiving channels to occur and provide mitigation as necessary. Furthermore, to mitigate any potential adverse impacts associated with stormwater runoff during construction and operation, the project sponsor would be required to develop and implement BMPs to minimize potential erosion and sedimentation.

9.2.3 City of San Bruno

(a) San Bruno General Plan. The following San Bruno General Plan policies are relevant to consideration of the hydrology and water quality impacts of the Transit Corridors Plan.

ERCRC-D Reduce pollution levels within the surface water that San Bruno discharges into the San Mateo County Flood Control District, then into San Francisco Bay.

ERCRC-4 Encourage the use of Best Management Practices in conserving the City's valuable water supply sources.

ERCRC-13 Through environmental review, assure 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.

ERCRC-19 Regulate new development--specifically Industrial uses--as well as construction and demolition practices to minimize pollutant and sediment concentrations in receiving waters

[1]California Regional Water Quality Control Board, San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (Final Tentative Order R2-2009-0074, NPDES Permit No. CAS612008) issued October 14, 2009 and effective December 1, 2009

and ensure water bodies within San Bruno and surface water discharged into San Francisco Bay meets or exceeds relevant regulatory water quality standards.

ERCRC-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.

ERCRC-23 Regulate new development to minimize storm water 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.

ERCRC-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.*

HS-D Protect sites subject to flooding hazards by implementing storm drainage improvements, and by requiring building design and engineering that meets or exceeds known flood risk requirements.

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.

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 on sites greater than 10,000 sq. ft. in size.

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-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 stormwater management capacity and infrastructure are 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-20 Retain existing open space areas that serve as detention ponds in order to retain stormwater, recharge aquifers, and prevent flooding.

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 Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction.

(b) City NPDES Compliance Requirements. Stormwater runoff water quality is regulated by the National Pollutant Discharge Elimination System (NPDES) Program (established through the Clean Water Act). The NPDES program objective is to control and reduce pollutants to water bodies from surface water discharges. Locally, the program is administered by the RWQCB. The RWQCB issued the San Mateo County Countywide Stormwater Pollution Prevention Program (STOPPP) a municipal NPDES permit. The STOPPP maintains compliance with the NPDES Storm Water Discharge Permit and promotes storm water pollution prevention within that context. Compliance with the NPDES Permit is mandated by State and federal statutes and regulations.

The City of San Bruno (as well as the other San Mateo Permittees) must comply with the provisions of the County permit by ensuring that new development and redevelopment mitigate, to the maximum extent practicable, water quality impacts to stormwater runoff both during construction and operation. Required permit provisions are detailed in RWQCB Order R2-2003-0023. Development under the Transit Corridors Plan shall be subject to Provision C.3, which requires:

Projects must include source controls, site design measures, and treatment controls to minimize stormwater pollutant discharges. Pollution treatment controls must be sized to treat the volume of annual runoff required to achieve 80 percent or more capture of average annual runoff (in the Bay Area this is equivalent to having the capacity to repetitively treat storm events of about 1 inch of precipitation).

Operation and Maintenance of Treatment Measures. Treatment controls often do not work unless adequately maintained. The permit requires an operations and maintenance program.

Limitation on Increase of Peak Stormwater Runoff Discharge Rates. Urbanization creates impervious surfaces that reduce the landscape's natural ability to absorb water and release it slowly to creeks. These impervious surfaces increase peak flows in creeks and can cause erosion (referred to as hydromodification). Projects must evaluate the potential for this to occur and provide mitigation as necessary. Furthermore, to mitigate any potential adverse impacts

associated with stormwater runoff during construction and operation, the project sponsor would be required to develop and implement BMPs consistent with the San Mateo County's Stormwater Pollution Prevention Program (STOPPP), which would minimize potential erosion and sedimentation. STOPPP requires the use of BMPs to control erosion associated with grading, trenching, and other ground surface disturbing activities.

Individual development projects within the Transit Corridors Area are also required to comply with Chapter 10.18 of the San Bruno Municipal Code (Storm Water Management and Discharge Control), which outlines minimum requirements aimed at reducing the amount of pollutants in stormwater. These requirements would apply during project construction and operation.

9.3 IMPACTS AND MITIGATION MEASURES

9.3.1 Significance Criteria

Significance criteria (a) and (b) below are from Appendix G of the CEQA Guidelines. Criterion (c) was added to reflect circumstances relevant to the project site, portions of which BCDC maps indicate will be affected by sea level rise caused by global climate change.

Based on the CEQA Guidelines[1] and local sea level rise potentials, the Transit Corridors Plan would have a significant impact related to drainage and water quality if it would:

(a) Violate any water quality standards or waste discharge requirements;

(b) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;

(c) 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 of amount of surface runoff in a manner which would result in flooding on- or off-site;

(d) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

(e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;

(f) Otherwise substantially degrade water quality;

(g) 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;

(h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

[1]CEQA Guidelines, Appendix G, items VIII(a), VIII(c) through (i), and XVI(c). Criterion (i) was added because Bay Area Conservation and Development Commission maps indicate portions of the Transit Corridors Area are predicted to be subject to increased flooding resulting from sea level rise caused by global climate change.

(i) Expose people or structures to a significant risk of loss, injury or death involving flooding caused by sea level rise resulting from global climate change;

(j) 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; or

(k) Expose people or structures to a significant risk of loss, injury or death resulting from inundation by seiche, tsunami or mudflow.

9.3.2 Impacts and Mitigation measures

Plan-Related Storm Drainage System Impacts. From a surface runoff perspective, anticipated individual development activities within the Transit Corridors Area facilitated by the Transit Corridors Plan would mostly include rehabilitation and intensification of existing urban uses, including some replacement of existing developed properties with new development. While residential and commercial densities and building heights may change, there would be limited change from existing conditions in terms of stormwater runoff. Surface runoff is determined by a parcel's impervious surface area and not use or density.

Table 9.1 presents existing stormwater runoff in the Transit Corridors Area and the estimated change in runoff anticipated with development under the Transit Corridors Plan. As indicated, development under the Transit Corridors Plan would generate an estimated increase in stormwater runoff of 8.76 cubic feet per second (cfs), which would exceed the capacity of portions of the existing drainage system, and would require minor improvements, which have been identified in the City's 2001 Drainage Master Plan. The City's adopted Drainage Master Plan has identified the following drainage improvements that would reduce the occurrence of flooding within the Transit Corridors Area:

- Redirection of 200 cubic feet per second (cfs) of runoff from Line C to Line B through a Jenevein Bypass box culvert which would connect the existing box culvert at Elm Street and Jenevein Avenue to a proposed box culvert at Huntington Avenue and Taylor Avenue. This improvement would reduce flooding along Easton Avenue between Angus Avenue and Sylvan Avenue.

- Replacement of the two curved four-foot by seven-foot box culverts located between Huntington Avenue and First Avenue. This improvement would reduce flooding in the area between San Mateo Avenue, Huntington Avenue and Angus Avenue.[1]

Additionally, the Transit Corridors Plan identifies the following storm drainage pipe improvements as needed to rehabilitate existing infrastructure in the Transit Corridors Area to meet City standards:

- El Camino Real (south) 200 linear feet of new storm drainage line; and

- San Mateo Ave. (north) 500 linear feet of new storm drainage line.

[1] MIG, San Bruno Transit Corridors Plan Existing Conditions Analysis Report, October 2009.

Table 9.1
LOCAL STORMWATER RUNOFF CHARACTERISTICS (CUBIC FEET PER SECOND--CFS)

Subarea	Existing	Transit Corridors Plan Buildout	Increase
San Mateo Avenue (north)	11,625	24,720	13,095
San Mateo Avenue (south)	12,500	28,560	16,060
El Camino Real (north)	14,690	45,785	31,095
El Camino Real (south)	6,720	20,210	13,490
San Bruno Avenue	3,720	10,310	6,590
TOTAL	49,255	129,585	80,330

SOURCE: Michael Thomas & Company, inc., 2008; MIG, 2010.

The City's Stormwater Fund is operated as an enterprise fund and is fully funded by a drainage parcel fee assessed against all properties as a function of the parcel type and potential for stormwater runoff.

The Transit Corridors Area is not currently subject to the requirements of a waste discharge permit. The Transit Corridors Plan would not facilitate new improvements or activities that would be subject to the requirements of an existing or new water discharge permit. Implementation of the Transit Corridors Plan would not violate any waste discharge requirements.

Therefore, the impacts of the Transit Corridors Plan on storm drainage would represent a ***less-than-significant impact.***

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related Construction Period Water Quality Impacts. Construction activities within the Transit Corridors Area may substantially degrade the quality of downstream receiving waters, including Crystal Springs Creek, Huntington Creek, San Bruno Creek, Colma Creek, and San Francisco Bay. Construction activities, in particular activities involving soil disturbance, excavation, and grading, could potentially result in increased erosion on-site and sediments, pollutants and excess nutrients being carried to downstream drainage facilities and receiving waters within these creeks and eventually San Francisco Bay, potentially increasing creek and Bay turbidity and sedimentation, and thereby disrupting aquatic habitats. Without proper

controls, storage of excavated soil and pavement on a project site and subsequent off-site hauling would expose this material to both wind and water erosion that could adversely affect downstream drainage facilities and waterways. In addition, spilled or improperly used construction materials, such as fuel, paint, cement or solvents, could be washed into area storm drains or seep into the underlying groundwater.

However, these possible construction period erosion and contamination effects would be adequately mitigated with the required implementation of the extensive City, County, and RWQCB requirements previously described in subsection 9.2, Regulatory Setting, and further described below.

Any Plan-facilitated individual private development or public improvement project that would disturb an area larger than one acre or create 10,000 square feet or more of impervious surface would be required to obtain an NPDES General Construction Permit from the State Water Resources Control Board. The terms of this permit require applicants to prepare a *Stormwater Pollution Prevention Plan* (SWPPP) to demonstrate that project development (construction and operation) would not cause any increase in sedimentation, turbidity, or hazardous material concentrations within downstream receiving waters. Design requirements and implementation measures for individual development-specific erosion and sedimentation controls would be set forth in the applicant's SWPPP, in accordance with State and RWQCB design standards, and with the City's NPDES Permit Requirements Checklist and Stormwater Pollution Prevention Program. During construction, the City Engineer would monitor implementation of the development's approved SWPPP, with a particular focus on erosion control.

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related Long-Term Water Quality Impacts. Storm water runoff from the Transit Corridors Area, if not properly controlled before discharge, can substantially degrade water quality. Trash, particulate matter, oil and grease, and building chemicals that collect on streets, parking areas, roofs, open storage areas, and other impervious surfaces and are then washed into drainages, could impair runoff water quality. Increased uses of herbicides, pesticides, and fertilizers associated with Plan-proposed landscaping could also contaminate receiving waters. The number of vehicle trips generated within the Transit Corridors Area is also expected to increase, which is expected to result in a proportionate increase in the deposition of vehicle-related pollutants. New commercial operations could contaminate surfaces if potential pollutants are spilled, or stored or disposed of improperly. However, these potential water quality effects of future development within the Transit Corridors Area would represent a less-than-significant impact due to the required implementation of the extensive combination of standard City, County, and RWQCB requirements described in subsection 9.2, Regulatory Setting, herein, and further described below.

(a) Source Control and Pre-Discharge Treatment Measures. Non-point source pollutant controls typically include both source control and pre-discharge treatment measures. Typical source controls in San Bruno include painting "Drains to the Bay" labels on storm drains, enforcing strict prohibitions on the use or disposal of contaminants, prohibiting the use of non-biodegradable fertilizers and pesticides, restricting vehicle maintenance and washing to areas not directly connected to the storm drain system, and regular cleaning and maintenance of all streets and parking areas, particularly at the onset of the rainy season, to reduce the build-up of

the urban pollutants and debris that are normally washed into storm drains. Pervious pavement and infiltration basins are also used as source controls by reducing the total amount of stormwater runoff.

Pre-discharge treatment measures are routinely put in place to remove stormwater pollutants that bypass source controls. They are normally designed in accordance with "best management practices" and can be further categorized as either *active* or *passive*. The *active* category typically refers to either straight media filtration or to media filtration combined with hydrodynamic separators for removal of oil and grease, sediment, and debris. Simple filters can be installed in individual catch basins, while the much larger filter/separators are installed as "end of the line" structures that treat the runoff collected by many catch basins before it is discharged off-site. Both types of treatment measures require regular inspection, cleaning, and disposal of trapped pollutants, which generally makes them more effective on commercial or high-density residential sites, where a single owner is responsible for areawide maintenance.

Passive pre-discharge treatment methods generally utilize either small ponds or gently sloping swales to achieve pollutant removal through sedimentation and/or filtration. Ponds provide an opportunity for sediments to settle out before off-site discharge, while grass-lined swales (biofilters) pick up pollutants as the water slowly filters through the surface vegetation. Pollutants trapped in the sediment or adhering to the grass can then be removed by regular maintenance.

With required implementation of the standard City, County, and RWQCB requirements described above and detailed in section 9.2, Regulatory Setting, herein, the long-term water quality impacts of the Transit Corridors Plan would represent a ***less-than-significant impact.***

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related Groundwater Impacts. Given the already developed condition of the Transit Corridors Area, development allowed by the Transit Corridors Plan would not result in a substantial increase in impervious surface area. Therefore, the Transit Corridors Plan would not substantially interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The impacts of the Transit Corridors Plan related to groundwater would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related 100-Year Flood Impacts. The Transit Corridors Area contains no areas within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map.[1] Therefore, the Transit Corridors Plan would not place people or structures at unacceptable risk of injury or loss from flooding and the flooding related impacts of the Transit Corridors Plan would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

[1]Federal Emergency Management Agency, Map Service Center, FEMA Issued Flood Maps, http://msc.fema.gov, viewed January 5, 2011. City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-181.

Impact 9-1: Plan-Related Flooding Impacts Related to Sea Level Rise. The Transit Corridors Area could be subject to flooding due to sea level rise associated with global climate change. With this potential for increased flooding potential in the future, development in accordance with the Transit Corridors Plan could place people, structures and other improvements in these areas at an increased risk of injury or loss from flooding. This possibility represents a ***potentially significant impact*** (see criterion (d) under subsection 13.3.1, "Significance Criteria," above).

Explanation:

According to the BCDC Central Bay West Shore maps, which include the Transit Corridors Area, portions of the Transit Corridors Area along San Bruno Avenue east of approximately 4th Avenue (as well as the residential neighborhoods to the north and south outside the Transit Corridors Area) may be vulnerable to both an approximately 16-inch sea level rise in San Francisco Bay by mid-century and an approximately 55-inch sea level rise in the bay by end-of-century. However, in order for sea level rise to impact the Transit Corridors Area, it would have to first inundate most of San Francisco International Airport, and regional mitigation strategies directed at the airport may also protect San Bruno.

Mitigation 9-1. In order for sea level rise to impact the Transit Corridors Area, it would have to first inundate most of San Francisco International Airport. Regional mitigation strategies directed at the airport may also protect San Bruno. There is currently no local or regional mitigation developed to address inundation due to projected sea level rise. Potential regional mitigation strategies could include strengthening or raising levees, creating new levees, participating in regional mitigation to address rising sea levels within the Bay as a whole, and creation of new tidal wetlands. In the interim, until such regional mitigations are in place, the City shall implement the following measure:

Future development projects within the Transit Corridors Area in identified areas subject to flooding as a result of predicted sea level rise should be required to comply with specific flood damage avoidance requirements commonly required for development within 100-year flood hazard areas under the National Flood Insurance Program, even if such projects do not lie within an Area of Special Flood Hazard as identified by FEMA. These requirements may include, but are not limited to, raising the elevation of habitable space above anticipated flood heights, creating 'freely communicating' structures that allow flood waters to pass through lower levels of buildings, and ensuring that site design does not result in a reduction of floodplain areas which could result in increasing flooding conditions downstream.

Implementation of this interim measure would be expected to reduce this impact to a ***less-than-significant level.***

Plan-Related Dam or Levee Failure Inundation Impact. The Transit Corridors Area is not located within an area subject to inundation in the event of a failure of any dam, according to the ABAG dam failure inundation hazard map for San Bruno.[1] The Transit Corridors Area is not protected by levees. There would be ***no impact*** on the Transit Corridors Area related to dam or levee failure inundation.

Mitigation. No significant impact has been identified; no mitigation is required.

Plan-Related Seiche, Tsunami or Mudflow Impacts. A seiche is a tidal change in an enclosed or semi-enclosed water body caused by sustained high winds or an earthquake. The Transit Corridors Area is not located close enough to San Francisco Bay to be affected by a seiche. A tsunami is a series of waves created when a body of water such as an ocean is rapidly displaced on a massive scale, most commonly as the result of an earthquake. The Transit Corridors Area is not subject to tsunami inundation.[2] The Transit Corridors Area is flat and not subject to risk from debris flow source areas as mapped by ABAG, based on data from the U.S. Geological Survey.[3] The potential impact of the Transit Corridors Plan related to seiche, tsunami or mudflow would be ***less than significant***.

Mitigation. No significant impact has been identified; no mitigation is required.

[1]Association of Bay Area Governments, Dam Failure Inundation Hazard Map for San Bruno, viewed on January 5, 2011, http://www.abag.ca.gov/cgi-bin/pickdamx.pl

[2]Association of Bay Area Governments, Geographic Information Systems, Hazards Maps, Tsunami Inundation Emergency Planning Map website, viewed on January 5, 2010, http://gis.abag.ca.gov/website/Tsunami-Maps/viewer.htm.

[3]Association of Bay Area Governments, Geographic Information Systems, Hazards Maps, Debris-Flow Source Areas website, viewed on January 5, 2010, http://gis.abag.ca.gov/website/landslides-df/viewer.htm. Based on map of Debris-Flow Source Areas - San Francisco Bay Region Folio Part E" - U.S. Geological Survey.

10. LAND USE AND PLANNING

This chapter describes existing land uses in and around the Transit Corridors Area, pertinent City and regional land use policies and regulations, and the potential land use impacts of the Transit Corridors Plan.

10.1 ENVIRONMENTAL SETTING

10.1.1 Existing Land Use

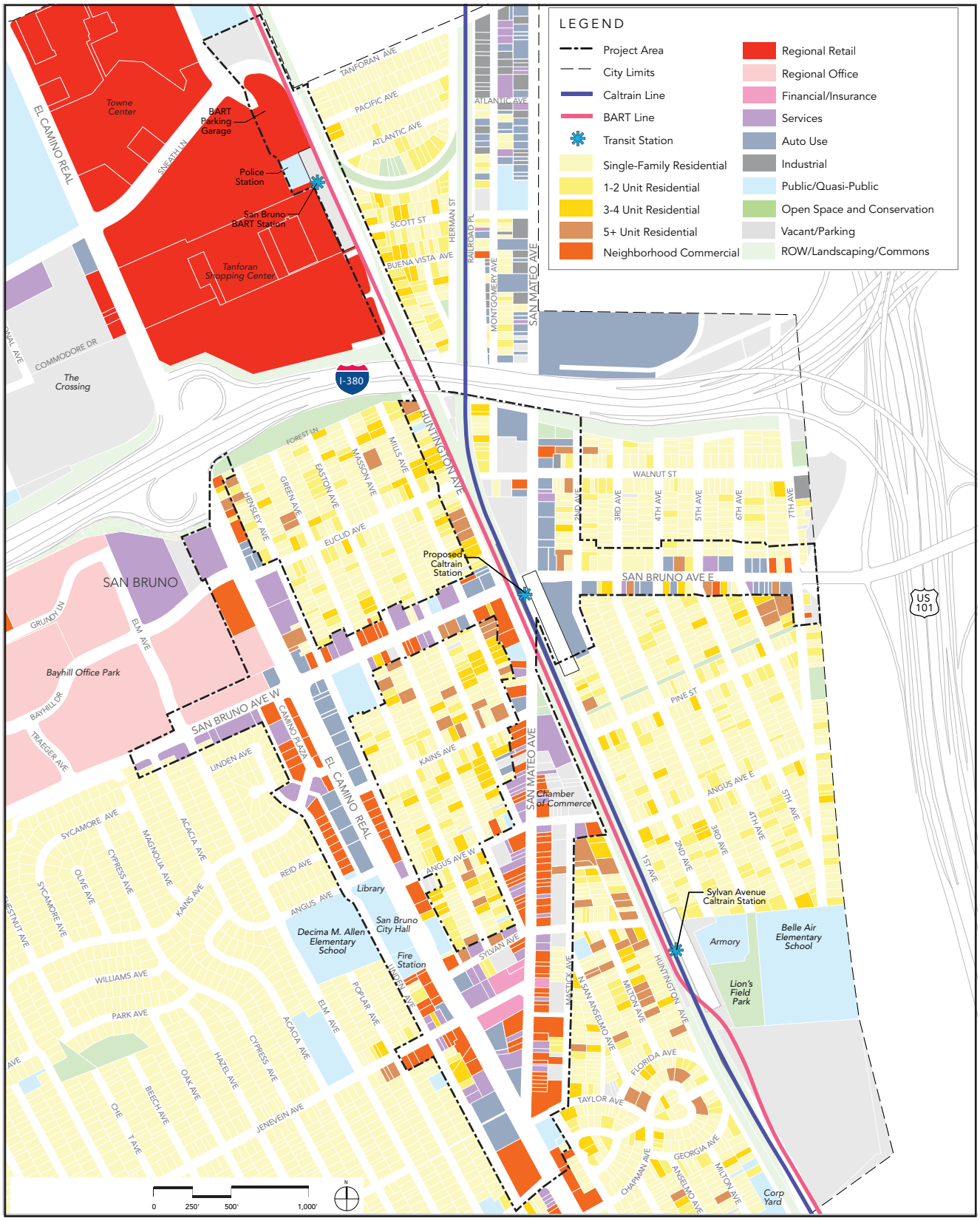
(a) San Bruno. San Bruno is located in northern San Mateo County just west of the San Francisco International Airport. The city extends approximately 3.5 miles from the relatively flat eastern areas along US 101 to the hilly western neighborhoods. The eastern portion of the city is more urbanized and has a greater mix of land uses; the western portion is primarily occupied by low-density residential development and open space. Commercial uses are concentrated along El Camino Real, San Mateo Avenue, and San Bruno Avenue, and in several regional and neighborhood shopping centers. East of El Camino Real, the San Bruno Park, Belle Air Park, and Lomita Park residential neighborhoods are located between these major commercial corridors.

The segment of San Mateo Avenue between Huntington Avenue and El Camino Real is San Bruno's Downtown, and the city's most unique commercial area with a mix of ethnically diverse stores and restaurants. The Shops at Tanforan and Towne Center are San Bruno's two regional shopping centers. The San Bruno BART Station is located on the east side of The Shops at Tanforan. Other retail uses are located along El Camino Real, San Mateo Avenue (south of Interstate 380), and San Bruno Avenue (east of Cherry Avenue). The Bayhill Office Park, home to Google and YouTube, is San Bruno's largest employment center.

The Crossing is a new 20-acre mixed-use development located on the former U.S. Navy facility at the northwest corner of Interstate 380 and El Camino Real, west of The Shops at Tanforan. Construction began in 2002 and is ongoing. When complete, the Crossing will include 1,063 multifamily and senior housing residences, a recreation center, a 200-room hotel, and 12,250 square feet of retail uses.

(b) Transit Corridors Area. Existing land use within and around the Transit Corridors Area is diagrammed on Figure 10.1. The Transit Corridors Area encompasses downtown San Bruno, historically focused on San Mateo Avenue, as well as adjacent streets, including El Camino Real, San Bruno Avenue, and Huntington Avenue. Each of the Transit Corridor Plan-designated five Character Areas possesses its own unique characteristics, as described below.

(1) El Camino Real. El Camino Real is characterized by a variety of auto-oriented and regional retail uses as well as the City's Civic Center. City Hall, the public library, a fire station, and the San Bruno Municipal Cable TV are all located on El Camino Real in the Transit



SOURCE: Wagstaff/MIG

Figure 10.1

EXISTING LAND USE

Corridors Area. Several automobile dealerships and automobile repair shops are also located along El Camino Real.

(2) San Mateo Avenue. San Mateo Avenue from San Bruno Ave to El Camino Real is the City's historic Downtown Street. San Mateo Avenue is a pedestrian-oriented street enclosed by a compact and uniform row of eclectic shops and restaurants.

(3) San Bruno Avenue. San Bruno Avenue includes a mix of retail, office, car oriented uses, religious facilities and single and multi-family residences.

(4) Huntington Avenue. Huntington Avenue is generally lined by residential units, but also includes the Shops at Tanforan, a regional retail destination, the BART station, and industrial uses.

(5) Caltrain Station Area. The designated future Caltrain Station Area is currently occupied by vacant land and industrial uses. The surrounding area includes a mixture of auto body shops and single family homes.

10.2 REGULATORY SETTING

10.2.1 San Bruno General Plan

The City-adopted San Bruno 2025 General Plan (General Plan) is the City's principal land use policy document. The General Plan It sets forth a vision of the city in 2025 and an associated land use map, circulation map, guiding policies, and implementing policies formulated by the City to achieve that vision. The General Plan contains the following elements:

- Land Use and Urban Design;
- Economic Development;
- Transportation;
- Open Space and Recreation;
- Environmental Resources and Conservation;
- Health and Safety; and
- Public Facilities and Services

(a) Key Themes of the General Plan. The General Plan promotes balanced development, outlines strategies for conserving established neighborhoods and revitalizing Downtown and other aging commercial and industrial areas, and advocates development of transit-supportive uses adjacent to the BART and Caltrain stations. The General Plan builds upon a number of key themes:

- 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-use and residential development with connections to Downtown, Caltrain and BART stations, and The Shops at Tanforan;

- Improvement and expansion of transit, pedestrian, and bicycle connections throughout the city, particularly to/from the BART and Caltrain stations;

- Efficient vehicular movement through the city, with preservation of natural features along scenic corridors; and

- Preservation and protection of residential neighborhoods.

One of the key themes of the General Plan is a focus on sustaining and enhancing Downtown as the cultural heart of the city by providing a vibrant, pedestrian-friendly district for shopping, entertainment, and dining. The General Plan seeks to protect existing neighborhoods, promote Downtown as the symbolic heart of San Bruno, revitalize aging commercial districts along principal commercial corridors in the eastern parts of the city, and foster transit-oriented development around the BART station and the new Caltrain station currently under construction.

General Plan land use designations within approximately one-third mile walking distance of the San Bruno BART Station, the existing Sylvan Avenue Caltrain Station, and the planned new replacement Caltrain station at San Bruno Avenue, are oriented toward pedestrian, bicycle, and transit movement. The planned San Bruno Caltrain Station is expected to provide Downtown with a strong new northern anchor, while new uses at the intersection of El Camino Real and San Mateo Avenue will announce Downtown from El Camino Real and provide a southern anchor.

The General Plan also emphasizes redevelopment and intensification of uses along major arterials, including El Camino Real, San Mateo Avenue and San Bruno Avenue. These corridors are proposed for redevelopment as mixed use boulevards, focusing on a pedestrian scale, streetscape amenities, and a mix of retail, office, service, and residential uses.

North of I-380, the General Plan maintains the established development pattern for The Shops at Tanforan and The Crossing. The expanded district surrounding The Shops at Tanforan 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 use with a residential focus in the southern third of the corridor. Unified streetscape improvements are proposed to provide a strong identity and create safer pedestrian conditions. In order to strengthen the city's role as an employment center and foster transit-supportive uses, the General Plan promotes the expansion of the Bayhill Office Park with new professional offices and corporate headquarters. A mix of commercial and residential uses (where not restricted due to airport noise) is envisioned along San Bruno Avenue and Montgomery Avenue.

The total citywide population at General Plan buildout is projected to reach approximately 44,900 and total jobs are expected to reach approximately 22,390. The citywide jobs/employed residents ratio is estimated to increase from approximately 0.88 presently to 1.02.

(b) Existing General Plan Land Use Designations. Existing General Plan land use designations within the Transit Corridors Area, as shown in Figure 10.2, include Central Business District, Transit-Oriented Development, Industrial, Public/Quasi-Public, Low Density Residential, Medium Density Residential, and Parks/Open Space. The designations are largely based on the anticipated new Caltrain station. In addition, the General Plan designates San Mateo Avenue as a Central Business district, San Bruno Avenue as a transit-oriented development area, and El Camino Real as a confluence of the two, merging and linking the two areas. The General Plan designates a Transit-Oriented Development district along El Camino Real and San Bruno Avenue, allowing mixed-use higher density housing and commercial development that will promote walkability and transit use. Uses along Huntington Avenue are mostly designated as transit-oriented development and public/quasi-public, except for The Shops at Tanforan, which is designated as Regional Commercial and Visitor Services. The only General Plan-designated public space within the Transit Corridors Area is Posy Park and the existing landscaped viewing area, both located on San Mateo Avenue.

(c) General Plan Policies. The San Bruno General Plan contains the following policies relevant to the land use impacts of the Transit Corridors Plan.

LUD-A Promote development of El Camino Real as a boulevard with a series of "districts", with distinctive uses weaved together with unified streetscape, sidewalk improvements, and pedestrian amenities. Encourage residential development to promote walkability and transit use.

LUD-B Intensify land uses surrounding the new San Bruno BART station and planned San Bruno Avenue Caltrain station, including development of transit-oriented uses, regional shopping opportunities, high-intensity offices, hotels, and other similar uses.

LUD-C Stimulate reuse and intensification with multi- use, transit-oriented development along El Camino Real, San Bruno Avenue, and San Mateo Avenue. Provide amenities serving pedestrians, bicyclists, and transit riders along these corridors.

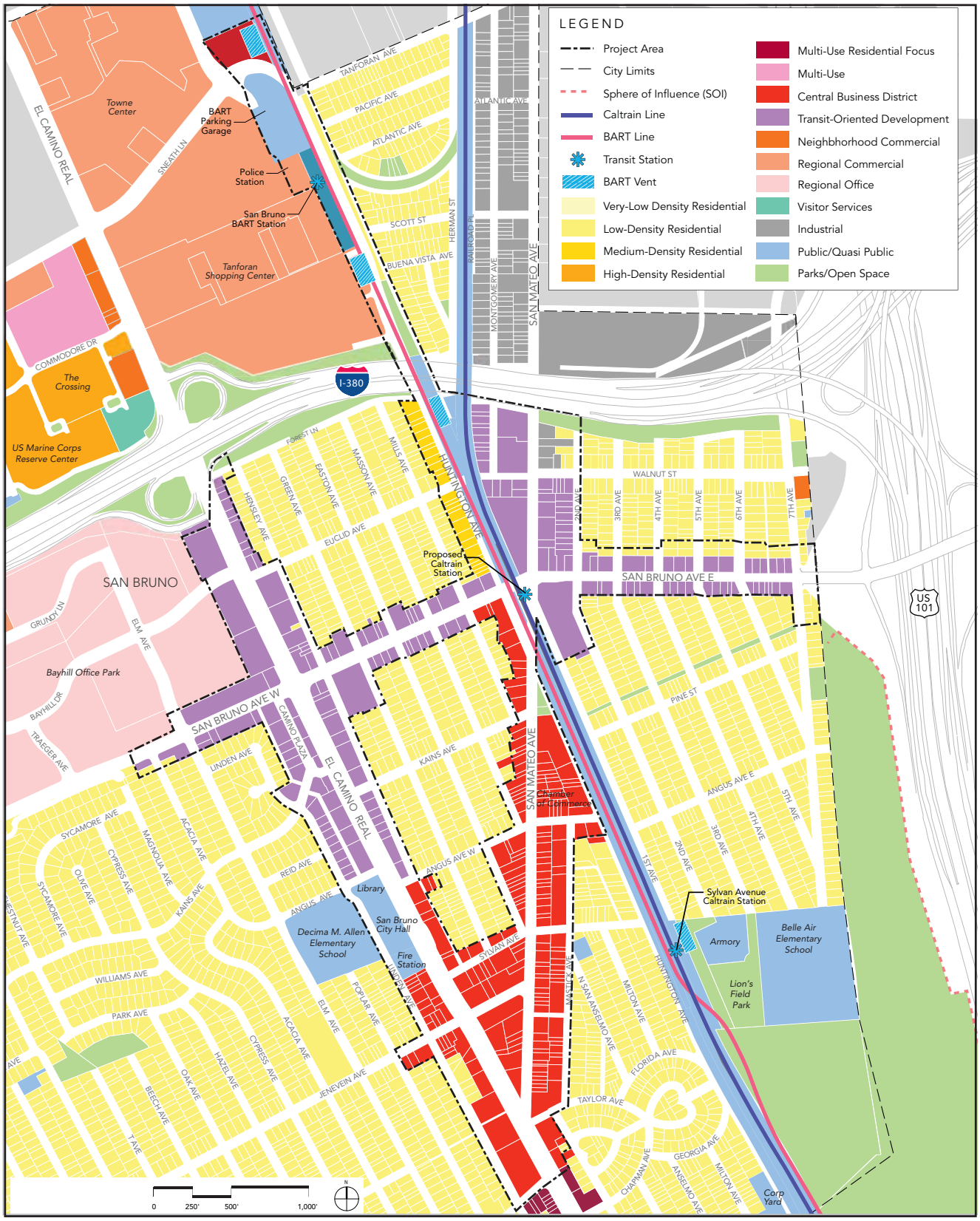
LUD-D Promote Downtown as the civic and cultural center of San Bruno, based on expansion of the ethnically diverse array of businesses and restaurants. Foster a vibrant, continuous, pedestrian-oriented mix of land uses within Downtown. Increase the market supporting Downtown through new mixed-use opportunities, including housing above the ground floor.

LUD-E Ensure that new development, especially in residential neighborhoods, is sensitive to existing uses, and is of the highest quality design and construction.

LUD-F Promote infill and revitalization of the City's shopping centers—including the continued improvement of The Shops at Tanforan and Towne Center—to attract shoppers from throughout the region using convenient BART and Caltrain access.

LUD-H Provide for continuation of industrial uses in selected areas in the City, primarily along Huntington Avenue,

LUD-J Coordinate planning and development with surrounding cities, agencies, and San Mateo County. Work toward solutions to regional problems of traffic congestion, open space preservation, noise attenuation, environmental hazards, affordable housing, pollution, and growth management.



SOURCE: Wagstaff/MIG

Figure 10.2

EXISTING GENERAL PLAN LAND USE DESIGNATIONS

LUD-14 Actively market Downtown as a neighborhood center for the surrounding residential areas. Create and distribute a Downtown San Bruno map that illustrates the restaurants, retail, services, and parking facilities available in Downtown.

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-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-20 Promote establishment of strong regional retail anchors in The Shops at Tanforan and Towne Center. Support the further redevelopment and expansion of The Shops at Tanforan, and work with the developer and San Bruno Chamber of Commerce to market the center to a wider regional audience.

LUD-22 Ensure that vehicular, transit, bicycle, and pedestrian access to the City's regional retail centers is convenient, efficient, and safe. Coordinate transportation improvements with the new San Bruno BART station and SamTrans.

LUD-23 Consider development of new professional and administrative offices within The Shops at Tanforan and Towne Center, so that commuters can travel to and from San Bruno via the BART system. Allow offices on second and third levels, above retail establishments.

LUD-24 Coordinate regional commercial development at the San Bruno 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-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-27 Create clear pedestrian connections from the BART and Caltrain stations to neighboring commercial nodes, as follows:

- *Install pedestrian connections between the San Bruno BART station, The Shops at Tanforan, and Towne Center. Coordinate these connections with infill development and the internal street network.*

- *Install pedestrian connections between the planned San Bruno Avenue Caltrain station 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 safe pedestrian access across El Camino Real.

LUD-29 Consider formation of a Local Improvement District, in order to undertake public improvements, including construction of pedestrian amenities and connections.

LUD-30 Develop a shuttle route to connect the BART and Caltrain stations, regional shopping centers, Downtown, Civic Center, Bayhill Office Park, The Crossing, 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-45 Permit development on The Crossing site (former US Navy site) according to the US Navy Site and Its Environs Specific Plan. Support pedestrian-friendly design with linkages across El Camino Real to The Shops at Tanforan and the San Bruno BART station.

LUD-47 Allow high-intensity mixed-use development—including retail, offices, services, and housing—along San Bruno Avenue, between Elm Avenue and Huntington Avenue.

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.

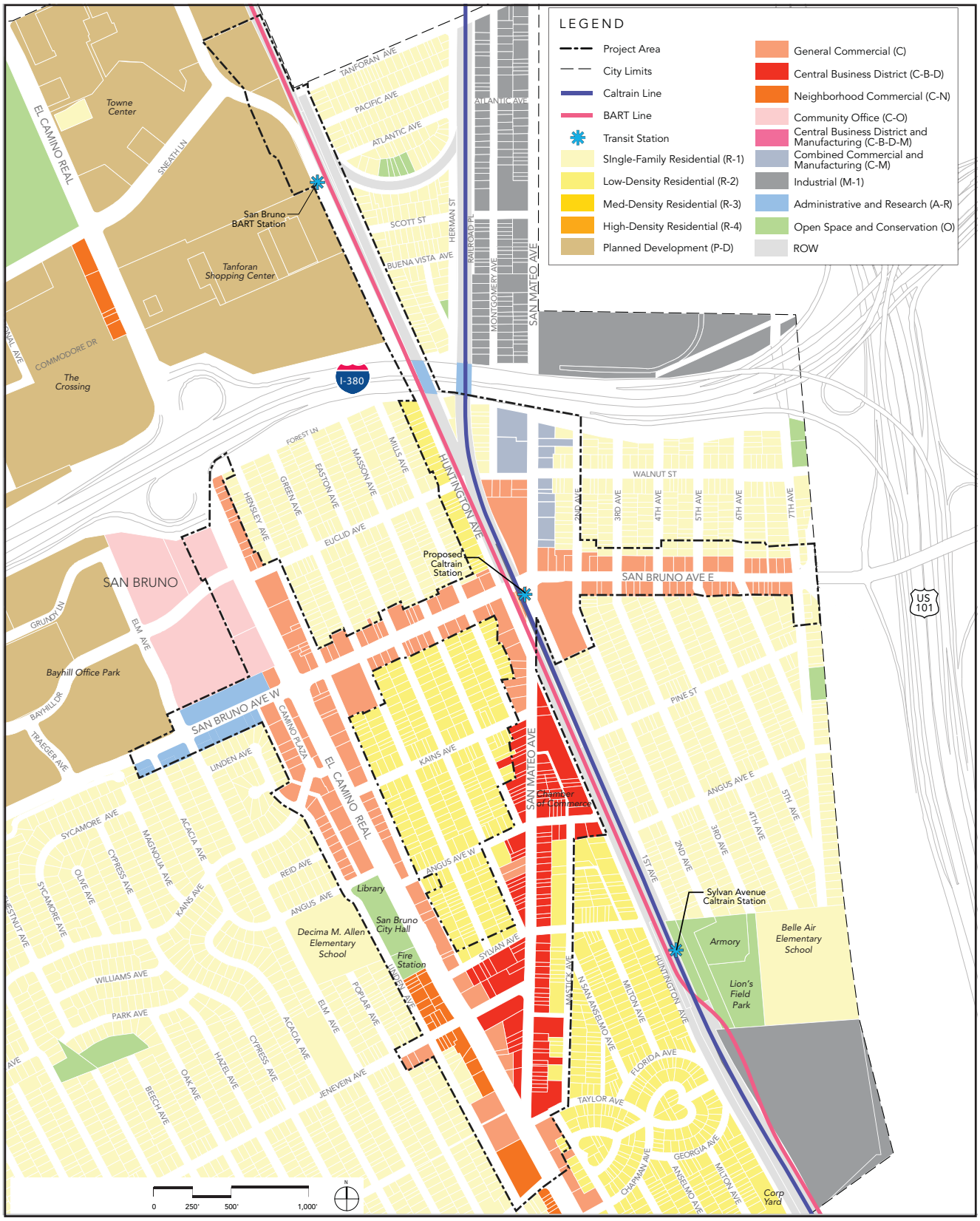
LUD-78 Consider developing a coordinated program to seek voter approval for parking structures under Ordinance 1284, as identified in this Land Use and Urban Design Element:

- *Downtown (San Mateo Avenue),*
- *Bayhill Office Park, and*
- *Montgomery Avenue.*

10.2.2 Zoning Ordinance

The City's Zoning Ordinance implements the vision and policies of the General Plan by regulating the uses of land; the density of population; the bulk, locations, and uses of structures; the areas and dimensions of sites; the appearance of certain uses, structures, and signs; usable open space, screening and landscaping; parking and loading facilities; and the location, size and illumination of signs. Existing zoning within the Transit Corridors Area is presented in Table 10.1 and Figure 10.3.

The Transit Corridors Area is primarily zoned for commercial uses. Most general commercial uses are located along El Camino Real and San Bruno Avenue. The Civic Center is also located on El Camino Real including City Hall, and the Police Station and Fire Station. San



SOURCE: Wagstaff/MIG

Figure 10.3

EXISTING ZONING DESIGNATIONS

Table 10.1
EXISTING ZONING DESIGNATIONS IN THE TRANSIT CORRIDORS AREA

Zoning Designation		Parcels	Acres	Percent of Total
A-R	Administrative and Research	11	3.4	3.7
C	Commercial	175	34.8	37.8
C-B-D	Central Business	116	15.2	16.5
C-M	Commercial Combining Industrial	22	3.8	4.1
C-N	Neighborhood Commercial	25	4.0	4.3
C-O	Commercial Office	3	3.7	4.1
O	Open Space and Conservation	2	2.7	2.9
P-D	Planned Development	3	6.0	6.5
R-1	Single-Family Residential	63	6.7	7.3
R-2	Low-Density Residential	50	6.7	7.3
U	Unclassified	4	5.1	5.5
TOTAL		474	92.1	100.0

SOURCE: City of San Bruno, 2009; MIG, 2010.

Mateo Avenue is designated Central Business District. Most parcels behind San Mateo Avenue, which are currently used as surface parking for retail customers, are zoned for low-density residential use. Approximately 15 percent of the Transit Corridors Area is zoned residential. There is currently no mixed use zoning designation within the Transit Corridors Area or elsewhere in San Bruno.

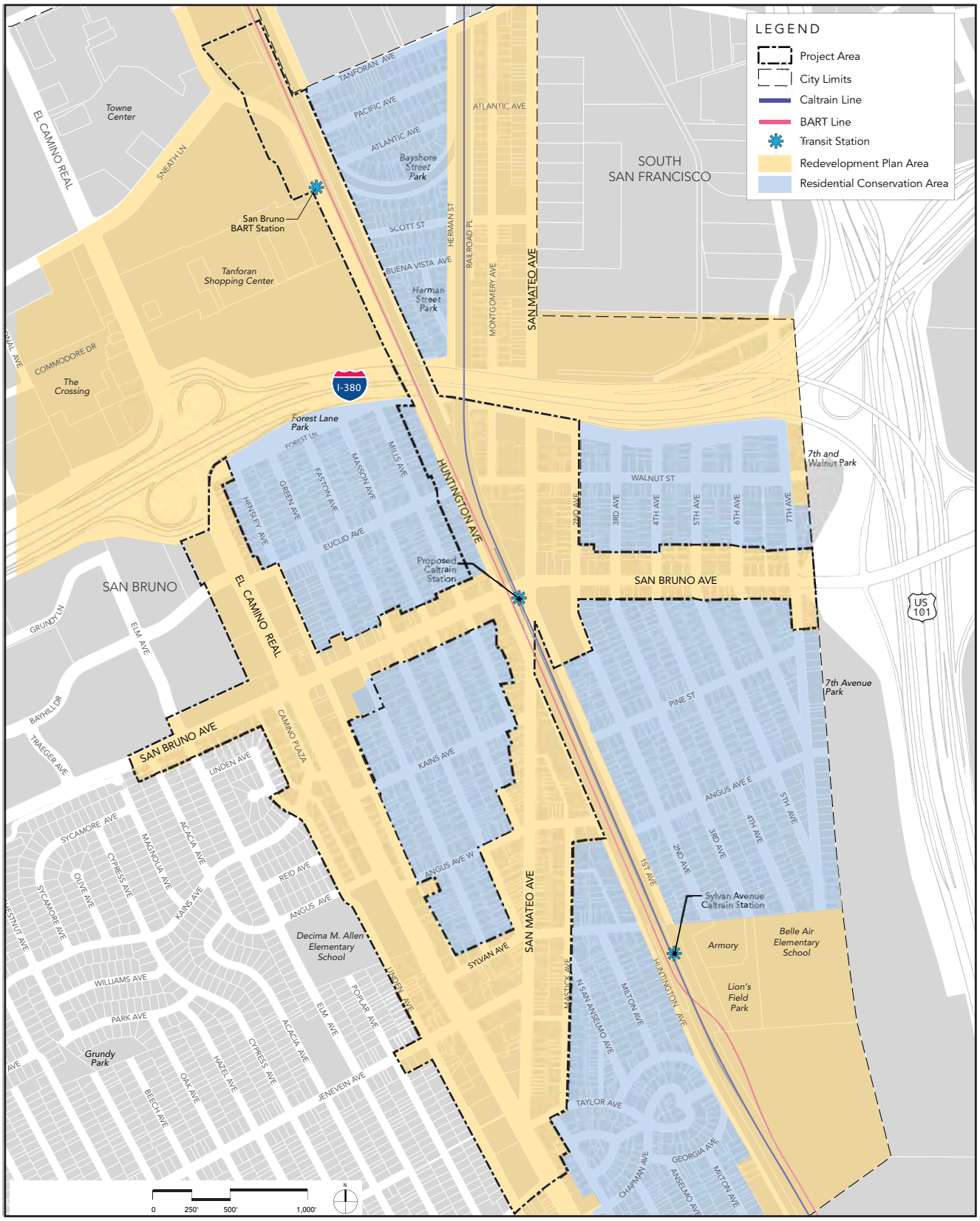
10.2.3 Former Redevelopment Plan

San Bruno had one 717-acre Redevelopment Project Area, which encompassed Downtown; The Shops at Tanforan; El Camino Real; the Fifth Addition, Belle Air Park, San Bruno Park, and Lomita Park residential neighborhoods; the former U.S. Navy facility site which is now The Crossings; and an 18-acre non-contiguous area at the intersection of Glenview Dr. and San Bruno Ave which contains the Skycrest Shopping Center. The Redevelopment Agency was dissolved on February 1, 2012 pursuant to AB 26. Many of the objectives of the Redevelopment Plan were incorporated into the Transit Corridors Plan.

The Redevelopment Plan established seven Residential Conservation Areas within the Project Area for the purpose of preserving and enhancing their residential character and strengthening property values in these areas.

Figure 10.4 shows the Redevelopment Project Area boundaries and the seven Residential Conservation Areas. The Redevelopment Plan included the following programs and policies to preserve and enhance the quality of life in the seven Residential Conservation Areas, which are also objectives of the Transit Corridors Plan:

- Provide incentives for housing rehabilitation and improvement;



SOURCE: Wagstaff/MIG

Figure 10.4

REDEVELOPMENT PROJECT AREA

- Mitigate airport noise impacts;
- Improve public open space, infrastructure, and facilities that serve the Redevelopment Project Area residents;
- Reduce traffic intrusion in residential neighborhoods;
- Improve parks and recreational opportunities for youth;
- Improve streets and storm drainage; and
- Provide easier and safer access to major thoroughfares.

10.2.4 Ordinance 1284

Implementation of the Transit Corridors Plan would require voter approval by a majority of the electorate in order to permit development of buildings greater than three (3) stories or fifty (50) feet and/or construction of multistory parking structures, as established by Ordinance 1284. A voter-approved initiative passed in 1974, Ordinance 1284 generally prohibits buildings greater than three (3) stories or fifty (50) feet in height, construction of multistory parking structures, or development that would encroach upon designated scenic corridors. Unless approved by a majority of the voters of the City of San Bruno voting at a general or special election, Ordinance 1284 prohibits building permits, grading permits or other approvals to allow or authorize the initiation or construction of buildings, other structures, land development projects or land uses described below:

- Buildings or other structures exceeding 50 feet in height;
- Buildings or other structures exceeding three stories in height;
- Buildings or other structures, modifications or redevelopment thereof in residential districts which increase the number of dwelling units per acre or occupancy, within each acre or portion ·thereof, in excess of limits permitted on October 10, 1974, under the then existing Zoning Chapter of the City of San Bruno;
- Multi-story parking structures or buildings; or
- Buildings or other structures, modifications or redevelopment thereof which encroach upon, modify, widen or realign the following streets hereby designated as scenic corridors: Crystal Springs Road between Oak Avenue and Junipero Serra Freeway.

Ordinance 1284 also requires a town-hall type of hearing whereby· experts, .proponents and opponents may be heard and questioned by voters.

10.2.5 U.S. Navy Site And Its Environs Specific Plan (The Crossing)

In response to the U.S. Navy's announcement that a significant portion of the Western Division US Naval Facilities Engineering Command Base (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 surrounding area in order to guide future reuse. 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 San Bruno BART Station.

The City adopted the U.S. Navy Site and Its Environs Specific Plan in 2001. At a special election in June 2001, pursuant to "town hall" meetings required under local Ordinance 1284, San Bruno voters approved Initiative E authorizing development of the U.S. Navy Site project specifically relating to construction of structures over three stories or 50 feet in height, and construction of above-ground parking structures. In December 2001, the City Council approved an amendment to the U.S. Navy Site and Its Environs Specific Plan enabling flexible reuse of specific areas of the site; the amendment allows the construction of housing on parcels previously designated for office due to the slow San Mateo County office market conditions at the time.

The specific plan area is now known as "The Crossing". Approximately 713 multi-family rental units, including 325 units designated for low-and very-low-income residents, have been constructed. This includes a 300-unit multifamily building (20 percent affordable), a 185-unit multifamily building (20 percent affordable) and a 228-unit senior apartment complex with 100 percent of the units designated for very-low- and low-income residents. A proposal to construct 350 additional units on designated "flexible parcels" was approved by the Planning Commission in 2006. This development includes two buildings. Construction of this phase began in the summer of 2008. The planned final phases of The Crossing development include a retail component and a 150-room hotel in the southeast corner of the area. A 12,000-square-foot retail and restaurant development, located along the El Camino Real frontage, was approved by the Planning Commission in 2008.

10.2.6 San Mateo County Comprehensive Airport Land Use Plan (CALUP)

San Francisco International Airport is located just east of San Bruno, on the east side of US 101, in unincorporated San Mateo County, approximately ½-mile east of the Transit Corridors Area. San Francisco International Airport is an agency of the City and County of San Francisco, and the airport property is under San Francisco jurisdiction. San Francisco International Airport is the fifth busiest airport in the U.S. in terms of total passengers, with nearly 40 major passenger airlines, 13 cargo airlines, and four commuter airlines, and is the third largest origin/destination airport in the country.

There are no private airstrips in the vicinity of the Transit Corridors Area.

The San Mateo County Airport Land Use Committee (ALUC) is the designated Airport Land Use Commission for San Francisco International Airport. According to California law, the ALUC is 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 ALUC does not have authority over airport operations.

The ALUC has prepared the San Mateo County Comprehensive Airport Land Use Plan (CALUP), which is intended to minimize public exposure to excessive noise and safety hazards, while providing for orderly growth around public airports. Pursuant to Public Utilities Code 2 Section 1676, 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 CALUP and makes specific findings to justify not amending their regulations and general plans.

The ALUC reviews general plans and specific plans prepared by local agencies, as well as proposed individual land use actions, for consistency with the CALUP. The Transit Corridors Plan is subject to formal ALUC review/action, via a CALUP consistency determination related to the applicable airport/land use compatibility criteria.

The primary objective of the CALUP airport/land use compatibility criteria 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 CALUP as hazards to air navigation in the vicinity of San Francisco International Airport. 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; and

- Any use that would generate electrical interference that may interfere with aircraft communications or aircraft instrumentation.

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 as defined in Federal Aviation Regulations (FAR) Part 77, Objections Affecting Navigable Airspace. The FAR Part 77 criteria 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. FAR Part 77 *imaginary surfaces and height restrictions* associated with San Francisco International Airport, as depicted on a CALUP Imaginary Surface Height Restrictions Map, extend across San Bruno and the Transit Corridors Area.

The CALUP designates Height Referral Areas to preserve unimpeded air space required for safe operations in the vicinity of the airport. The CALUP-designated Height Referral Areas for each airport parallel 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 CALUP-designated Height Referral Areas require that local public agencies refer proposed land use plans and regulations to the ALUC. Buildings that exceed a given height as defined by the CALUP-designated 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 on air navigation facilities.

Airport noise levels are governed by California Administrative Code, Title 21, Subchapter 6, Noise Standards. The CALUP endorses these noise standards, and establishes noise compatibility standards for various land uses. Additionally, San Bruno participates in the Federal Aviation Administration and ALUC joint program for noise insulation, which provides noise insulation to noise-sensitive land uses, including residences, churches, and schools, with a goal of achieving a residential interior noise level of 45 dB CNEL. Noise compatibility issues for the Transit Corridors Plan are addressed in Chapter 11, Noise, of this EIR.

The ALUC has recently prepared a draft update of the CALUP for the environs of San Francisco International Airport.[1]

10.2.7 The Grand Boulevard Initiative

San Bruno is participating in the Grand Boulevard Initiative, a collaboration of 19 cities, the counties of San Mateo and Santa Clara, local and regional agencies, private business, labor and environmental organizations united to improve the performance, safety and aesthetics of El Camino Real from Daly City to downtown San Jose. Under the initiative vision, El Camino Real will become a "grand boulevard of meaningful destinations" shaped by all the cities along its length and with each community realizing its full potential to become a destination full of valued places.

Participating cities are encouraged to promote neighborhoods that include high quality building designs and diverse land uses, preserve historic buildings and places, and enhance economic and cultural diversity, with the broad involvement of residents, workers and local businesses. Under the Initiative, rail stations and bus facilities along the El Camino corridor are valued not only as vital transportation services, but as public gathering places and assets to spur transit-oriented development.

The Grand Boulevard Initiative includes the following Guiding Principles:

- Target housing and job growth in strategic areas along the corridor,
- Encourage compact mixed-use development in high quality urban design and construction,
- Create a pedestrian-oriented environment and improve streetscapes, ensuring full access to and between public areas and private developments,
- Develop a balanced multimodal corridor to maintain and improve mobility of people and vehicles along the corridor,
- Manage parking assets,
- Provide vibrant public spaces and gathering places,

[1]David F. Carbone, San Mateo County C/CAG Airport Land Use Committee (ALUC) Staff, Personal communication with Mark Sullivan, City of San Bruno Housing and Redevelopment Manager, Re: C/CAG Airport Land Use Committee (ALUC) Staff Comments on a Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) on the San Bruno Transit Corridors Plan, January 4, 2011.

- Preserve and accentuate unique and desirable community character and the existing quality of life in adjacent neighborhoods,
- Improve safety and public health,
- Strengthen pedestrian and bicycle connections with the corridor, and
- Pursue environmentally sustainable and economically viable development patterns.

10.3 IMPACTS AND MITIGATION MEASURES

10.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] the Transit Corridors Plan would be considered to have a significant impact related to land use and planning if it would:

(a) Disrupt or divide the physical arrangement of a community;

(b) Be incompatible with existing land use in the vicinity; or

(c) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

10.3.2 Transit Corridors Plan Growth Impacts

(a) Growth Increment Attributable to the Transit Corridors Plan. As shown in Table 10.2, the Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area within approximately 20 years, or by 2030, over existing conditions. This amount of additional development would represent an increase over the amount of development allowed in the Transit Corridors Area under the current General Plan of approximately 890 housing units, 19,100 square feet of retail, 666,600 square feet of office, and 190 hotel rooms. Implementation of the Transit Corridors Plan would require General Plan amendments to achieve consistency between the General Plan and the Transit Corridors Plan. Based on the persons per household and square feet/rooms per employee rates identified in Table 10.3, the additional 1, 610 dwelling units and 1,135,800 square feet of new non-residential building space, and 190 new hotel rooms would result in an estimated 4,363 new residents and 3,976 new jobs within the Transit Corridors Area by 2030.

(b) CEQA Definition of Cumulative Impacts. According to CEQA Guidelines Section 15355, "Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines Section 15130(a) requires that cumulative impacts be discussed when the project's incremental effect is cumulatively considerable, as defined in Section 15065(c). "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and

[1] CEQA Guidelines, Appendix G, Items II(a), II(c), IX(a), and IX(b).

Table 10.2
CUMULATIVE DEVELOPMENT ASSUMPTIONS--CITYWIDE GROWTH UNDER THE GENERAL PLAN AND TRANSIT CORRIDORS PLAN

	Transit Corridors Area			City-Wide
Land Use	Existing (2005)	New (2005-2030)	Total (2030)	New (2005-2030)
Residential (dwelling units)	325	1,610	1,935	2,640
Non-Residential				
Retail (square feet)	900,000	147,700	1,047,700	882,300
Office (square feet)	100,000	988,100	1,088,100	1,349,800
Industrial (square feet)	0	0	0	108,100
Hotel (rooms)	340	190	530	340
Total Non-Residential	1,000,000 sq. ft. 340 rooms	1,135,800 sq. ft. 190 rooms	2,135,800 sq. ft. 530 rooms	2,340,200 sq. ft. 340 rooms

SOURCE: City of San Bruno, 2010; Wagstaff/MIG, 2010.

Table 10.3
ANTICIPATED CUMULATIVE CITYWIDE POPULATION, HOUSING AND EMPLOYMENT GROWTH UNDER THE GENERAL PLAN AND TRANSIT CORRIDORS PLAN

	Dwelling Units/Square Feet	Persons per Household[1]	Square Feet/Rooms per Employee[1]	Residents/ Employees
Residents	2,640	2.71		7,154
Employment				
Retail	882,300		300	2,941
Office	1,349,800		300	4,499
Industrial	108,100		500	216
Hotel	340		1	340
Total Employment				8,186

SOURCE: Wagstaff/MIG, 2010.

[1]City of San Bruno, San Bruno 2025: General Plan Draft Environmental Impact Report.

the effects of probable future projects. Section 15130 of the CEQA Guidelines states that "the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone."

The CEQA Guidelines provide that a lead agency may describe the cumulative environment by either a listing of pending, proposed, or reasonably anticipated projects, or a summary of projections contained in an adopted general plan or a related planning document that describes area-wide or regional cumulative conditions. This EIR uses buildout of the Transit Corridors Area under the Transit Corridors Plan, plus buildout of the remainder of San Bruno in accordance with the General Plan, as its description of the cumulative environment.

(c) Anticipated Cumulative Citywide Development With the Transit Corridors Plan. Table 10.2 shows anticipated cumulative development within San Bruno through 2030. As shown in Table 10.2, development under the Transit Corridors Plan, together with development throughout the remainder of the city in accordance with the General Plan, would result in an estimated cumulative citywide total of 2,640 new housing units and 2,340,200 square feet of new non-residential building space by 2030. The cumulative citywide non-residential total includes 882,300 square feet of new retail space, 1,349,800 square feet of new office space, and 108,100 square feet of new industrial space. Approximately 340 new hotel rooms are also anticipated citywide (190 in the Transit Corridors Area and 150 in the Crossing development) over this period.

Table 10.3 shows anticipated cumulative citywide population and employment growth totals, based on the land use growth totals in Table 10.2. As shown in Table 10.3, the cumulative development total of 2,640 new homes, 2,340,200 square feet of new non-residential building space, and 190 new hotel rooms, would result in an estimated 7,154 new residents and 8,186 new jobs citywide by 2030.

10.3.3 Impacts and Mitigation Measures

This section discusses potential land use impacts of the Transit Corridors Plan with respect to community cohesion, land use compatibility, conformity with plans and policies, and contribution to cumulative land use impacts.

Divide the Physical Arrangement of a Community. The Transit Corridors Plan would not divide the physical arrangement of the community. Development would occur primarily as infill. Plan-facilitated infill development on vacant land, and intensification and revitalization of underutilized properties would result in more consolidated, coherent and compatible land use patterns and a more unified development character. Implementation of the Transit Corridors Plan would also improve pedestrian and bicycle connectivity, increasing pedestrian and bicycle safety, and would create a land use context more supportive of pedestrians and bicycles. The Transit Corridors Plan recommends various crosswalk improvements, including raised crosswalks on San Mateo Avenue, and new crosswalks and crosswalk enhancements with bulbouts and pedestrian refuge islands on El Camino Real, San Bruno Avenue and Mastick Avenue. The proposed "road diets" on San Bruno Avenue and Huntington Avenue would allow for wider sidewalks on these street segments. The impacts of the Transit Corridors Plan on the physical arrangement of the community and community cohesion would therefore represent a ***beneficial impact.***

Mitigation. No significant impact has been identified; no mitigation is required.

Land Use Compatibility Impacts. Development in the Transit Corridors Area accordance with the Transit Corridors Plan would result in an intensification of land use and the creation of different types of land uses on parcels where existing interim uses do not conform to the vision of the Plan. This shift to conforming uses would result in a reduction in nuisance-prone land uses and land uses more compatible with adjacent uses and the policies of the City.

Any public or private sector development that may be undertaken, encouraged, or accommodated by the Transit Corridors Plan would be subject to the General Plan and other applicable City plans, policies, and ordinances, as well as the Transit Corridors Plan. These policies, regulations, and guidelines, and the City's standard development review, design review and environmental review process for individual future site-specific projects, would be expected to sufficiently address and mitigated potential land use compatibility impacts. The impacts of the Transit Corridors Plan on land use compatibility would therefore represent a ***less-than-significant impact.***

Mitigation. No significant impact has been identified; no mitigation is required.

Consistency with Plans and Policies. The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area by 2030. The type, intensity and character of the anticipated new uses and development facilitated by the Plan would be in accordance with the land use designations and policies in the Transit Corridors Plan, as well as other City-adopted policies, regulations and guidelines that implement the General Plan. The Transit Corridors Plan would be consistent with and would serve to implement the General Plan guiding and implementing policies. The Transit Corridor Plan proposed infrastructure improvements would support the orderly development of the city.

(a) San Bruno General Plan. The Transit Corridors Plan is consistent with the general vision, and the guiding and implementing policies of the City-adopted San Bruno 2025 General Plan. The Transit Corridors Plan would be consistent with the General Plan vision 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, creating a vibrant, walkable area around the BART station;

- transit-oriented development in the San Bruno Avenue and El Camino Real corridors, emphasizing mixed-use and residential development with connections to Downtown, Caltrain and BART stations, and The Shops at Tanforan;

- improvement and expansion of transit, pedestrian, and bicycle connections throughout the city, particularly to/from the BART and Caltrain stations;

- efficient vehicular movement through the city, with preservation of natural features along scenic corridors; and

- preservation and protection of residential neighborhoods.

The Transit Corridors Plan also would be generally consistent with the type, intensity and character of the predominant existing Transit-Oriented Development and Central Business District General Plan land use designations within the Transit Corridors Area. However, implementation of the Transit Corridors Plan-proposed land use revisions and refinements would require the adoption of associated General Plan amendments to achieve consistency between General Plan and Transit Corridors Plan.

(b) San Bruno Zoning Ordinance. Implementation of the Transit Corridors Plan would require approval of zoning amendments to reflect and implement the more detailed land use provisions, development standards, and design guidelines specified by the Transit Corridors Plan. The mandatory development standards and non-mandatory design guidelines contained in the Transit Corridors Plan would serve as the zoning for the Transit Corridors Area. The Plan would establish uses, height, setback, and stepback standards within specific zoning designations which generally correspond to each of the proposed five Character Areas. The five zoning designations for the Transit Corridors Area and corresponding Character Areas are as follows:

- TOD-SO (TOD-Station Office)--Station Area: High Intensity TOD;

- TOD-MXD1 (Medium-Higher Density Mixed-Use)--San Bruno Avenue: Mixed-Use TOD Corridor;

- TOD-MXD2 (Higher-Density Mixed-Use)--El Camino Real Area: Mixed-Use Housing and Commercial Corridor;

- CBD (Central Business District)--San Mateo Avenue Area: Revitalized Downtown Core; and

- P/QP (Public/Quasi-Public)--Civic Center portion of El Camino Real Area.

(c) Ordinance 1284. The Transit Corridors Plan would establish maximum height limits within the Transit Corridors Area of between 55 feet (four stories) and 90 feet (seven stories). Implementation of the Transit Corridors Plan would therefore require voter approval by a majority of the electorate in order to permit development of buildings greater than three (3) stories or fifty (50) feet and/or construction of multistory parking structures, as established by City Ordinance 1284 (see section 10.2.4).

(d) Former Redevelopment Plan. The Transit Corridors Plan would be consistent with the City's former Redevelopment Plan and would further the objectives of improving public open space, infrastructure, and facilities that serve area residents; reducing traffic intrusion in residential neighborhoods; improving parks; improving streets and storm drainage; and providing easier and safer access to major thoroughfares. The development of an additional 1,610 housing units within the Transit Corridors Area, including higher density housing in mixed-use developments, would expand housing choice and help the City meet its housing and affordable housing goals and requirements. The Transit Corridors Plan would promote blight elimination and revitalization of the Downtown and key commercial corridors, while the use,

density, height, setback and stepback provisions of the Plan would conserve established residential neighborhoods adjacent to these corridors.

(e) San Mateo County Airport Compatibility Land Use Plan. The Transit Corridors Area is located within the CALUP boundary. In particular, the Transit Corridors Area falls within the CALUP-designated San Francisco International Airport Imaginary Surfaces Height Restrictions Map. The Transit Corridors Plan would therefore need to specifically comply with associated FAR Part 77 Obstruction Criteria.

Huntington Avenue, the Station Area and the portion of San Bruno Avenue east of San Mateo Avenue are generally located within the CALUP-designated Runways 28 safety zones and 70 decibel (dB) noise contour from Runways 28 departures. The Plan-proposed TOD-SO Station Area zoning designation would allow heights up to 90 feet (7 stories). At a height of 90 feet, future development within the TOD-SO Station Area could potentially encroach upon certain of the critical aeronautical surfaces that protect airspace required for the various departure procedures from Runways 28.[1] Potential features exceeding the maximum 90 foot (7 story) height limit (e.g., architectural features subject to Planning Commission review, stairwell and elevator towers, or mechanical penthouses and equipment) may also encroach upon certain of the critical aeronautical surfaces.

Future site-specific development proposals within the Station Area, as well as other portions of the Transit Corridors Area, would be referred to the San Mateo County C/CAG Airport Land Use Committee (ALUC) for a determination of consistency with the CALUP. Depending on site-specific ground elevations and critical aeronautical surfaces, the ALUC-determinations may result in maximum allowed building heights on any given site slightly lower than the maximum suggested by the Transit Corridors Plan.

Under the proposed Transit Corridors Plan land use and development standards, new residential uses and mixed residential and commercial uses would not be permitted within portions of Huntington Avenue, the Station Area and the portion of San Bruno Avenue east of San Mateo Avenue located within the 70 dB noise contour. The compatibility of the Transit Corridors Plan with the CALUP noise provisions is also addressed in Chapter 11, Noise and Vibration, of the EIR.

The Transit Corridors Plan would appear to be consistent with the aircraft noise contours, height limits within the Runways 28 departure corridor, and land uses within the Runways 28 safety zones.[2] The Transit Corridors Plan would be referred by the City to the ALUC for a required formal determination of consistency with the CALUP.

(f) U.S. Navy Site and Its Environs Specific Plan (The Crossing). The Transit Corridors Plan would be consistent with the U.S. Navy Site and Its Environs Specific Plan. As indicated in section 10.2.5 herein, the Specific Plan area is located on El Camino Real outside the Transit Corridors Area, on the opposite (north) side of I-380.

[1] John Bergener, San Francisco International Airport, personal communication with Ricardo Bressanutti, Senior Planner, MIG, March 15, 2011.

[2] The CALUP-designated 70 dB noise contour and safety zone boundary configurations within the Transit corridors Area have been slightly changed as part of the proposed January 11, 2011 CALUP update. The draft update reconfigurations would change the building by approximately 5 feet or less.

(g) Grand Boulevard Initiative. The Transit Corridors Plan strategy for El Camino Real is to install pedestrian-oriented streetscape improvements and promote the development of high-density housing to transform the auto-oriented corridor into a vibrant mixed-use residential and commercial corridor, taking advantage of its proximity to the new Caltrain station and neighborhood retail and services available on San Mateo Avenue. New high-density residential development, anchored with ground-floor retail at significant intersections, would create a stronger physical presence and character along this key roadway. The southern end of El Camino Real near San Mateo Avenue would be zoned Central Business District (CBD) to focus retail adjacent to Downtown. These Transit Corridors Plan proposals for El Camino Real are consistent with and would further the Grand Boulevard Initiative vision for the corridor of high quality building designs and diverse land uses, preserved historic buildings and places, enhanced economic and cultural diversity, and rail stations and bus facilities valued not only as vital transportation services, but as public gathering places and assets to spur transit-oriented development.

The plans and policies consistency impacts of the Transit Corridors Plan would therefore be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Cumulative Land Use Impacts. As indicated in section 10.3.1 herein, new development in accordance with the Transit Corridors Plan, together with other reasonably foreseeable development in San Bruno in accordance with the City's adopted General Plan, could result in an estimated maximum cumulative buildout total of 2,640 new housing units, 2,340,200 square feet of new non-residential development, and 340 new hotel rooms, as well as 7,154 new residents and 8,186 new jobs, by 2030. The Transit Corridors Plan would result in less-than-significant impacts with respect to the physical arrangement of the community, land use compatibility, and conformity with plans and policies, and thus a less than considerable contribution to associated cumulative land use impacts. The cumulative land use impacts of the Transit Corridors Plan would therefore be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

11. NOISE AND VIBRATION

This EIR chapter describes the existing noise and vibration environment in the Transit Corridor Area, anticipated changes in the noise environment as a result of development in accordance with the Transit Corridors Plan, and resulting significant adverse noise impacts and mitigation needs. The technical analyses for this chapter were prepared by the EIR acoustical and vibration consultants, Illingworth & Rodkin, Inc.

11.1 ENVIRONMENTAL SETTING

The Transit Corridors Area is exposed to particularly high existing noise levels. The noise environment throughout the Transit Corridors Area is elevated due to aircraft overflights associated with San Francisco International Airport (SFO), traffic on I-380 and arterial streets, Caltrain and freight trains, and Bay Area Rapid Transit (BART) trains. Train activity within the Transit Corridors Area (Caltrain service primarily) is also a potential source of substantial groundborne vibration. To properly describe these conditions, the following sections describe the fundamentals of acoustics and groundborne vibration, and associated local conditions.

11.1.1 Fundamentals of Acoustics

(a) Definitions of Noise. Noise is defined as unwanted sound. The effects of noise can range from interference with sleep, concentration, and communication, to physiological stress, and at higher noise levels, hearing loss. Sound levels are usually measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing. The term "decibels" and other related technical terms are defined in Table 11.1.

(b) Human Sensitivity to Noise. The method commonly used to quantify environmental noise involves measurement of all frequencies of sound, with an adjustment to reflect the fact that human hearing is less sensitive to low and high frequencies than to mid-range frequencies. This measurement adjustment is called "A" weighting. A sound level so measured is called an A-weighted sound level (dBA).[1] Examples of typical A-weighted sound levels in the environment and industry are provided in Table 11.2.

Environmental noise fluctuates in intensity over time. Therefore, time-averaged noise level computations are typically used to quantify noise levels and determine impacts. The two average noise level descriptors most commonly used are L_{dn} and CNEL. L_{dn}, the day/night average noise level, is the 24-hour average, with a 10 dBA penalty added for nighttime noise (10:00 PM to 7:00 AM) to account for the greater human sensitivity to noise during this period. CNEL, the community equivalent noise level, is similar to L_{dn}, but adds a 5-dBA penalty to evening noise (7:00 PM to 10:00 PM).

[1] In practice, the level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve.

Table 11.1
DEFINITIONS OF ACOUSTICAL TERMS

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 PM to 10:00 PM and after addition of 10 decibels to sound levels in the night between 10:00 PM and 7:00 AM.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 PM and 7:00 AM.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Single-Event Noise Exposure Level (SEL)	The sound exposure level of a single noise event (such as an aircraft flyover or a train passby) measured over the time interval between the initial and final times for which the sound level of the single event exceeds the background noise level.

SOURCE: Illingworth & Rodkin, Inc., 2011.

Table 11.2
TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND INDUSTRY

At a Given Distance from Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Impression
	140		
Civil Defense Siren (100')	130		
Jet Takeoff (200')	120		Pain Threshold
	110	Rock Music Concert	
Pile Driver (50')	100		Very Loud
Ambulance Siren (100')			
	90	Boiler Room	
Freight Cars (50')		Printing Press Plant	
Pneumatic Drill (50')	80	In Kitchen With Garbage Disposal Running	
Freeway (100')		Vacuum Cleaner	
	70		Moderately Loud
	60	Data Processing Center	
		Department Store	
Light Traffic (100')	50	Private Business Office	
Large Transformer (200')			
	40		Quiet
Soft Whisper (5')	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing
	0		

SOURCE: Illingworth & Rodkin, Inc., 2011.

One way of anticipating a person's subjective reaction to a new noise is to compare the new noise with the existing noise environment to which the person has become adapted, i.e., the so-called "ambient" noise level. With regard to increases in A-weighted noise levels, knowledge of the following relationships will be helpful in understanding this EIR chapter:

- 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 noise level of at least 5 dBA is required before any noticeable change in community response would be expected.
- A 10 dBA increase is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

(b) Structural Attenuation. Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57-62 dBA L_{dn} with open windows and 65-70 dBA L_{dn} if the windows are closed.

(c) Typical Noise Levels. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed; those facing major roadways and freeways typically need special glass windows.

(d) Sleep and Speech Interference. 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. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA L_{dn}. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn}, and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses.

11.1.2 Fundamentals of Groundborne Vibration

The vibration effects of railroad traffic are a function of distance from the railroad track, the type and the speed of trains, and the type of track. People's response to ground vibration has been correlated most effectively with the "vibration velocity" level. Like the noise level, the vibration velocity level is expressed on the decibel scale. Following common practice, the abbreviation "VdB" is used in this document to quantify vibration decibels.

Background vibration levels in typical residential areas are usually 50 VdB or lower, well below the threshold of perception for most humans. Perceivable vibration levels inside residences are attributed to the operation of heating and air conditioning systems, door slams, and foot traffic.

Nearby construction activities (in particular, pile driving for taller buildings in certain soil conditions), train operations, and street traffic are some of the most common external sources of perceptible vibration inside residences. Table 11.3 identifies some common sources of vibration, corresponding VdB levels at 50 feet, and associated human perception and potential for structural damage.

11.1.3 Existing Noise Environment

(a) Noise Monitoring Survey Results. To quantify and describe existing noise conditions in the Transit Corridors Area, a noise monitoring survey was conducted by Illingworth & Rodkin, Inc. from January 13, 2011 to January 14, 2011. The survey included two long-term noise measurements (LT-1 and LT-2), and 5 short-term measurements (ST-1 through ST-5) at the locations indicated on Figure 11.1.

(1) Long-Term Noise Measurement Locations. Long-term (24-hour) noise measurements were made at two locations within the Transit Corridors Area.

- *LT-1.* Noise measurement location LT-1 was located at City Hall, approximately 85 feet from the centerline of El Camino Real. This measurement location is representative of the noise environment from traffic on El Camino Real. Hourly average noise levels at this measurement location typically ranged from 68 to 74 dBA L_{eq} during the day, and from 57 to 69 dBA L_{eq} at night. The 24-hour average noise level at this measurement location was 72 dBA CNEL.

- *LT-2.* Noise measurement location LT-2 was approximately 20 feet from the center of Walnut Avenue, near 2nd Avenue. This noise measurement location is representative of the noise environment from traffic on Walnut Avenue and aircraft overflights. Hourly average noise levels at this measurement location typically ranged from 64 to 73 dBA L_{eq} during the day, and from 56 to 74 dBA L_{eq} at night. The 24-hour average noise level at this measurement location was 74 dBA CNEL.

(2) Short-Term Noise Measurement Locations. Supplemental short-term (ten minute) noise measurements were made at five locations around the Transit Corridors Area. Table 11.4 summarizes the results of the short-term noise measurements.

- *ST-1.* Short-term noise measurement location ST-1 was approximately 80 feet from the edge of the Caltrain tracks, adjacent to the San Bruno Caltrain station on 1st Avenue. The measured noise level at this location from a train horn reached 84 dBA with the sound of a passing train ranging from 77-80 dBA. A jet aircraft overflight caused the noise level to reach 77 dBA. The ten-minute average noise level was 70 dBA L_{eq}.

- *ST-2.* Short-term noise measurement ST-2 was located approximately 20 feet from the center of San Mateo Avenue at Angus Avenue. Loud motorcycles caused maximum noise levels of 81-85 dBA as they passed by. A jet aircraft overflight elevated the noise level to 83 dBA. The ten-minute average noise level was 70 dBA L_{eq}.

- *ST-3.* Short-term noise measurement ST-3 was located approximately 30 feet from the center of San Bruno Avenue near Masson Avenue. Vehicular traffic was the primary source of noise at this location. The ten-minute average noise level was 70 dBA L_{eq}.

Table 11.3
TYPICAL LEVELS OF GROUNDBORNE VIBRATION

Human/Structural Response	Velocity Level, VdB	Typical Events (at 50 feet)
Threshold, minor cosmetic damage	100	Blasting, pile driving, vibratory compaction equipment, heavy tracked vehicles (bulldozers, cranes, drill rigs)
Difficulty with tasks such as reading a video or computer screen	90	Commuter rail, upper range
Residential annoyance, infrequent	80	Rapid transit, upper range
Residential annoyance, occasional	75	Commuter rail, typical bus or truck over bump or on rough roads
Residential annoyance, frequent	70	Rapid transit, typical
Approximate human threshold of perception to vibration	70 60	Buses, trucks and heavy street traffic Background vibration in residential settings in the absence of activity
Lower limit for equipment ultrasensitive to vibration	50	Background vibration in residential settings in the absence of activity

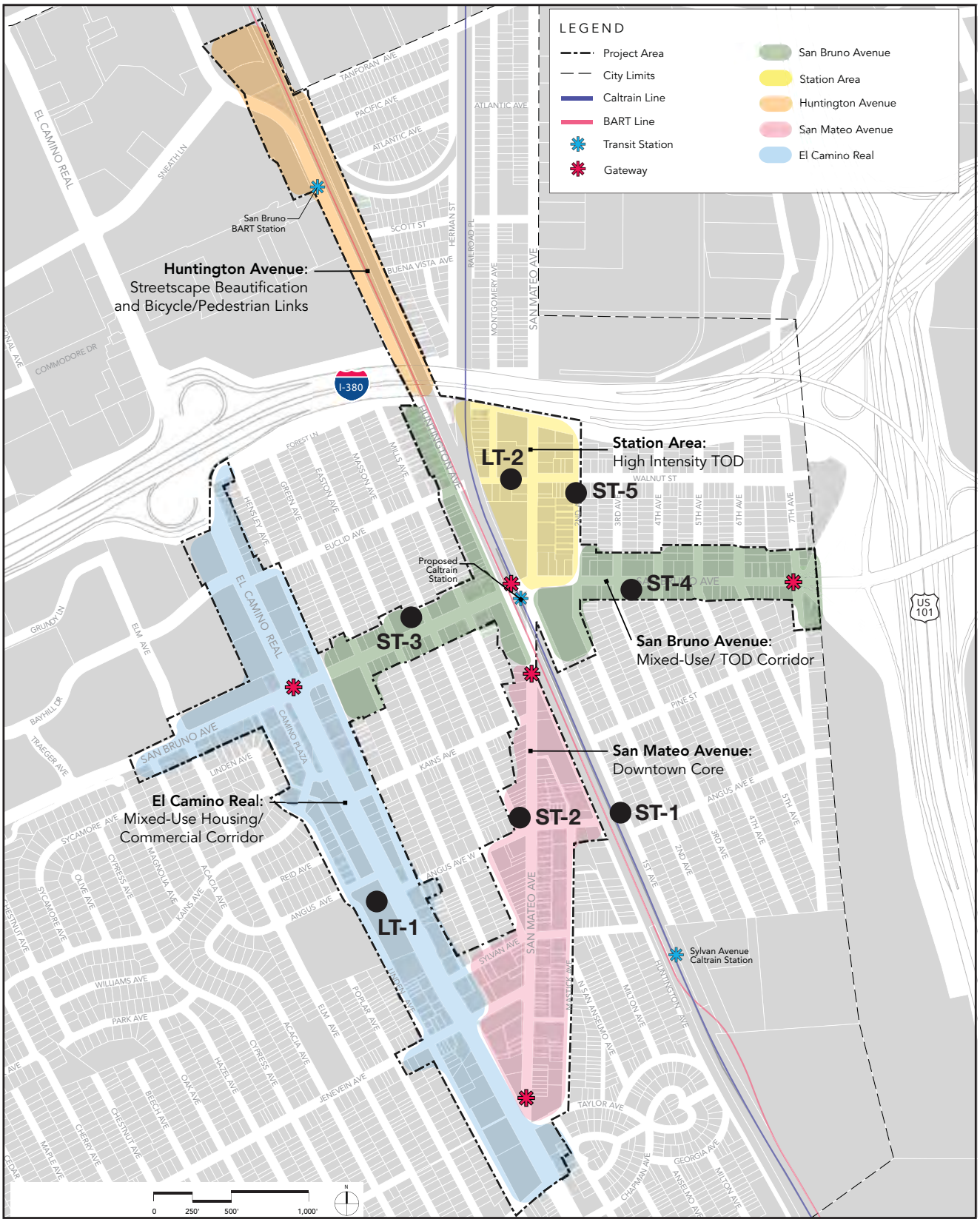
SOURCE: Illingworth & Rodkin, 2011.

- *ST-4.* Short-term noise measurement ST-4 was located approximately 33 feet from the center of San Bruno Avenue at 3rd Avenue. Vehicular traffic was again the primary source of noise at this location. A SamTrans bus passing close to the measurement site caused a maximum level of 89 dBA. The ten-minute average noise level was 72 dBA L_{eq}.

- *ST-5.* Short-term noise measurement ST-5 was made approximately 20 feet from the center of 2nd Avenue at Walnut Avenue. Typical vehicular traffic noise at this location was measured in the range of 55-70 dBA. During the ten-minute period the average noise level increased to 74 dBA L_{eq} (average over the 10 minutes) due to a SFO jet aircraft take-off that caused the noise level to reach as high as 93 dBA Lmax.

(b) Existing Railroad Train Noise. The vast majority of train passages in the Plan area are Caltrain passenger trains, which occur approximately four times per hour during weekdays (two northbound and two southbound), with additional operations during commute hours. Caltrain is not scheduled to operate passenger trains between about 12:45 a.m. and 5:15 a.m., although freight trains could operate during these times, and it appears from the measurement data that at least two trains did pass by during late night in the measurement period.

Approximately 90 Caltrain passenger trains pass through San Bruno each weekday with about 30 Caltrain trains per day on Saturday and Sunday. Noise exposure in the vicinity of Caltrain is dependent upon proximity to the train line and crossings where trains use warning horns, as



SOURCE: Wagstaff/MIG

Figure 11.1

NOISE MONITORING SURVEY MEASUREMENT LOCATIONS

Table 11.4
SUMMARY OF SHORT-TERM NOISE MEASUREMENT DATA

Noise Measurement Location	L_{max}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}
ST-1: Caltrain Station on 1st Avenue (1/14/2011, 1:10-1:20 p.m.)	87	85	68	52	47	70
ST-2: Approximately 20 feet from the centerline of San Mateo Avenue (1/14/2011, 1:40-1:50 p.m.)	85	82	74	64	60	70
ST-3: Approximately 30 feet from the center of San Bruno Avenue (1/14/2011, 2:00-2:10 p.m.)	87	78	73	67	60	70
ST-4: Approximately 33 feet from the center of San Bruno Avenue, at 3rd Avenue (1/14/2011, 2:20-2:30 p.m.)	89	85	73	66	59	72
ST-5: Approximately 20 feet from the center of 2nd Avenue, at Walnut Avenue (1/14/2011, 2:50-3:00 p.m.)	93	90	69	58	56	74

SOURCE: Illingworth & Rodkin, 2011.

well as shielding from buildings. The San Bruno General Plan noise contour map shows that existing noise levels within approximately 350 feet of Caltrain exceed 65 dBA CNEL.[1] Beyond 350 feet, existing Caltrain noise levels would be expected to drop off at a rate of 5 dBA or more for each doubling of distance, due to increased distance and shielding by buildings.

(c) Aircraft Noise. During the noise measurement survey, several jet aircraft took off from SFO and flew over the Transit Corridors Area. The highest measured noise level of 93 dBA L_{max} occurred during the take-off of a Boeing 747 jumbo jet measured at Location ST-5. Noise exposure contours for SFO included in the San Bruno General Plan are shown in Figure 11.2. Near San Bruno Avenue the noise contours for SFO show the annual average noise level to range from 70 to 74 dB CNEL on the east side of the rail corridor, and from 60 to 70 dB CNEL on the west side of the rail corridor.

(d) Vehicular Traffic Noise. Vehicular traffic noise levels in the Transit Corridors Area result from a combination of local and distant traffic. The primary sources of vehicular traffic noise in the Plan area are I-380, El Camino Real, San Bruno Avenue, and San Mateo Avenue. Between I-380 and San Bruno Avenue, the combination of freeway and local traffic causes noise levels to range from 70 to 75 dBA CNEL. A typical sidewalk setback location from El Camino Real (about 85 feet from the roadway centerline) experiences a noise level of 72 dBA CNEL. Local traffic noise levels along San Mateo Avenue and other Plan area roadways are 65 to 70 dBA CNEL.

[1] San Bruno General Plan Health and Safety Element.

11.2 REGULATORY SETTING

The City of San Bruno, San Mateo County, and the State of California have established regulations and policies to prevent creation of land use/noise incompatibilities and limit noise exposure at existing noise-sensitive land uses. These noise provisions are found in the San Bruno General Plan, the San Bruno Municipal Code, the San Mateo County Comprehensive Airport Land Use Plan, and the California Building Code.

11.2.1 San Bruno General Plan

The San Bruno General Plan *Health and Safety Element* addresses issues of land use/noise compatibility, transportation noise, and community noise. Table 11.5 presents the City's land use/noise compatibility standards, from Table 7-2 Land Use Compatibility for Community Noise Environments of the General Plan *Health and Safety Element*. The table identifies generally acceptable and unacceptable noise level ranges for general land use types. The General Plan states that, "These [standards] apply to areas outside of the airport noise-impacted areas; for land within 60 dB or greater airport noise contours, County Airport Land Use Compatibility noise standards shown in [EIR Table 11.6] shall apply. For sites impacted by both airport and non-airport related sources, the more stringent of the two restrictions shall apply."

The General Plan *Health and Safety Element* contains the following policies relevant to the noise impacts of the Transit Corridors Plan.

HS-F Protect the health and comfort of residents by reducing the impacted noise from automotive vehicles, San Francisco International Airport, railroad lines, and stationary sources.

HS-32 Encourage developers to mitigate ambient noise levels adjacent to major noise sources by incorporating acoustical site planning into their project. Utilize the City's building code to implement mitigation measures, such as:

- *Incorporating buffers and/or landscape 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 attenuating 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 11-5.

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).

Table 11.5
CITY OF SAN BRUNO GENERAL PLAN LAND USE/NOISE COMPATIBILITY STANDARDS

	Exterior Noise Levels, L_{dn} or CNEL (dBA)			
Land Use Category	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential Single-Family	<60	55-70	70-75	>75
Residential Multi-Family	<65	60-70	70-80	>80
Transient Lodging – Motels, Hotels	<65	60-70	70-80	>80
Schools	<70	60-70	70-80	>80
Auditoriums	N/A	<70	>65	N/A
Sports Arenas	N/A	<70	>70	N/A
Playgrounds, Parks	<70	N/A	67-75	>73
Golf Courses	<75	N/A	70-80	>75
Office Buildings	<70	67-77	>75	N/A
Industrial	<70	70-80	>80	N/A

SOURCE: City of San Bruno, San Bruno General Plan, Health and Safety Element, Table 7-2, p.7-17.

Notes:

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

Conditionally Acceptable: New construction of development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

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

Clearly Unacceptable: New construction or development should not be undertaken.

Table 11.6
SAN MATEO COUNTY COMPREHENSIVE AIRPORT LAND USE PLAN (CALUP)
NOISE/LAND USE COMPATIBILITY STANDARDS

	General Land Use Criteria, CNEL (dBA)		
Land Use	Compatible: No special noise insulation requirements for new construction	Conditionally Compatible: New development should be undertaken only after analysis and including needed noise insulation features in design	Incompatible: New construction should not be undertaken unless related to airport activities or services. Special noise insulation features should be included in construction
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 85
Industrial: manufacturing, transportation, communications, and utilities	Less than 75	75 to 85	More than 85
Open Space: agriculture, mining, fishing	Less than 75	N/A	More than 75

SOURCE: San Mateo County Airport Land Use Commission, San Mateo County Comprehensive Airport Land Use Plan, December 1996.

HS-36 Encourage developers of new residential projects to provide noise buffers other than sound walls, such as vegetation, storage areas, or parking, as well as site planning and locating bedrooms away from noise sources.

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 AB2776.

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.

HS-40 Prohibit new residential development within the 70+ Airport CNEL areas, as dictated by Airport Land Use Commission infill criteria.

HS-42 Require new residential development within the 65 dB CNEL SFO noise contour to submit an avigation easement to the airport. Specific avigation easement requirements shall be consistent with the County of San Mateo Comprehensive Airport-Land Use Compatibility Plan for SFO.

HS-43 Allow reasonable latitude for noise generated by uses that are essential to community health, safety, and welfare such as emergency vehicle operations and sirens.

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.

11.2.2 San Bruno Municipal Code

The San Bruno Municipal Code regulates sound levels on one property as they would affect an adjoining land use. The following sections from the City's municipal code are applicable to development within the Transit Corridors Area:

- 6.16.030 Ambient Noise Level Limits. *Where the ambient noise level is less than designated in this section, the respective noise level in this section shall govern. Residential zone, time ten p.m. to seven a.m., forty-five decibels; seven a.m. to ten p.m., sixty decibels.* (Ord. 1354 § 1 (part): prior code § 16-4.3)

- 6.16.050 Noise Levels Exceeding Ambient Base Noise Levels. *Any noise level exceeding the zone ambient base level at the property plane of any property, or exceeding the zone ambient base level on any adjacent residential area zone line or at any place of other property (or, if a condominium or apartment house, within any adjoining apartment) by more than ten decibels shall be deemed to be prima facie evidence of a violation of the provisions of this chapter. However, during the period of seven a.m. to ten p.m. the ambient base level*

may be exceeded by twenty decibels for a period not to exceed thirty minutes during any twenty-four-hour period. (Ord. 1354 § 1 (part): prior code § 16-4.1-5)

- 6.16.060 Machinery Noise Levels. *No person shall operate any machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property plane of any property to exceed the ambient base noise level by more than ten decibels. However, during the period of seven a.m. to ten p.m. the ambient noise level may be exceeded by twenty decibels for a period not to exceed thirty minutes during any twenty-four-hour period.* (Ord. 1354 § 1 (part): prior code § 16-4.6)

- 6.16.070 Construction of Buildings and Projects. *No person shall, within any residential zone, or within a radius of five hundred feet therefrom, operate equipment or perform any outside construction or repair work on any building, structure, or other project, or operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction-type device which shall exceed, between the hours of seven a.m. and ten p.m., a noise level of eighty-five decibels as measured at one hundred feet, or exceed between the hours of ten p.m. and seven a.m. a noise level of sixty decibels as measured at one hundred feet, unless such person shall have first obtained a permit therefore from the director of public works. No permit shall be required to perform emergency work. (*Ord. 1354 § 1 (part): prior code § 16-4.7)

11.2.3 San Mateo County Comprehensive Airport Land Use Plan

The San Mateo County Comprehensive Airport Land Use Plan (CALUP) for San Francisco International Airport establishes airport noise and land use compatibility standards for development in the vicinity of the airport and its aircraft take-off and approach zones. The San Mateo County Airport Land Use Committee has prepared a draft update of the CALUP for San Francisco International Airport (ALUC).[1] Projected airport take-off and approach zone CNEL noise contours presented in the CALUP are used to evaluate land use compatibility for proposed developments; the 65 dBA CNEL noise contour is recognized as the threshold for review by the ALUC. Underlying commercial land uses are considered compatible in noise environments less than 70 dBA CNEL, conditionally compatible in noise environments between 70 and 80 dBA CNEL, and incompatible in noise environments greater than 80 dBA CNEL. Underlying residential land uses are considered compatible in noise environments less than 65 dBA CNEL, conditionally compatible in noise environments between 65 dBA CNEL and 70 dBA CNEL, and incompatible in noise environments greater than 70 dBA CNEL.

11.2.4 2007 California Building Code Title 24

Multi-family housing in California is subject to the environmental noise limits set forth in the 2007 California Building Code (Chapter 12, Appendix Section 1207.11.2). The noise limit is a maximum interior noise level of 45 dBA Ldn/CNEL. Generally, interior noise levels for standard residential units are approximately 15 decibels lower than exterior noise levels with the windows partially open. Because of this, the California Building Code requires that when exterior noise

[1]David F. Carbone, San Mateo County C/CAG Airport Land Use Committee (ALUC) Staff, Personal communication with Mark Sullivan, City of San Bruno Housing and Redevelopment Manager, Re: C/CAG Airport Land Use Committee (ALUC) Staff Comments on a Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) on the San Bruno Transit Corridors Plan, January 4, 2011.

levels exceed 60 dBA Ldn/CNEL, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the interior noise level limit.

11.2.5 Federal Transit Administration Operational Groundborne Vibration Impact Criteria

Groundborne vibration impacts are typically associated with fast-moving railroad operations and large industrial equipment. The Federal Transit Administration (FTA) of the U.S. Department of Transportation has developed impact assessment criteria for evaluating vibration impacts associated with passenger train operations, such as rapid transit and commuter rail systems. These criteria for groundborne vibration impacts on occupants inside buildings are shown in Table 11.7, and are based on average vibration levels calculated over a one-second period to relate to average, maximum vibration levels experienced by humans. Note that there are criteria for frequent events (more than 70 events per day), occasional events (between 30 and 70 events per day) and infrequent events (less than 30 events per day).

The FTA criteria limits contained in Table 11.7 are not appropriate for evaluating the potential for building structural or cosmetic damage due to train operations. It is extremely rare that train operations can cause any such damage except in the case of weakened structures or dilapidated buildings. Even in such cases, structural damage is unlikely unless the buildings are located extremely close to the tracks.

11.2.6 California Department of Transportation Construction Groundborne Vibration Impact Criteria

Demolition and construction activities can cause vibration that varies in intensity depending on several factors. Because of the percussive nature of pile driving activities, the use of the "peak particle velocity" (ppv) descriptor has been routinely used to measure and assess ground-borne vibration. The measurement of peak particle velocity has been used almost exclusively as the appropriate means to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.[1, 2]

Construction-induced vibration that can be structurally damaging to a building is very rare and has been observed only in instances where the structure is already in a high state of disrepair and when the construction activity occurs immediately adjacent to the structure.

The California Department of Transportation (Caltrans) uses a vibration (peak particle velocity) limit of 12.7 millimeters per second (mm/sec) (0.5 inches/sec) ppv for structurally sound buildings designed to modern engineering standards. A conservative vibration limit of 5 mm/sec (0.2 inches/sec) ppv has been used for buildings that are found to be structurally sound but for which structural damage is a major concern. All vibration limits referred to herein apply on the ground level and take into account the response of structural elements (i.e., walls and floors) to ground-borne vibration.

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[1] Dowding, Charles H. Construction Vibrations, Prentice Hall, 1996.

[2] Oriard, Lewis L. *The Effects of Vibration and Environmental Forces*, International Society of Explosives Engineers, 1999.

Table 11.7
FTA OPERATIONAL GROUNDBORNE VIBRATION IMPACT ASSESSMENT CRITERIA

Land Use Category	(VdB re 1 µinch/sec, root mean square) Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where low ambient is essential for interior operations	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB

SOURCE: U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006, FTA-VA-90-1003-06.

Notes:
1. "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.
2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
3. "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day. This category includes most commuter rail branch lines.
4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research should always require detailed evaluation to define the acceptable vibration limits. Ensuring low vibration levels in a building requires special design of HVAC systems and stiffened floors.

11.3 IMPACTS AND MITIGATION MEASURES

11.3.1 Significance Criteria

(a) CEQA Guidelines. Based on the CEQA Guidelines, the Transit Corridors Plan would be considered to have a significant impact related to noise if it would result in:[1]

(1) 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;

(2) exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;

(3) a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

[1]CEQA Guidelines, Appendix G, item XI(a-e).

(4) a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project; or

(5) 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, exposure of people residing or working in the project area to excessive noise levels.

(b) Significance Thresholds. The following quantified thresholds are used in this chapter to determine the significance of impacts identified in accordance with the criteria contained in the CEQA guidelines.

(1) Noise Compatibility. A significant impact would be identified if land uses proposed by the Plan would be potentially exposed to noise levels exceeding the City's guidelines for noise and land use compatibility presented in Table 11.5 and/or the San Mateo County CLUP land use/noise compatibility standards presented in Table 11.6.

(2) Permanent Noise Increases. A significant noise impact would result if noise levels are projected to increase substantially at existing noise-sensitive land uses (e.g., residences) due to the Draft NDPP land use changes or associated vehicular traffic increases. Following common professional noise impact assessment practice, a project-related increase in noise level (e.g., traffic noise) of 3 dBA in residential or other noise-sensitive areas where existing noise levels exceed 60 dBA CNEL, or exceed 5 dBA in residential or other noise-sensitive areas where existing noise levels are and would remain below 60 dBA CNEL, would constitute a significant impact.

(3) Temporary Construction Noise Increases. Construction-related noise levels are treated differently for CEQA purposes because they would be temporary and intermittent. Significant noise impacts would result from construction if noise levels were sufficiently high to interfere with speech, sleep, or normal residential activities. Following common noise impact assessment practice, construction-related hourly average noise levels received at noise-sensitive land uses above 60 dBA during the daytime and 55 dBA at night, and at least 5 dBA higher than ambient noise levels, would be considered significant.

(4) Ground-Borne Vibration. Presently, the City does not have established vibration criteria or limits that can be used to evaluate the compatibility of sensitive land uses with respect to ground-borne vibration. For construction-related vibration, Caltrans uses a vibration limit of 12.7 mm/sec (0.5 inches/sec) ppv for structurally sound buildings designed to modern engineering standards. A conservative vibration limit of 5 mm/sec (0.2 inches/sec) ppv has been used for buildings that are found to be structurally sound but for which structural damage is a major concern. Following common practice, the FTA Guidelines presented in Table 11.7 have been applied to evaluate the compatibility of new development proposed near the Caltrain tracks and BART tracks with railroad train vibration.

11.3.2 Impacts and Mitigation Measures

Impact 11-1: Plan-Related Exposure of Noise-Sensitive Land Uses to Noise Levels Exceeding Standards. The occupants of Transit Corridors Plan-designated new residential development, hotel development, and other noise-sensitive development within the Transit Corridors Area could be exposed to noise levels in excess of City General Plan land use/noise compatibility guidelines and State Title 24 standards, which would represent a ***potentially significant impact*** (see criteria 1 and 3 and explanatory text in subsection 11.3.1, "Significance Criteria," above).

Under the City's land use/noise compatibility guidelines, new residential development is considered normally acceptable in noise environments of less than 60 dBA CNEL. Where projected future exterior noise levels exceed 60 dBA CNEL, interior noise levels may exceed the State Title 24 standard of 45 dBA CNEL.

Noise levels throughout much of the Transit Corridors Area currently exceed 60 dBA CNEL and are projected to continue to exceed 60 dBA CNEL. Noise levels along El Camino Real and San Bruno Avenue range from 70 to 75 dBA CNEL, which is the Normally Unacceptable category. Noise levels along other roadways in the Transit Corridors Area would range from 65 to 70 dBA CNEL. New residential uses within about 350 feet of the Caltrain line range from would be exposed to noise levels exceeding 65 dBA CNEL.

As indicated in section 11.2.1 herein, City General Plan policies call for preventing the placement of new noise sensitive uses near sources of noise; establishing insulation requirements as mitigation measures; discouraging noise sensitive uses such as hospitals, schools, and rest homes from locating in areas with high noise levels; requiring compliance with Title 24 standards; requiring developers to provide noise buffers other than sound walls, such as vegetation, storage areas, or parking, as well as site planning and locating bedrooms away from noise sources; and requiring that sponsors of new housing to record a notice of Fair Disclosure regarding proximity to and noise impacts from the San Francisco International Airport. The General Plan also encourages traffic calming measures, alternative intersection design, reduced-noise pavement (rubberized asphalt), and structural sound attenuating measures.

Mitigation 11-1. All proposed new multifamily residential, transient lodging or other noise-sensitive uses within the Transit Corridors Area shall submit for City approval a noise study, consistent with the requirements of the California Building Code, to identify noise reduction measures necessary to achieve compatibility with City General Plan-identified land use/noise compatibility standards and State Title 24 noise compatibility standards. The noise study shall be approved by the City's Building Division prior to issuance of a building permit. Identified noise reduction measures, in order of preference so that windows can be opened, may include:

- Site and building design so as to minimize noise in shared residential outdoor activity areas by locating such areas behind the buildings, in courtyards, or orienting the terraces toward the interior of lots rather than streets;

- Site and building design so as to minimize noise in the most intensively occupied and noise-sensitive interior spaces of units, such as bedrooms, by placing such interior spaces and their windows and other openings in locations with less noise exposure;

- Design of windows, doors, and other sound transmission paths such as ventilation openings, walls, and roofs to achieve a high Sound Transmission Class (STC) rating and/or other noise-attenuating characteristics.

- Installation of forced air mechanical ventilation systems in all units exposed to noise levels exceeding Title 24 standards to allow residents the option of reducing noise by keeping the windows closed.

Implementation of this measure to the satisfaction of the City's Building Division would reduce this impact to a ***less-than-significant level***.

Impact 11-2: Plan-Related Exposure of Vibration-Sensitive Land Uses to Permanent Ground-Borne Vibration. Development under the Transit Corridors Plan would not be expected to introduce any permanent new sources of significant groundborne vibration. However, the Transit Corridors Plan would permit development of new multifamily residential and transient lodging uses within 100 feet of the Caltrain tracks. Groundborne vibration levels are typically less than the Federal Transit Administration (FTA) criteria for frequent events (72 vibration decibels [VdB]) at a distance of approximately 100 feet or more from the centerline of the nearest Caltrain tracks. Therefore, where new residential or other vibration sensitive uses are proposed within 100 feet or less of the Caltrain tracks, a ***potentially significant intermittent vibration impact*** could occur (see criterion 2 in subsection 11.3.1, "Significance Criteria," above).

Explanation:

New residential development within approximately 100 feet of the centerline of the Caltrain line would be exposed to vibration levels estimated at 72 VdB or greater, which would exceed Federal Transit Agency thresholds based on human response to perceivable vibration levels.

Mitigation 11-2: Prior to any discretionary City approval of new habitable buildings within 100 feet of the centerline of the Caltrain tracks, completion of a detailed site-specific vibration study shall be required demonstrating to City satisfaction that groundborne vibrations associated with rail operations either (1) would not exceed applicable FTA groundborne vibration impact assessment criteria (see Table 11.6 of this EIR), or (2) can be reduced to below the applicable FTA criteria thresholds through building design and construction measures (e.g., stiffened floors, modified foundations). Implementation of this measure would reduce this potential intermittent vibration impact to a ***less-than-significant level.***

Impact 11-3: Plan-Related Exposure of Vibration-Sensitive Land Uses to Temporary Construction Ground-borne Vibration. Plan-facilitated demolition and construction activities in the Transit Corridors Area could generate substantial temporary ground-borne vibration (e.g., from pile driving) exceeding standard vibration thresholds, which could interfere with normal activities or cause a nuisance for or damage to adjacent properties. Exposure of persons to such temporary excessive ground-borne vibration would represent a ***potentially significant impact*** (see criterion 2 under 11.3.1, "Significance Criteria," above).

Due to the proximity of the Transit Corridors Area to San Francisco Bay and the associated soil conditions, development could involve construction over fill where pile driving may be required to support new building foundations. Potential construction sequencing on a particular development site would consist of demolition of existing structures and other site preparation work, followed by scraping, earth-moving and filling to prepare the site, followed by foundation work including possible pile driving, followed by new building erection.

Pile driving has the potential to generate the highest ground vibration levels and could cause perceptible vibration and even architectural damage (minor cracking) to nearby structures, particularly when it occurs within 100 feet of such structures. Other activities during project construction--such as use of building demolition equipment, jackhammers, hoe rams, and other high-power or impact tools and rolling stock equipment (tracked vehicles, compactors, etc.)--could also potentially generate substantial vibration in the immediate project vicinity. Depending on the proximity of existing structures to the construction area and the methods of construction used, high vibration levels may affect nearby properties.

Because of the percussive nature of pile driving activities, the use of the "peak particle velocity descriptor" (ppv) has been routinely used to measure and assess ground-borne vibration. The measurement of peak particle velocity has been used almost exclusively as

the appropriate means to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.[1, 2]

The two primary concerns with construction-induced vibration--the potential to damage a nearby structure and to interfere with the enjoyment of nearby daily activities--are evaluated against different vibration limits. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Studies[3] have shown that the threshold of perception for average persons is in the range of 0.2-to-0.3 millimeters per second (mm/sec) (0.008-to-0.012 inches/sec) ppv. However, persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Researchers have found safe vibration limits that can be applied to assess the potential for damaging a structure; however, vibration limits vary by researcher, and there is no general consensus as to what amount of vibration may pose a threat to a building. Furthermore, structural damage can be classified as cosmetic only, such as minor cracking of building elements, or it may threaten the integrity of the building. Construction-induced vibration that can be structurally damaging to a building is very rare and has been observed only in instances where the structure is already in a high state of disrepair and when the construction activity occurs immediately adjacent to the structure.

The California Department of Transportation uses a vibration (peak particle velocity) limit of 12.7 mm/sec (0.5 inches/sec) ppv for structurally sound buildings designed to modern engineering standards. A conservative vibration limit of 5 mm/sec (0.2 inches/sec) ppv has been used for buildings that are found to be structurally sound but for which structural damage is a major concern. All vibration limits referred to herein apply on the ground level and take into account the response of structural elements (i.e. walls and floors) to ground-borne vibration. The City has not yet adopted significance thresholds specific to groundborne vibration.

Vibration levels resulting from project demolition and construction activities, when perceptible at nearby properties, would be intermittent and of short duration, especially for those construction operations that have the highest potential for producing vibration (building demolition, grading and scraping, pile driving, and use of jackhammers and other high power tools).

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[1]Dowding, Charles H. Construction Vibrations, Prentice Hall, 1996.

[2]Oriard, Lewis L. *The Effects of Vibration and Environmental Forces*, International Society of Explosives Engineers, 1999.

[3]Ernzen, James and Schexnayder, Cliff J. *NCHRP Synthesis 218*, Transportation Research Board, 1996.

Mitigation 11-3. Reduce ground-borne vibration levels during individual, site-specific project demolition and construction periods by requiring applicant incorporation of conditions in individual discretionary project demolition and construction contractor agreements within the Transit Corridors Area that stipulate the following ground-borne vibration abatement measures:

- Restrict vibration-generating activity to between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday. Prohibit such activity on weekends and holidays.
- Notify occupants of land uses located within 200 feet of proposed pile-driving activities of the project construction schedule in writing.
- Investigate in consultation with City staff possible pre-drilling of pile holes as a means of minimizing the number of percussions required to seat the pile.
- Conduct a pre-construction site survey documenting the condition of any historic structure located within 200 feet of proposed pile driving activities.
- Monitor pile driving vibration levels to ensure that vibration does not exceed appropriate thresholds for the potentially affected building (5mm/sec or 0.2 inches/sec ppv for structurally sound buildings).

Implementation of this measure would reduce impacts related to exposure to temporary construction-related ground-borne vibration to a ***less-than-significant level.***

Impact 11-4: Plan-Related Temporary Construction Noise Generation Impacts. Plan-facilitated demolition and construction activities within the Transit Corridors Area could temporarily increase noise levels at nearby noise-sensitive residential and commercial receptors. Noise levels at 100 feet from pile driving could reach approximately 95 to 100 dBA, and other demolition and construction activities could generate levels exceeding 85 dBA at 100 feet, resulting in intermittent interference with typical residential and business activities, and exceeding the City's noise ordinance limits. This possibility represents a ***potentially significant impact*** (see criteria 1 and 4 in subsection 11.3.1, "Significance Criteria," above).

Construction activities generate considerable amounts of noise, especially during the building demolition, grading and scraping, and infrastructure construction phases when heavy equipment is used. The noise effects of such demolition and construction activities would depend on the noise characteristics of selected pieces of construction equipment, the timing and duration of these noise generating activities, and the distance between these noise sources and the nearest noise-sensitive receptors. Noise levels during construction would

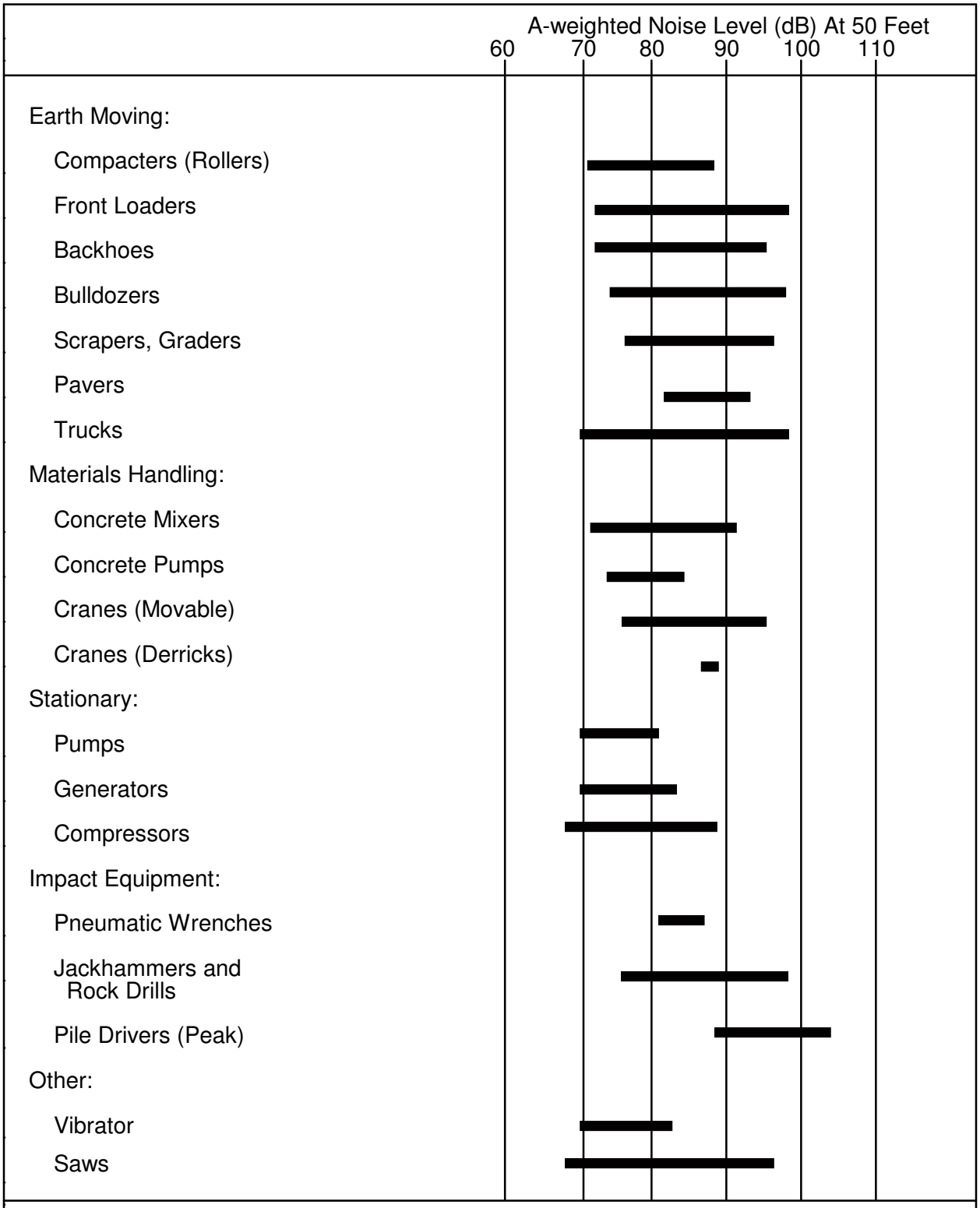
occur in phases, including demolition of existing structures in the Plan area, grading and excavation, construction of foundations, erection of the new structures, and finishing.

Tables 11.8 and 11.9 depict typical noise levels generated by construction equipment at a distance of 50 feet from the source and at a distance of 50 feet from the construction activity center, respectively. The highest maximum noise levels generated by project construction activities would typically range from approximately 90-to-105 dBA at a distance of 50 feet from the noise source. These noise levels would result primarily from pile drivers, jack hammers, and other percussive pieces of equipment.

Typical hourly average construction-generated noise levels would be approximately 81 dBA to 89 dBA measured at a distance of 50 feet from the center of the site during busy construction periods. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor. Shielding by intervening buildings or terrain typically result in much lower construction noise levels at distant receptors.

Construction noise impacts result primarily when construction activities occur during the noise-sensitive times of the day (i.e., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction durations last over extended periods of time. Limiting construction to daytime hours is often the most simple and effective method of reducing the potential for noise impacts. In areas immediately adjacent to construction, controls such as constructing temporary noise barriers and using “quiet” construction equipment can also reduce the potential for noise impacts.

Table 11.8
CONSTRUCTION EQUIPMENT NOISE LEVEL RANGES



Source: Handbook of Noise Control, Cyril M. Harris, 1979.

Table 11.9
TYPICAL NOISE LEVEL RANGES AT 50 FEET, L_{eq} IN dBA, AT CONSTRUCTION SITES

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial, Parking Garage, Religious, Amusement and Recreation, Store, Service Station		Public Works, Roads and Highways, Sewers and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

SOURCE: U.S. EPA, Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

I - All pertinent equipment present at site.
II - Minimum required equipment present at site.

Mitigation 11-4. Reduce demolition and construction noise impacts on adjacent uses by requiring applicant incorporation of conditions in individual discretionary project demolition and construction contract agreements within the Transit Corridors Area that stipulate the following conventional construction-period noise abatement measures:

- *Construction Plan.* Prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with nearby noise-sensitive facilities so that construction activities and the event schedule can be scheduled to minimize noise disturbance. The plan shall stipulate the measures that result in compliance with the noise ordinance.
- *Construction Scheduling.* Ensure that noise-generating construction activity is limited to between the hours of 7:00 AM to 8:00 PM.
- *Construction Equipment Mufflers and Maintenance.* Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- *Equipment Locations.* Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project site.
- *Construction Traffic.* Route all construction traffic to and from the construction sites via designated truck routes where possible. Prohibit construction-related heavy truck traffic in residential areas where feasible.
- *Quiet Equipment Selection.* Use quiet construction equipment, particularly air compressors, wherever possible.
- *Temporary Barriers.* Construct solid plywood fences around construction sites adjacent to residences, operational businesses, or noise-sensitive land uses.
- *Temporary Noise Blankets.* Temporary noise control blanket barriers should be erected, if necessary, along building facades of construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. (Noise control blanket barriers can be rented and quickly erected.)
- *Noise Disturbance Coordinator.* For larger construction projects, the City may choose to require project designation of a "Noise Disturbance Coordinator" who would be responsible for responding to any local complaints about construction noise. The Disturbance Coordinator would determine the cause of the noise

(continued)

Mitigation 11-4 (continued):

complaint (e.g., starting too early, bad muffler, etc.) and institute reasonable measures to correct the problem. Conspicuously post a telephone number for the Disturbance Coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule. (The project sponsor should be responsible for designating a Noise Disturbance Coordinator, posting the phone number, and providing construction schedule notices. The Noise Disturbance Coordinator would work directly with an assigned City staff member.)

These measures would reduce temporary construction noise impacts to a ***less-than-significant level.***

Permanent Increases in Noise Levels. The Transit Corridors Plan itself would change noise levels by facilitating new noise-generating development in the area and by changing local vehicular traffic patterns. The Transit Corridors Plan is expected to introduce commercial uses adjacent to existing or proposed residential uses, particularly in mixed-use developments. Specific tenants for the commercial uses have not been identified, but uses could include offices, retail stores, restaurants, or cafes. New commercial development proposed next to or below (at the ground floor of) residential development could generate adverse noise conditions. In addition, mechanical equipment associated with new multifamily residential structures could generate noise that may adversely affect existing or proposed noise-sensitive uses.

The significance of vehicular traffic noise increases in the Transit Corridors Area was evaluated by comparing projected noise levels from increased traffic levels as a result of implementing the Transit Corridors Plan to existing noise levels. The Plan-related traffic volume increases could potentially result in increased traffic-generated noise levels at "sensitive receptor locations" (e.g., adjacent to residential, school, hospital, or other noise-sensitive uses). In areas where ambient noise levels are generated primarily by traffic noise, future traffic volumes would have to approximately double for noise levels to increase significantly--i.e., by 3 dBA. The background traffic noise level in the Transit Corridors Area, away from roadways and Caltrain, is estimated at about 60 dBA CNEL or higher. Total noise level increases of 3 dBA CNEL or greater would be considered significant in this environment.

Plan-related traffic noise level increases were calculated based on the Plan-related change between existing and projected future traffic volumes. Calculated traffic noise levels did not take into account shielding by terrain or structures. Traffic noise level increases of 0 to 2 dBA CNEL above existing levels are predicted, with the greatest project noise increases occurring along Taylor Avenue east of El Camino Real and San Mateo Avenue north of San Bruno Avenue. Because these permanent increases above existing traffic noise levels as a result of the Transit Corridors Plan would be less than 3 dBA CNEL at any receiving locations, the impact would be ***less than significant.***

Impact 11-5: Plan-Related Airport Noise Impacts. Aircraft operations at San Francisco International Airport (SFO) expose portions of the Transit Corridors Area to noise levels exceeding 65 dBA CNEL. Near San Bruno Avenue, the noise contours for SFO show the annual average noise level to range from 70 to 74 dB CNEL east of the rail corridor, and from 60 to 70 dB CNEL west of the rail corridor. Transit Corridors Plan designations for new residential and other noise-sensitive uses inside the 65 dBA CNEL noise contour and new commercial uses (including hotels) inside the 70 dBA CNEL noise contour would not be consistent with the San Mateo County ALUP land use/noise compatibility standards, and therefore represent a ***potentially significant impact*** (see criteria 1 and explanatory text in subsection 11.3.1, "Significance Criteria," above).

San Bruno General Plan policies require sponsors of new housing to record a notice of Fair Disclosure regarding proximity to and impacts of SFO aircraft operations.

Mitigation 11-5. New residential construction should not be undertaken in Transit Corridors locations where the projected noise level due to aircraft operations at SFO exceeds 70 dBA CNEL. Proposed future individual residential or other noise-sensitive development at locations where the projected noise exposure due to SFO aircraft operations ranges from 65 to 70 dBA CNEL shall be undertaken only after analysis and needed noise insulation features are included in the design to the satisfaction of the City's Building Division. Similarly, proposed future individual noise-sensitive commercial uses, including hotels, at locations where the projected noise level exceeds 70 dBA CNEL shall only be undertaken after analysis and needed noise insulation features are included in the design to the satisfaction of the City's Building Division. Implementation of this measure would reduce this impact to a ***less-than-significant level***.

Impact 11-6: Plan-Related Cumulative Noise Impacts. Sensitive receptors along the following street segments within the Transit Corridors Area may be exposed to permanent substantial increases in traffic noise of 3-5 dBA CNEL or greater resulting from projected cumulative traffic volume increases:

- Taylor Avenue and San Bruno Avenue immediately east of El Camino Real;
- San Bruno Avenue and Huntington Avenue near the San Bruno Avenue/Huntington Avenue intersection;
- San Bruno Avenue west of San Mateo Avenue; and
- San Mateo Avenue near San Bruno Avenue and Huntington Avenue.

The Plan-related growth increment would contribute to these cumulative noise impacts, and would therefore represent a ***significant cumulative impact*** (see criteria 1, 2 and 3 under section 11.3.1, "Significance Criteria," above).

"Cumulative" development is defined as development facilitated by the Transit Corridors Plan plus all other citywide General Plan buildout. Vehicle trips generated by cumulative development would increase traffic noise levels at residential and other noise-sensitive receptors along roadways within and around the Transit Corridors Area. A cumulative traffic noise level increase in residential or other noise-sensitive areas of 3 dBA CNEL where existing noise levels exceed 60 dBA CNEL would be considered a significant impact. Cumulative increases in traffic noise of 3 to 5 dBA CNEL--i.e., significant effects--were calculated along the following roadway segments within the Transit Corridors Area:

- Taylor Avenue and San Bruno Avenue immediately east of El Camino Real;
- San Bruno Avenue and Huntington Avenue near the San Bruno Avenue/Huntington Avenue intersection;
- San Bruno Avenue west of San Mateo Avenue; and
- San Mateo Avenue near San Bruno Avenue and Huntington Avenue.

Mitigation measures for roadway noise may include installation of quieter paving. General Plan Policy HS-32 encourages the use of reduced-noise pavements to minimize traffic noise. The use of quieter (rubberized or open grade asphalt) pavements when repaving takes place on major Plan area roadways would be expected to reduce traffic noise by 2 to 5 dBA CNEL.

Other cumulative activities that would affect the noise environment in the Transit Corridors Area and vicinity include the Caltrain San Bruno Grade Separation Project, Caltrain electrification project and the California High Speed Rail project. The Caltrain San Bruno Grade Separation Project is currently under construction at San Bruno Avenue. The new grade separation will reduce the need for Caltrain signal horns and thus reduce overall train noise levels within the Transit Corridors Area. Due to the high cumulative noise levels in the

Transit Corridors Area caused by railroad and aircraft operations, the incremental change in traffic noise resulting from the change in the roadway alignment would not be substantial.

According to Caltrain, the electrification project would reduce train noise along the route and decrease the number of affected sensitive receptors. In addition to engine operations, train horns and crossing bells are also major noise sources associated with Caltrain operations. The number of roadway crossings and stations would not be changed as a result of the electrification program; however, more gate down time (crossing bells) and train horns are expected from an increase in level of service. Therefore, although the noise impacts of train engine operations would be greatly improved by electrification, the noise impacts from train horns and crossing bells may be increased.[1]

The California High Speed Rail project would raise ambient noise levels along the Caltrain route. Many details regarding the California High Speed Rail project are uncertain: locations of stations, the timing of station construction, and whether the alignment would be above or below grade. Nonetheless, it is reasonable to assume that in addition to ambient noise increases resulting from new high speed rail service, this system could add temporary construction noise and permanent traffic and rail noise increases in and around the rail corridor. According to the Final Program EIR/EIS for the Bay Area to Central Valley Segment of the California High Speed Rail project, high-speed trains would travel below full speed on the San Francisco Peninsula (including within the Transit Corridors Area). Moreover, the EIR/EIS notes that implementation of the California High Speed Rail project would result in the removal of numerous at-grade crossings along the San Francisco Peninsula, reducing the need for signal horns for both Caltrain and the high-speed rail, which would reduce cumulative noise impacts.

[1]U.S. Department of Transportation Federal Transit Administration and Peninsula Corridor Joint Powers Board, Caltrain Electrification Program Environmental Assessment/Final Environmental Impact Report, July 2009, p. 3-128.

Mitigation 11-6: The City shall use quieter (rubberized or open grade asphalt) pavements when repaving is required on the following street segments within the Transit Corridors Area:

- Taylor Avenue and San Bruno Avenue immediately east of El Camino Real;
- San Bruno Avenue and Huntington Avenue near the San Bruno Avenue/Huntington Avenue intersection;
- San Bruno Avenue west of San Mateo Avenue; and
- San Mateo Avenue near San Bruno Avenue and Huntington Avenue.

The use of quieter (rubberized or open grade asphalt) pavements when repaving is required on major Plan area roadways would be expected to reduce traffic noise by 2-5 dBA CNEL, reducing this impact to less than significant. However, since implementation of these repaving measures is not assured, this potential effect represents a ***significant unavoidable cumulative impact.***

12. POPULATION AND HOUSING

This chapter describes the existing conditions and regulatory setting related to population, housing and employment within the Transit Corridors Area and San Bruno, and related potential impacts of the Transit Corridors Plan.

12.1 ENVIRONMENTAL SETTING

12.1.1 Population

San Bruno is located in San Mateo County which serves as a gateway to both San Francisco and Silicon Valley. The San Francisco/Silicon Valley (San Jose) region has experienced substantial economic growth over the last 20 years, emerging as one of the most dynamic economies in the United States. However, over the last five years, business and employment growth in San Mateo County has tapered slightly reflecting national business cycle trends as well as county land constraints, transportation bottlenecks, environmental considerations, development restrictions, and other factors.

Table 12.1 presents current Association of Bay Area Governments (ABAG) population, housing and employment forecasts for San Bruno and San Mateo County. San Bruno currently contains about 6 percent of the total population of San Mateo County, with about 43,000 people in 2010. According to ABAG, the city is projected to grow at a slightly faster pace than the county as a whole over the next 25 years, at about 0.6 percent per year compared to 0.4 percent. This slightly faster local growth rate reflects the city's relatively higher potential for infill development. In addition, San Bruno has hitherto benefited less directly from economic expansion trends experienced by other Peninsula cities, and is projected to gradually "catch-up" in the years to come.[1]

According to the 2000 Census, the population in the Transit Corridors Area was roughly 1,200, representing three percent of the city's total population. On the employment side, the 2000 Census reports about 550 jobs in the Transit Corridors Area, representing about four percent of the city total[2].

The demographics in the Transit Corridors Area differ from broader San Bruno and San Mateo County. The Transit Corridors Area has a younger population with almost 60 percent under the age of 35 compared to roughly 47 percent for both the city and the county. A larger proportion of the Transit Corridors Area population is under the age of 20, which likely contributes to the

[1]Association of Bay Area Governments, Building Momentum, Projections and Priorities 2009, San Francisco Bay Area Population, Household and Job Forecasts, 2009.

[2]It is important to note that this analysis used Census tract data, which includes an area much broader than the Transit Corridors Area. As a result, the number of jobs and residents is overstated slightly.

Table 12.1
POPULATION, HOUSING AND EMPLOYMENT FORECASTS--SAN BRUNO AND SAN MATEO COUNTY

	2000[3]	2010	Percent Change 2000-2010	2020	Percent Change 2010-2020	2030	Percent Change 2020-2030
San Bruno[1]							
Population	40,165	43,000	0.07	48,600	0.13	53,400	0.10
Households[2]	14,677	15,820	0.08	17,500	0.11	19,230	0.10
Jobs	17,180	14,130	-0.18	17,540	0.24	22,550	0.29
Employed Residents	21,872	20,740	-0.05	24,310	0.17	28,550	0.17
Jobs Per Employed Resident	0.79	0.68	-0.13	0.72	0.06	0.79	0.09
San Mateo County							
Population	707,163	733,300	0.04	801,300	0.09	862,800	0.08
Households	254,104	264,400	0.04	287,350	0.09	310,970	0.08
Jobs	386,590	346,320	-0.10	404,400	0.17	473,290	0.17
Employed Residents	369,725	330,700	-0.11	379,300	0.15	437,200	0.15
Jobs Per Employed Resident	1.05	1.05	0.00	1.07	0.02	1.08	0.02

SOURCE: Association of Bay Area Governments, Building Momentum, Projections and Priorities 2009, San Francisco Bay Area Population, Household and Job Forecasts, 2009.

[1] San Bruno data is for the city's sphere of influence.
[2] ABAG forecasts households (i.e., occupied housing units). Households does not include vacant housing units (estimated by the California Department of Finance in its Table E-5 at 1.38 percent of total housing units in San Bruno on January 1, 2009) and persons residing in group quarters such as nursing homes or rooming houses.
[3] 2000 data is from the U.S. Census as reported by ABAG.

area's larger household size. Unlike the city and the county, a majority of the housing units are renter-occupied, which is likely a reflection of the younger population and relatively lower incomes[1]. Similar to the broader region, housing vacancy in the Transit Corridors Area is very low at 1.1 percent.[2]

12.1.2 Housing

According to the California Department of Finance, there were an estimated 15,978 housing units in San Bruno in 2010, including 9,782 single family units, 6,174 multifamily units and 22 mobile homes.[3]

[1]The median household income for the Transit Corridors Area was not available.

[2]MIG, San Bruno Transit Corridors Plan Existing Conditions Analysis Report, October 2009, pp. 25-35.

[3]State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State, 2007-2010, with 2000 Benchmark.* Sacramento, California, May 2010.

As shown in Table 12.1, according to ABAG, there were 15,820 households[1] in San Bruno in 2010, an increase of less than one percent over 2000. ABAG projects the number of households in San Bruno to increase to 19,230 by 2030.

The continued, albeit limited, population growth in San Mateo County and San Bruno indicates that there will be future demand for all types of housing and retail. With increasing land constraints in the city, smaller housing product types, such as condominiums and townhomes, will likely become a more significant portion of the city's housing stock. Overall population growth is also expected to result in increased demand for retail, and will provide an expanding labor force that will support more workplace development, such as office space.[2]

12.1.3 Employment

Job growth in San Mateo County is expected to increase at a faster pace than population over the next 20 years. There were an estimated 337,000 jobs in San Mateo County in 2005, down from a high of 387,000 jobs in 2000. ABAG projects total county employment to grow by approximately 55 percent between 2005 and 2035, an increase of roughly 185,000 jobs. All industries, except Agriculture and Natural Resource, are expected to grow at roughly the same rate.[3]

San Bruno had approximately 14,000 jobs in 2005, representing roughly 4 percent of total San Mateo County employment. San Bruno's employment is projected to increase by approximately 12,000 jobs, or 2.1 percent annually. Like population, the city's projected annual employment growth rate is higher than the county as a whole (2.1 percent compared to 1.5 percent).

12.1.4 Jobs/Housing Balance

Regional planning goals and the City's General Plan seek to improve the local balance between housing and jobs. To the degree that a balance can be achieved, greater opportunity for local residents to work close to where they live can be anticipated. A better jobs/housing balance can reduce commuting, traffic congestion, air quality and global warming impacts, and the need costly transportation infrastructure improvements, personal transportation costs, and lost leisure and family time.

While "jobs/housing balance" is the term commonly used, the "jobs/employed resident balance" is the more precise measure of the local ratio of housing to jobs, since housing units (or households), on average, contain more than one employed resident. Where a city's jobs/employed resident ratio is higher than the regional ratio, a higher tendency toward in-

[1]A household is defined by the U.S. Census Bureau as all persons who occupy a housing unit, including families, single people, or unrelated persons.

[2]MIG, San Bruno Transit Corridors Plan Existing Conditions Analysis Report, October 2009, pp. 25-35.

[3]MIG, San Bruno Transit Corridors Plan Existing Conditions Analysis Report, October 2009, pp. 25-35.

commuting is indicated; where the ratio is lower than the regional ratio, a higher tendency toward out-commuting is indicated.[1]

San Bruno had 19,150 employed residents and 16,910 jobs as of 2005. Between 1980 and 2005, the San Bruno jobs to employed residents ratio improved, increasing from 0.51 in 1980 to 0.88 in 2005.[2]

12.2 REGULATORY SETTING

12.2.1 San Bruno General Plan

The Housing Element is one of seven mandatory elements of the City's General Plan. San Bruno's 2009-2014 Housing Element was certified by the California Department of Housing and Community Development in 2010. The Housing Element addresses housing issues such as affordability, design, housing types, density and location. It includes a summary of past trends and future projections, the condition of the existing housing stock and opportunities for the development of new housing. The Housing Element describes how the City will meet projected housing needs, including its "fair share" of the regional housing need, and identifies housing sites to accommodate these units.

The following San Bruno General Plan policies are relevant to consideration of the population and housing impacts of the Transit Corridors Plan.

Program 1-F: Ensure replacement housing. Require replacement of any legal housing unit that is demolished within San Bruno.

Actions:

- *Amend the Zoning Ordinance to require replacement of demolished legal housing units in all areas of the city.*

- *Require replacement equal to or more than the number of legal units previously on the site.*

GOAL 2: Accommodate regional housing needs through a community-wide variety of residential uses by size, type, tenure, affordability, and location. (GC 65583(c)(1))

** Program 2-A: Update the Zoning Ordinance to be consistent with the new General Plan. Revise the Zoning Ordinance to reflect the San Bruno 2025 General Plan, including land use designations allowing mixed-use development.*

[1] It is important to note that a simple numerical balance in the jobs/employed resident ratio does not necessarily indicate that local residents have adequate opportunity to work in their community. Other factors, such as the match between local resident employee skills and the skills required for local jobs, and the match between local job compensation levels and local housing prices, also influence a community's actual jobs/housing relationship.

[2] City of San Bruno, San Bruno General Plan Draft EIR, p. 3-14.

Actions:

- *Update the Zoning Ordinance to create Transit Oriented Development and Multi Use-Residential Focus zoning districts that promote high-intensity mixed-use development, including retail, office, services, and housing. Limit retail development along El Camino Real to those sites north of Crystal Springs Road, thus reinforcing the existing retail activity in Downtown.*

- *Update the Zoning Map to match the designations indicated in General Plan.*

Program 2-B: Complete Downtown and Transit Corridors Plan. Complete and adopt a Downtown and Transit Corridors Plan with the goal, amongst others, of increasing residential options in Downtown and transit corridors of El Camino Real and San Bruno Avenue in the vicinity of the future Caltrain Station.

Actions:

- *Consider how best to promote new or different housing products or arrangements (e.g., shared housing, cube housing, co-housing, etc.) that better meet current housing needs, and work these concepts into the Transit Corridors Plan.*

- *Incorporate development standards and design guidelines for residential uses in second stories over commercial uses on sites with Central Business District (San Mateo Avenue) and Transit Oriented Development designations in the General Plan.*

- *Structure the Downtown and Transit Corridors Plan to foster streamlined project review and approval processes, especially for projects that contain housing. The Downtown and Transit Corridors Plan will define development standards and guidelines in preparation for the Zoning Ordinance Update in order to avoid redundancy and ensure consistency of applicable standards.*

- *Evaluate increasing the height limit or number of stories above the existing requirements of Ordinance 1284 in certain locations within the transit corridors area, such as in the vicinity of the future Caltrain station. Such a change would be designed to accomplish green building objectives and make mixed-use development and affordable housing more financially feasible.*

- *The change would require voter approval in a citywide election. (This change is not required in order to meet the RHNA need for 2007-2014 and is not included in the analysis of opportunity sites.)*

- *If the Transit Corridors Plan is approved and includes a recommendation to increase height limits, the City proposes to bring the plan before the voters as a ballot measure, as required by Ordinance 1284.*

Program 2-C: Support identified housing opportunities. Work with property owners and the community to support and encourage the redevelopment of identified opportunity sites into mixed uses with affordable housing components.

Actions:

- *Actively engage the community about options to redevelop the proposed housing opportunity sites listed in Table 4.4-1 and shown in Figure 4.4-1.*

- *Prioritize review of development proposals and permitting procedures for identified housing opportunity sites.*

Program 2-F: Ensure compatibility of new housing with neighborhood character. Use Residential Design Guidelines to ensure that new housing development proposals are compatible with existing neighborhood character. (See Program 1-K regarding additions and renovations to existing homes.)

Actions:

- *Require applications for new single-family housing to comply with the standards set forth in the Residential Design Guidelines to ensure that the design, scale, and buffering retains existing neighborhood character.*

- *Require applications for new multi-family residential and mixed-use development in General Plan-designated TOD and CBD areas to comply with the standards set forth in the Downtown and Transit Corridors Plan.*

- *Develop design standards during the Zoning Ordinance update for new multi-family residential projects in R-3, R-4, and new General Plan multi-use residential focus districts, to ensure compatibility of design and scale with surrounding uses.*

- *Use the new development standards and processing procedures within the Residential Design Guidelines to increase applicant certainty, and periodically evaluate the implementation of the guidelines to ensure they do not unduly constrain residential development.*

** Program 3-I: Reduce parking requirements. Reduce parking requirements for new or reuse housing projects along transit corridors and adjacent to transit stations, as well as within the Medium Density (R-3) and High Density (R-4) zones.*

Actions:

- *Consider ways to reduce parking standards for housing near transit and units with residents with reduced automobile use, such as seniors and persons with disabilities, and clarify and implement reduced parking requirements in the Zoning Ordinance Update.*

- *Update parking standards pursuant to Government Code 65915(p) affordable housing density bonus requirements.*

- *Consider allowing--but not mandating--"unbundled" parking as part of residential developments (mandating this could create financing issues for purchase of these spaces).*

- *Consider updating parking standards to allow tandem parking to satisfy the parking requirement for second units by right as suggested by State law (Government Code Section*

65852.2(e)). Currently tandem parking is only allowed by securing a parking exception from the Planning Commission.

- *Review and consider revising zoning enforcement criteria and procedures to address localized problems with street parking availability due to the use of garages for storage of personal belongings rather than cars.*

Program 5-F: Increase the supply of housing for large families. Encourage diversity in unit size to ensure that 3- and 4-bedroom affordable rental housing units are provided for large families.

Actions:

- *Ensure affordability requirement is met through routine project review.*
- *Work with developers to accommodate designs that facilitate affordable units.*
- *Negotiate development of large (3- and 4-bedroom) units in future development agreements.*
- *Exclude senior housing developments from this expectation.*

Program 5-H: Modify regulations to encourage affordable housing. Modify development regulations in specific zoning districts to encourage housing affordable to very-low, low-, and moderate-income households.

Actions:

- *During the Downtown and Transit Corridors Plan process, study the creation and modification of zoning districts appropriate for development of affordable housing, in consideration of the land use definitions set out in the San Bruno 2025 General Plan. Consider how factors such as unit size, building materials, and required amenities affect the cost of units.*
- *Modify development regulations accordingly during the Zoning Ordinance Update.*
- *Encourage the development of small-size housing with small lots, studio apartments, shared housing, and other similar solutions to promote high quality of life in a small space.*
- *See also Program 3-I regarding reducing parking requirements.*

12.2.2 "Fair Share" of Regional Housing Need

ABAG has determined that San Bruno's fair share of the regional housing need for 2007-2014 is 973 units. The City's fair share amount was developed by ABAG in a collaborative process with all 21 jurisdictions in San Mateo County, based on employment, proximity to transit and other regional and local factors. The California Department of Housing and Community Development provided a projection of the number of housing units needed to accommodate California's forecast population growth through 2014 for each region in the state. ABAG then determined the County share of this regional need, which was in turn distributed to each local community.

12.3 IMPACTS AND MITIGATION MEASURES

This section describes potential population and housing impacts of the Transit Corridors Plan, including beneficial effects. This section also evaluates the consistency of the project with General Plan policies related to population, housing, employment and jobs/housing balance.

Changes in population and housing, in and of themselves, are generally characterized for CEQA purposes as social and economic effects, not physical effects on the environment. CEQA provides that economic or social effects are not considered significant effects on the environment unless the economic or social effects are connected to physical environmental effects.

> *Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on physical changes. Economic or social effects of a project may be used to determine the significance of physical changes caused by the project.* (CEQA Guidelines Section 15131(a) and (b)).

12.3.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines,[1] the Transit Corridors Plan would be considered to have a significant adverse impact related to population and housing if it would:

(a) induce substantial population growth either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure); or

(b) displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

12.3.2 Impacts and Mitigation Measures

Plan-Related Growth Inducement. The Transit Corridors Plan would be expected to result in population growth, foster economic growth, alleviate blight, stimulate private investment and increase the community's supply of housing, including affordable housing. For "worst case" CEQA environmental impact assessment purposes, it is assumed in this EIR that the Transit Corridors Plan would be fully successful in facilitating increased private development of the Transit Corridors Area, and in indirectly stimulating economic activity throughout the city.

As shown in Table 12.2, it is projected that the Transit Corridors Plan could provide for the development of up to an additional 1,610 new dwelling units, 147,700 square feet of new retail uses, 988,100 square feet of new office uses, and 190 new hotel rooms within the Transit Corridors Area by 2030. As shown in Table 12.2, this development would result in an estimated

[1] CEQA Guidelines, Appendix G, Items XII(a-c).

4,363 new residents and 3,976 new jobs in the Transit Corridors Area. This population increase would not in itself constitute a significant adverse environmental impact.[1]

The Transit Corridors Plan is, on balance, consistent with the general vision and the guiding and implementing policies of the City's General Plan. The amount of new development allowed under the Transit Corridors Plan would represent an increase over the amount allowed under the current General Plan of approximately 890 housing units, 19,100 square feet of retail, 666,600 square feet of office, and 190 hotel rooms. Implementation of the Transit Corridors Plan would require the adoption of General Plan amendments to achieve consistency between the General Plan and the Transit Corridors Plan provisions for land uses and other characteristics within the Transit Corridors Area.

Growth within the Transit Corridors Area under the Transit Corridors Plan would facilitate and increase in jobs, personal income, and revenue to the City. Development within the Transit Corridors Area may in turn induce additional growth within San Bruno and San Mateo County through an economic "multiplier effect". A multiplier effect describes the indirect and induced employment and income generated by a project. For every new job, other jobs are created in the local economy to support that job. The residents of new housing and non-residential uses developed within the Transit Corridors Area would be expected to buy goods and services locally.

New road and other infrastructure investments within the Transit Corridors Area by the Transit Corridors Plan may also accommodate growth outside the Transit Corridors Area. Growth within the Transit Corridors Area may also increase market potential for development and redevelopment in surrounding areas. Such new secondary economic growth outside the Transit Corridors Area may in turn increase traffic, air quality and noise impacts, and generate additional demand for housing, public services and utilities, the construction of which could cause environmental impacts. Potential new development projects would require their own project-level environmental review in accordance with CEQA. The location, timing, nature, extent and severity of the potential environmental impacts of any given project are too speculative to predict or evaluate in this EIR.

Because potential environmental impacts of development within the Transit Corridors Area induced by the Transit Corridors Plan have been evaluated in this EIR at a program level, and development induced outside the Transit Corridors Area due to project-related enhanced development potential would be required to take place as contemplated in and

[1]CEQA Guidelines section 15126.2(d) states that an EIR shall: "*Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing either directly or indirectly, in the surrounding environment….It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

Table 12.2
PROJECT-RELATED POPULATION, HOUSING AND EMPLOYMENT GROWTH

	Dwelling Units/Square Feet/Students	Persons per Household	Square Feet/Rooms per Employee	Residents/ Employees
Residents	1,610	2.71		4,363
Employment				
Retail	147,700		300	492
Office	988,100		300	3,294
Hotel	190		1	190
TOTAL Employment				3,976

SOURCE: MIG, 2010.

consistent with adopted plans, and consistent with the environmental documents prepared for those plans, such development would not represent growth for which adequate planning has not occurred and, thus, would represent a ***less-than-significant impact.***

Mitigation: No significant impact has been identified; no mitigation is required.

Project-related growth Inducement is also addressed in Chapter 18, CEQA-Required Assessment Considerations.

Temporary and Permanent Employment. Development facilitated by the Transit Corridors Plan would result in new temporary construction jobs and permanent employment opportunities within the Transit Corridors Area. As shown in Table 12.2, the Transit Corridors Plan would generate an estimated 3,976 direct new jobs within the Transit Corridors Area by 2030. The economic multiplier effect would generate additional indirect jobs throughout San Mateo County and the Bay Area region, a portion of which would be created in San Bruno. Employment generated by the development and economic activity facilitated by the Transit Corridors Plan would be a ***beneficial impact.***

Mitigation. No significant impact has been identified; no mitigation is required.

Jobs/Housing Balance. As shown in Table 12.2, development facilitated by the Transit Corridors Plan would result in an estimated 3,976 jobs and 1,610 housing units within the Transit Corridors Area by 2030. By creating more jobs than housing, the Transit Corridors Plan would cause a slight increase in the city's existing jobs/employed residents ratio, which would continue San Bruno's trend toward jobs/housing parity, and would be a ***beneficial impact***.

Mitigation. No significant impact has been identified; no mitigation is required.

Cumulative Population and Housing Impacts. Table 12.3 shows anticipated cumulative population, housing and employment growth in San Bruno. As shown, new development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development in San Bruno, would result in an estimated total of 2,640 new housing units and 2,340,200 square feet of new non-residential development within San Bruno by 2030. As shown in Table 12.3, this cumulative development could be expected to add an estimated 7,154 new residents and 8,186 new jobs in San Bruno by 2030.

Potential induced secondary growth outside the Transit Corridors Area is generally already contemplated in the San Bruno General Plan and other adopted plans and the environmental documents for those plans. The Transit Corridors Plan, together with other reasonably foreseeable projects in San Bruno, would not induce growth for which adequate planning has not occurred. Cumulative infill development and redevelopment throughout San Bruno could result in the demolition and loss of housing units and the associated displacement of people, and a need for the construction of replacement housing. However, such displacement would occur incrementally over time and the City has a number of policies and programs that promote the development and preservation of housing, including affordable housing. Cumulative development would result in the creation of more new jobs than employed residents, which would cause a slight increase in San Bruno's jobs/housing balance. Cumulative impacts related to growth inducement, displacement of people or housing, and jobs/housing balance would be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

Table 12.3
CUMULATIVE POPULATION, HOUSING AND EMPLOYMENT GROWTH IN SAN BRUNO

	Dwelling Units/Square Feet	Persons per Household[1]	Square Feet/Rooms per Employee[1]	Residents/ Employees
Residents	2,640	2.71		7,154
Employment				
Retail	882,300		300	2,941
Office	1,349,800		300	4,499
Industrial	108,100		500	216
Hotel	530		1	530
TOTAL Employment				8,186

SOURCE: MIG, 2010.

[1]City of San Bruno, San Bruno 2025: General Plan Draft Environmental Impact Report.

13. PUBLIC SERVICES AND UTILITIES

This chapter describes existing conditions and the relevant local policy and regulatory framework related to public services and utilities in San Bruno, including water, wasterwater, police, fire and emergency medical service, schools, libraries, parks and recreation, and solid waste, and the related potential environmental impacts of the Transit Corridors Plan.

13.1 WATER SERVICE

This section describes the existing conditions, regulatory setting, and potential impacts of the Transit Corridors Plan on water supply, fire flow, and water treatment, storage, and distribution capacity. Water supply information and conclusions in this section are summarized from a June 2011 Water Supply Assessment (WSA)[1] prepared for the Transit Corridors Plan by Erler & Kalinowski, Inc., consulting engineers and scientists, which is included as Appendix 19.3 of this EIR. Water treatment, storage, distribution, and fire flow information and conclusions are summarized from an August 2009 infrastructure assessment prepared for the Transit Corridors Plan by Mark Thomas & Company, Inc.[2]

13.1.1 Environmental Setting

(a) Water Supply. San Bruno receives water from three supply sources: its individual supply guarantee of wholesale surface water from the San Francisco Public Utilities Commission (SFPUC) Regional Water System, retail surface water purchased from the North Coast County Water District (NCCWD), and local groundwater from the Westside Basin. The City's wholesale water supply is delivered through the SFPUC Regional System, originating from the Tuolumne River and the Alameda County and Peninsula watersheds. Water from SFPUC is purchased in accordance with the 2009 Water Supply Agreement. Water purchased from the NCCWD is also from the SFPUC Regional System, but is served directly from NCCWD and is used exclusively to meet the demands of the Treetop Apartments, located in Pressure Zone 13. Local groundwater is from the southern Westside Basin, which is used by the cities of San Bruno, Daly City, South San Francisco, and San Francisco. The City has four supply wells: Wells 16, 17, 18 and 20. Groundwater comprised 50 percent of San Bruno's total water supply from 2005 through 2010. A detailed description of each of these sources and quantification of the historical, current, and projected availability of water from each source can be found in the June 2011 WSA prepared for the Transit Corridors Plan, which is incorporated herein by reference. San Bruno's current and historical sources of water supply are shown in Table 9 in the WSA (Appendix 19.3 of this EIR).

[1]Erler & Kalinowski, Inc., Water Supply Assessment for Transit Corridors Plan, June 2011.

[2]Mark Thomas & Company, Inc., City of San Bruno Downtown - Transit Corridors Plan (DTCP) 2030 Development Potential Infrastructure Assessment Findings Summary, August 2009.

(1) Projected Future Water Supply. San Bruno's total projected future water supply reliability during normal or wet years, single dry years, and multiple dry years is summarized in Table 13.1.[1] As shown in Table 13.1, San Bruno's total projected future water supply is 5.4 million gallons per day (MGD).

San Bruno's single and multiple dry year water supply reliability is based upon the individual reliabilities of its wholesale and groundwater supplies.

- SFPUC Supplies. San Bruno's allocation of wholesale water from SFPUC during a single dry year is estimated to be approximately 10 percent of San Bruno's total SFPUC purchase during the prior three years. In its future wholesale water reliability projections, SFPUC estimated between 10 and 20 percent reduction in total available water supplies in the SFPUC Regional System during a multiple dry year period. The severity of the cutback in any given year is contingent upon the estimated future use of the SFPUC Regional System and on completion of programmed supply improvement projects as scheduled.

- NCCWD Supplies. Water received within the San Bruno service area from NCCWD originates from the SFPUC Regional System and is thus subject to the same reliability as SFPUC supplies. NCCWD supplies are not used within the Transit Corridors Area and make up less than 1 percent of total City supplies. Therefore, the specific magnitude of any cutback associated with this supply source is not significant to the water supply impacts of the Transit Corridors Plan.

- Groundwater Supplies. The availability of groundwater to San Bruno is not anticipated to be significantly affected by short-term droughts. The estimated average annual rate of extraction that the City could maintain during drought periods is only two percent lower than its current rate. If a conjunctive use program were implemented, rates of groundwater extraction during dry periods could be increased beyond these levels. A 2002 through 2005 regional conjunctive use pilot project involving the SFPUC, San Bruno, Daly City, and South San Francisco showed that water can be successfully stored in the Westside Basin aquifer system through in-lieu recharge. San Bruno has not negotiated final agreements with SFPUC regarding a long-term conjunctive use program, though discussions are ongoing. San Bruno is also considering instituting an independent conjunctive use program, whereby the City would increase its use of SFPUC water during normal and wet years and minimize groundwater extraction, thereby banking groundwater that could be extracted during drought periods. If a single dry year were to occur every five years, San Bruno would be capable of storing sufficient groundwater to avoid having to impose reductions in demand and still have available groundwater in storage. If San Bruno were to also implement drought water demand reduction measures, the stored groundwater supply could conceivably last for multiple years.

Based upon this information, the City's total single or multiple dry year supply would not be expected to result in a cutback of more than 10 percent from the prior normal year supply, based upon current conditions. Further, such cutbacks could be significantly lower, particularly if a conjunctive use program is implemented. However, it should be recognized that the actual

[1] A normal or wet year is defined as a year in which precipitation is equal to or above average precipitation. Years in which precipitation is below average are referred to as "single dry year", or as a "multiple dry year period" if the duration of below average precipitation exceeds a single year.

Table 13.1
PROJECTED FUTURE WATER SUPPLY

Supply Source	Projected Annual Water Supply (MGD) 2014-15	2019-20	2024-25	2029-30	2034-35
SFPUC ISG	3.25	3.25	3.25	3.25	3.25
NCCWD Purchases	0.05	0.05	0.05	0.05	0.05
Groundwater Production	2.1	2.1	2.1	2.1	2.1
Total Water Supply	**5.4**	**5.4**	**5.4**	**5.4**	**5.4**

SOURCE: Erler & Kalinowski, Inc., June 2011.

MGD = Million gallons per day
SFPUC = San Francisco Public Utilities Commission
ISG = Individual Supply Guarantee
NCCWD = North Coast County Water District

extent of future cutbacks during dry periods will depend upon many factors that cannot be predicted at this time.

(b) Water Demand.

(1) Existing City Water Demand. Current baseline water demand in San Bruno, based on an average of data collected during the years 2005-06 through 2009-10, is estimated to be approximately 3.79 MGD. A summary of the City's annual metered water demand and "unaccounted for water" use between 2005-06 and 2009-10 is presented in Table 13.2.[1]

(2) Projected Future City Water Demand. Future water demand without the Transit Corridors Plan was estimated on the basis of population and employment projections identified in the

[1]Water demand is reported as the sum of the measured water demand within the City ("water demand"), and "unaccounted for water." "Unaccounted for water" is defined herein as the difference between the City's customers' metered use and the City's metered supply, and includes apparent losses such as customer metering inaccuracies, real losses such as distribution main leakage, and authorized unmetered uses such as fire hydrant flow testing. Water demand in San Bruno is measured using water meters that are installed at each customer account. Records of current and historical water demand at each account are maintained by the City Public Works Department. Based on City water demand records from 2005-06 through 2009-10, unaccounted for water within the City's service area ranged between approximately 7 percent and 11 percent of total water demand. Unaccounted for water data from 2006-07 appear to be erroneous (negative value) and were not included in the average calculations.

Table 13.2
SAN BRUNO HISTORICAL WATER DEMAND

	Water Demand (MGD) (a)(b)				
Customer Service	2005-06	2006-07	2007-08	2008-09	2009-10
Residential					
Residential Single Family	1.83	1.94	1.86	1.77	1.70
Residential Multifamily	0.84	0.89	0.85	0.82	0.78
Total Residential	2.67	2.84	2.71	2.59	2.48
CII					
Commercial	0.62	0.56	0.56	0.53	0.45
Industrial	0.00	0.00	0.00	0.00	0.00
Institutional	0.19	0.17	0.17	0.16	0.14
Total CII	0.82	0.73	0.73	0.70	0.59
Other					
Irrigation	0.05	0.19	0.19	0.16	0.17
Other (c)	0.00	0.01	0.01	0.01	0.01
Total Other	0.05	0.20	0.20	0.17	0.18
Subtotal	***3.54***	***3.77***	***3.64***	***3.46***	***3.24***
Unaccounted for water (d)	7.5%	-2.1%	6.9%	10.1%	11.2%
Total Gross Water Demand (e)	**3.83**	**3.69**	**3.91**	**3.85**	**3.65**

SOURCE: Erler & Kalinowski, Inc., June 2011.

CII = Commercial, Industrial, and Institutional
MGD = Million gallons per day

Notes:

(a) No water is used for agriculture, saline water intrusion barriers, groundwater recharge, conjunctive use, or sold to other agencies.
(b) Water use is recorded on a fiscal year (FY) basis by the City's Finance Department. The City's billing system was modified starting in FY 2005-06 to better characterize demands, with modifications completed FY 2009-10. Distribution of water use between different sub-sectors (e.g., commercial, industrial, and institutional) for FY 2005-06 through 2008-09 are estimated using the same distribution as FY 2009-10.
(c) Accounts grouped into the "Other" sector include temporary meters and unbilled water due to billing system modification.
(d) Unaccounted for water is the quantity of water purchased less the known quantity of water used. Reported as a percent of the total water purchased.
(e) Total Gross Water Demand is the sum of water consumed by customer accounts and the City's unaccounted for water. Total gross water use is equal to the quantity of water purchased from San Francisco Public Utilities Commission and the North Coast County Water District, plus the quantity of groundwater extracted from City wells.

2009 General Plan.[1] Water demand associated with these population and employment projections is presented in Table 13.3. Based on these projections, the estimated water demand in the City in 2035 without implementation of the Transit Corridors Plan will be 4.89 MGD.

(b) Water Treatment, Storage, Distribution and Fire Flow. In addition to the five supply 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. 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.

Existing water facilities in and around the Transit Corridors Area are shown on Figure 13.1. The existing domestic and fire protection system includes 100 miles of pipes ranging from 2 to 16 inches in diameter. The Water Master Plan has identified fire flow inadequacies in the City's water distribution system. A portion of the existing water distribution system will need to be upgraded to meet capacity and pressure to adhere to the latest fire flow standards. The Water Master Plan projections for year 2030 identified the need to add approximately 113,400 feet of new or replacement water lines. In addition, the City has identified another 10,000 feet of water mains requiring replacement.

The City is currently designing an upgrade of water system components within Mastick Avenue as part of its rehabilitation program. There are no other water line replacement projects planned for the near future.

13.1.2 Regulatory Setting

(a) California Health and Safety Code. Section 64562 of the California Health and Safety Code requires all public water systems to have sufficient water available from their water sources and distribution reservoirs to supply adequately, dependably, and safely the total requirements of all users under maximum demand conditions before agreements are made to permit additional service connections to a system.

(b) California State Senate Bill 7. Enacted in late 2009, Senate Bill 7 (SB 7) requires the State of California as a whole to achieve a 20 percent reduction in urban per capita water use by December 31, 2020. The law also requires the State to make incremental progress towards this goal, namely achieving a 10 percent per capita reduction in urban water use on or before December 31, 2015. To achieve these goals, the law includes a requirement that urban retail water suppliers would not be eligible for state water grants or loans on and after July 1, 2013, unless they demonstrate compliance with the water conservation requirements of the bill.

[1] General Plan projections indicate that by 2025 the City's population may grow to 47,374 (a growth rate of 2.3 percent per year) and employment may grow to 22,392 (19.5 percent every five years). For the purposes of projecting the City's water demand in 2035, the General Plan grow rates through 2025 were conservatively assumed to continue through 2035. These assumed growth rates result in a total projected City population of 51,840 and employment of 33,372 by 2035.

Table 13.3
SAN BRUNO WATER DEMAND PROJECTIONS

Water Demand Projections	Projected Annual Water Demand (MGD) 2014-15	2019-20	2024-25	2029-30	2034-35
General Plan (a)	4.43	4.48	4.53	4.67	4.89
General Plan plus Incremental Project Demands (b)	4.51	4.63	4.76	4.91	5.13
Urban Water Management Plan (UWMP) (c)	*4.40*	*4.57*	*4.73*	*4.88*	*5.13*

SOURCE: Erler & Kalinowski, Inc., June 2011.

MGD = Million gallons per day

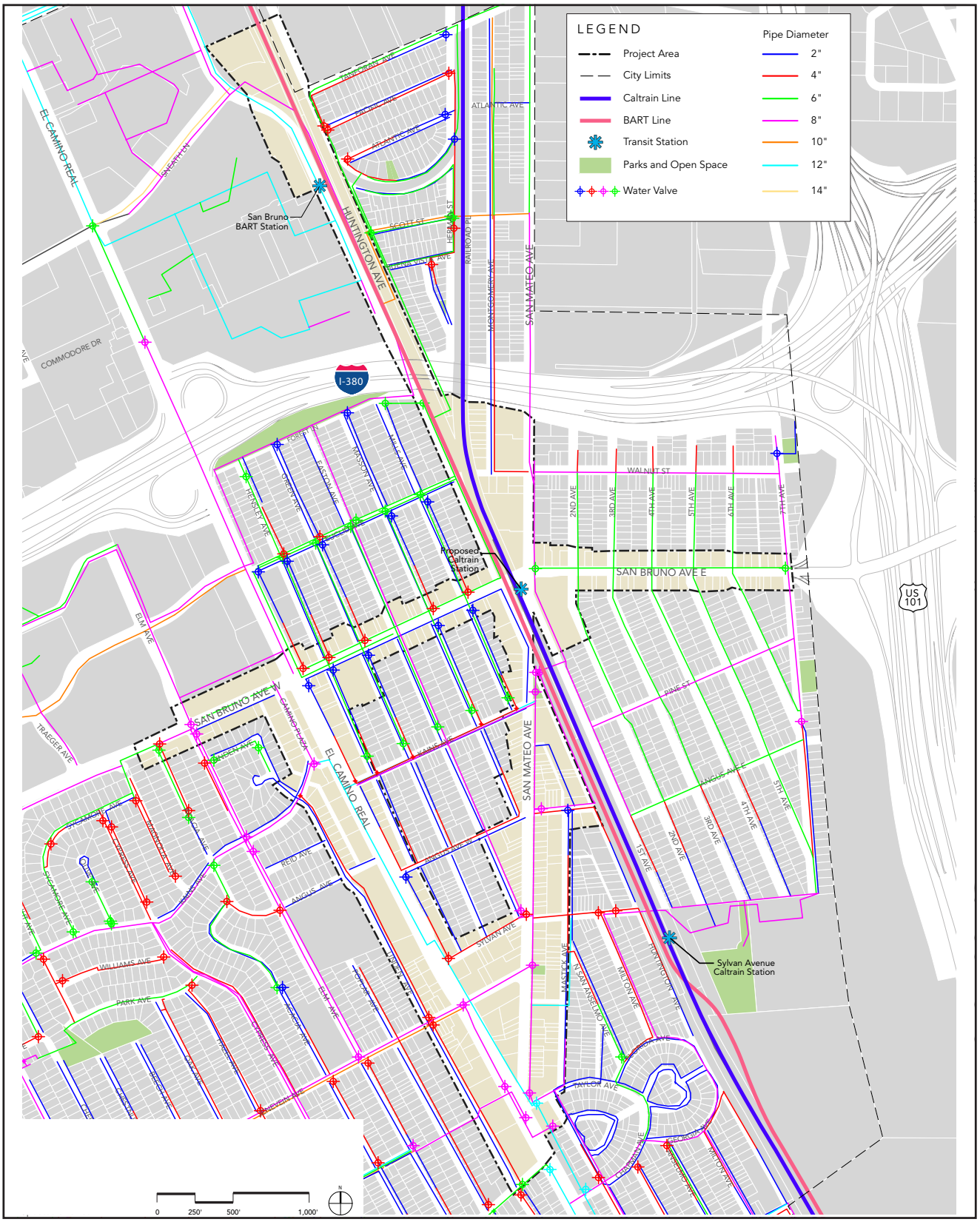
Notes:

(a) Projected water demands were estimated using the Decision Support System Model (dated 31 December 2009) which was modified by using population and employment values from the 2009 General Plan for 2025, assuming 75 percent indoor water demand, and assuming passive conservation. Beyond 2025 a 2.3 percent population growth rate and 19.5 percent employment growth rate over a 50-year period was assumed. These percentages are based on the growth rates projected in the General Plan from 2010 through 2025.
(b) The Transit Corridors Project water demand was added linearly from 2014-15 through 2034-35.
(c) Projected water demands from the 2010 UWMP are based on the DSS model using 2009 Association of Bay Area Government (ABAG) population and employment values.

(c) California State Senate Bill 610. Senate Bill 610 (SB 610) of 2002 (codified in §10910 through §10915 of the California Water Code) requires local planning agencies to consider whether there are sufficient and reliable water supplies to serve proposed development projects of specified sizes during the application and environmental review processes for such projects. SB 610 requires an assessment of whether available water supplies are sufficient to serve the demand generated by projects, as well as the reasonably foreseeable cumulative demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions.

In accordance with Water Code §10910(a), “Any city or county that determines that a project, as defined in §10912, is subject to the California Environmental Quality Act…shall comply with this part.” Under Water Code Section 10912(a) "project" means any of the following:

(1) a proposed residential development of more than 500 dwelling units;
(2) a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
(3) a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
(4) a proposed hotel or motel, or both, having more than 500 rooms;



SOURCE: Wagstaff/MIG

Figure 13.1

EXISTING WATER FACILITIES

(5) a proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
(6) a mixed-use project that includes one or more of the projects specified in this subdivision; or
(7) a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project.

The Transit Corridors Plan includes more than 500 dwelling units and more than 250,000 square feet of office space. Therefore, pursuant to Water Code §10910(a)(1) and §10912(a)(3), a WSA has been prepared for the Transit Corridors Plan, and is included as Appendix 19.3 of this EIR.[1]

(d) San Bruno General Plan. The Public Facilities and Services Element of the San Bruno General Plan contains the following relevant policies relevant to consideration of the impacts of the Transit Corridors Plan.

PFS-C Ensure that the City's water supply systems are adequate to serve the City's present and anticipated needs, and that water conservation is implemented in all residences and businesses.

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

PFS-8 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 to meet fire safety standards and to respond to emergency peak water supply needs.

PFS-13 Establish water conservation Best Management Practices (BMPs) and require them for new development and for municipal buildings and facilities.

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.

[1] Erler & Kalinowski, Inc., Water Supply Assessment for Transit Corridors Plan, June 2011.

13.1.3 Significance Criteria

Based on the CEQA Guidelines,[1] the Transit Corridors Plan would result in a significant impact on water service if it would:

(a) Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts;

(b) Result in a need for new or expanded water supply entitlements; or

(c) 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).

13.1.4 Impacts and Mitigation Measures

Water Supply Impacts. The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area by 2030. As shown in Table 13.4, the City's water demand in 2035 with the Transit Corridors Plan is estimated to be 5.13 MGD.[2] Total water demand within the Transit Corridors Area itself in 2035 is estimated to be 0.42 MGD, an increase of 0.24 MGD over General Plan buildout of the Transit Corridors Area without the proposed Transit Corridors Plan.

According to the WSA modeled estimates of the quantity of wholesale water that will be allocated to San Bruno during single and multiple dry year periods, the City's single dry year and multiple dry year supply would not be expected to result in a cutback of more than 10 percent from the normal year supply under current conditions. The extent of future cutbacks in wholesale supplies is not possible to estimate at this time, so consistent with guidance provided by BAWSCA,[3] current estimated cutbacks were also assumed for the future.

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[1] CEQA Guidelines, Appendix G, items XVI(b and d) and VII(b).

[2] As shown in Table 13.3, projections of City water demand that incorporate the Transit Corridors Plan are very similar to those projected in the 2010 UWMP, which were based on 2009 ABAG population and employment projections. The detailed water demand projections in the WSA for the Transit Corridors Plan demonstrate that more generalized demand projections included in the 2010 UWMP effectively incorporate the Transit Corridors Plan. Therefore, conclusions presented in the 2010 UWMP and relied upon in the WSA regarding the sufficiency of the City's water supplies to meet future demands during normal and dry years can be relied upon to demonstrate that the City's water supplies are sufficient to meet the demands of the Transit Corridors Plan and other projected City water demands over the next 20 years.

[3] The Bay Area Water Supply Conservation Agency (BAWSCA) is the agency that represents San Bruno and the 25 other cities, water districts, and utilities in negotiations with SFPUC. The WSA estimated water demand for the Transit Corridors Plan and San Bruno using the Demand Management Decision Support System Model (DSS Model) that was developed by BAWSCA for its member agencies. The DSS Model was also used by the City of San Bruno in its 2010 UWMP. Some of the input data in the DSS Model differs slightly from statistics included in chapter 12 (Population and Housing) of this EIR. These slight differences do not affect the impact or mitigation findings.

Table 13.4
PROJECTED TRANSIT CORRIDORS PLAN WATER DEMAND

Water Demand Projection Method	Total Project Water Demand (AFY)	Total Project Water Demand (MGD)	Incremental Increase in Water Demand over General Plan (AFY)	Incremental Increase in Water Demand over General Plan (MGD)
Population and Employment Based Demand Estimate (a)	470	0.42	269	0.24

SOURCE: Erler & Kalinowski, Inc., June 2011.

AFY = Acre feet per year
MGD = Million gallons per day

Notes:

(a) Projected water demands were estimated using the Decision Support System Model ("DSS Model") dated 31 December 2009, which was modified to incorporate project population and employee values from Table 3 of the WSA (see EIR Appendix 19.3).

Groundwater supplies represent approximately 40 percent of the City's total normal year supply and are not anticipated to be significantly affected by short-term droughts. Therefore, even if the City's wholesale supplies are cut back by 10 percent from the normal year supply, the City would be able to increase use of groundwater during dry periods, particularly if a conjunctive use program is implemented. Additionally, the City's water demand, including the demand of development under the Transit Corridors Plan, is expected to decrease during drought periods due to the implementation of mandatory drought year water conservation measures that are identified in the City's Water Shortage Contingency Plan.

The WSA prepared for the Transit Corridors Plan concluded that the City of San Bruno has sufficient water supplies to meet current water demand and future water demand through 2035 within its service area, including the increased water demand associated with the Transit Corridors Plan, during normal, single dry, and multiple dry years. Therefore, the water supply impacts of the Transit Corridors Plan would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Water Distribution and Fire Flow Impacts. The Transit Corridors Plan proposes a number of water main improvements within the Transit Corridors Area to accommodate new development

under the Plan. The Plan identifies the following needed improvements to adequately accommodate anticipated Plan buildout.[1]

- *San Mateo Avenue (north):* a new 12-inch water main loop extending approximately 1,000 feet on San Mateo Avenue, 1,800 feet on San Bruno Avenue, and 600 feet on El Camino Real to connect to an existing 12-inch water main in El Camino Real;

- *San Mateo Avenue (south):* a new 3,600-foot long, 12-inch water main from the proposed stub at the of San Mateo Avenue/San Bruno Avenue intersection south on the San Mateo Avenue to connect to the existing 12-inch water main in El Camino Real;

- *El Camino Real (north):* a new 2,400-foot long, 18-inch sewer trunk line, from the El Camino Real/Kains Avenue intersection north along El Camino Real to connect to the existing 18-inch sewer trunk line at the El Camino Real/Bay Hill Drive intersection;

- *El Camino Real (south):* the proposed 12-inch water main loop would provide adequate capacity for future development; and

- *San Bruno Avenue:* the proposed 12-inch water main loop would also provide adequate capacity for future development along San Bruno Avenue. This improvement should eventually "loop" the San Mateo Avenue, El Camino Real and San Bruno Avenue corridors.

The additional water distribution system improvement needs listed in Table 13.5 have been identified as needed to rehabilitate existing Transit Corridors Area infrastructure in order to meet City standards.[2]

The City's Water Master Plan has also identified the following water line replacement needs within the Transit Corridors Area in order to provide adequate fire flow:

1. 12-inch water main along Linden Avenue to support Allen Elementary School;

2. 12-inch water main along Easton Lane, San Bruno Avenue and El Camino Real to support the Wells Fargo Bank;

3. 8-inch water main along Huntington Avenue to support the Sky Park Parking Garage;

4. 8-inch water main along Kains Avenue to support local fire flow; and

5. 8-inch water main along Jenevein Avenue to support local fire flow.[3]

Anticipated future development under the Transit Corridors Plan would therefore include water system construction activity in many streets. Scheduling the replacement of old water pipes concurrently with the construction of roadway and frontage improvements associated with new

[1]Mark Thomas & Company, Inc., City of San Bruno Downtown - Transit Corridors Plan (DTCP) 2030 Development Potential Infrastructure Assessment Findings Summary, August 2009.

[2]Mark Thomas & Company, Inc., City of San Bruno Downtown - Transit Corridors Plan (DTCP) 2030 Development Potential Infrastructure Assessment Findings Summary, August 2009.

[3]MIG, San Bruno Transit Corridors Plan Existing Conditions Analysis Report, October 2009.

Table 13.5
TRANSIT CORRIDORS AREA WATER MAIN IMPROVEMENT NEEDS

Location	From	To	Length (Linear Feet)
San Bruno Avenue (west)	Acacia Avenue	Huntington Avenue	900
San Mateo Avenue (north)	San Bruno Avenue	Scott Street	1,400
El Camino Real (E side)	San Felipe Avenue	Commodore Drive	2,800
El Camino Real (W side)	San Felipe Avenue	Commodore Drive	3,600
San Bruno Avenue (east)	Huntington Avenue	7th Avenue	1,850
Huntington Avenue	Angus Avenue	Forest Lane	3,200
Sylvan Avenue	El Camino Real	Huntington Avenue	1,300
Jenevein Avenue	El Camino Real	San Mateo Avenue	1,000
Montgomery Avenue	Walnut Avenue	Scott Street	2,000
Taylor Avenue	El Camino Real	Mastick Avenue	350
Camino Plaza	Linden Avenue	San Bruno Avenue	800
TOTAL			19,200
Fire Hydrants			130

SOURCE: Mark Thomas & Company, Inc., 2009; MIG, 2010.

development projects would save pavement and restoration costs, minimize construction impacts on neighborhoods, and optimize the value invested in pipeline replacement.

Under normal existing City development permitting procedures, each individual future development project within the Transit Corridors Area would be required to: (1) pay applicable City development and connection fees, (2) pay its fair share toward necessary water system facilities to support the proposed development's water infrastructure needs, and (3) submit final project water system design specifications and construction modifications for approval by the Engineering and Construction Division. In addition, new service connections and/or the effects of adjacent heavy construction may require localized pipe replacement.

Under its normal development review procedure for specific projects, the City would determine the actual fire flow and water system design requirements. Construction of water system improvements to meet the demand of future development under the Transit Corridors Plan would occur within existing public rights-of-way. Temporary construction period traffic, noise, air quality, water quality and other potential impacts would be mitigated through the City's standard construction mitigation practices. The environmental impact of the Transit Corridors Area related to water distribution facilities and fire flow would therefore be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Cumulative Water Service Impacts. Development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development in the city, would result in an estimated total of approximately 2,640 new housing units and 2,340,200 square feet of new non-residential development within San Bruno by 2030. This cumulative development would create a cumulative need for additional water supply and additional treatment, storage and distribution facilities.

The WSA prepared for the Transit Corridors Plan concluded that the City has sufficient water supplies to meet current water demand and future water demand through 2035 within its service area, including the increased water demand associated with the Transit Corridors Plan, during normal, single dry, and multiple dry years.

Under normal existing City development permitting procedures, each individual future development project within the Transit Corridors Area would be required to: (1) pay applicable City development and connection fees, (2) pay its fair share toward necessary water system facilities to support the proposed development's water infrastructure needs, and (3) submit final project water system design specifications and construction modifications for approval by the Engineering and Construction Division. In addition, new service connections and/or the effects of adjacent heavy construction may require localized pipe replacement. Under its normal development review procedure for specific projects, the City would determine the actual fire flow and water system design requirements. Construction of water system improvements to meet the demand of future development under the Transit Corridors Plan would occur within existing public rights-of-way. Temporary construction period traffic, noise, air quality, water quality and other potential impacts would be mitigated through the City's standard construction mitigation practices.

Therefore, cumulative impacts related to water service would be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

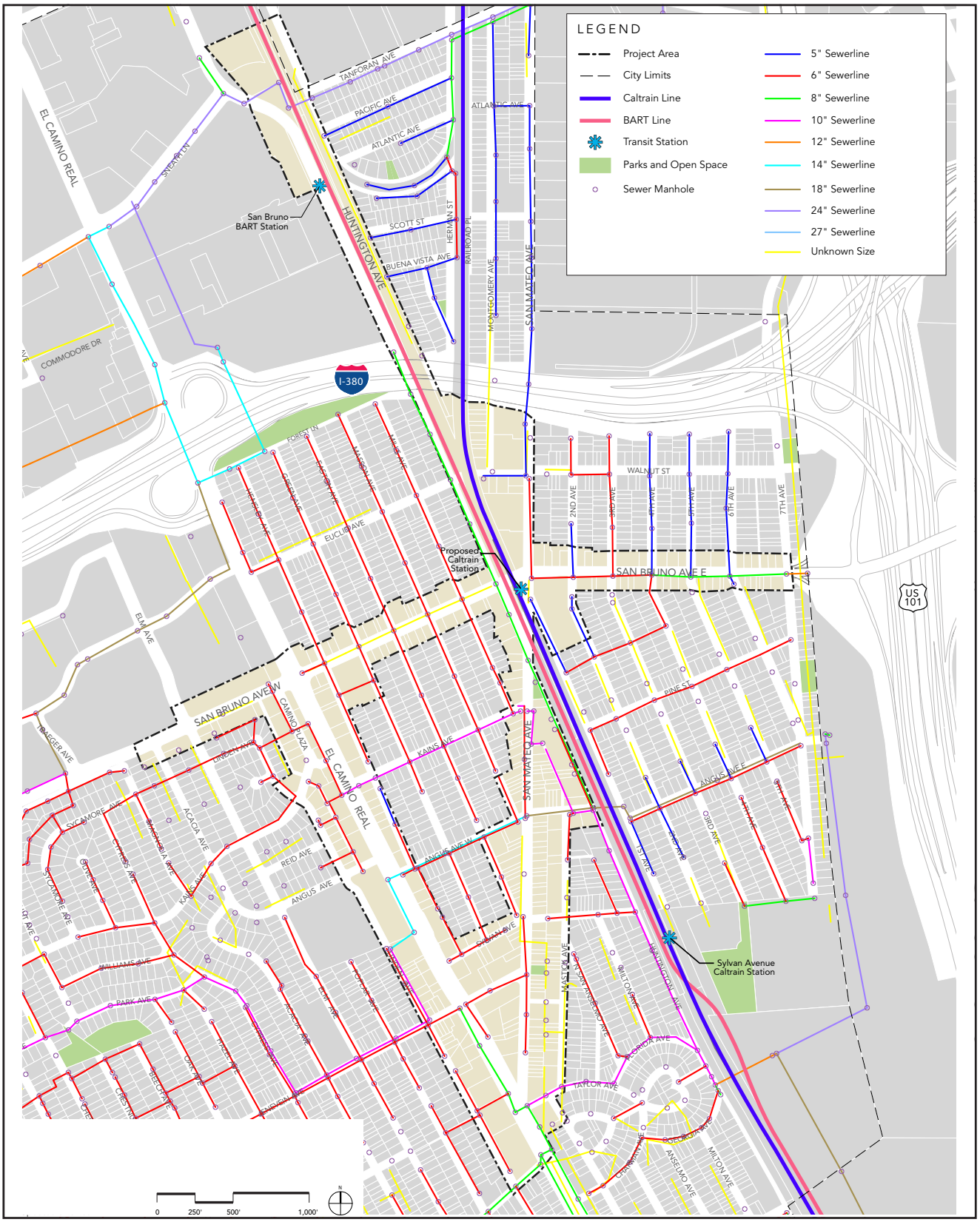
13.2 WASTEWATER SERVICE

This section describes the existing conditions and regulatory setting, and the potential impacts of the Transit Corridors Plan related to wastewater collection and treatment facilities.

13.2.1 Environmental Setting

(a) Wastewater Collection. The City Public Works Department is responsible for wastewater collection and treatment services in San Bruno. The existing municipal wastewater collection system consists of approximately 150 miles of sewer pipelines ranging in size from 5 to 27 inches in diameter and 7 lift stations within the city limits. Existing wastewater facilities in and around the Transit Corridors Area are shown in Figure 13.2.

Most of San Bruno's sewer system was installed 30 to 80 years ago. Large sections of aging pipe are in need of 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 pipe installed during the 1940's still exist. Public Works staff currently receives 489 emergency calls annually or approximately 1.3 emergency calls each day related to sewage line blockages, breaks or leaks. A 1999 study conducted by the City on the wastewater systems inflow and infiltration problems identified the need to replace and/or rehabilitate existing pipes



SOURCE: Wagstaff/MIG

Figure 13.2

EXISTING SEWER FACILITIES

and upgrade pump stations. Many local sewer pipes are reaching their service life expectancy and will require replacement with larger pipes. The City is currently upgrading the sewer system within Mastick Avenue. There are no other wastewater infrastructure projects currently planned within the Transit Corridors Area.[1]

(b) Wastewater Treatment. Wastewater from San Bruno is treated at the South San Francisco/San Bruno Water Quality Control Plant (WQCP), under a Joint Powers Agreement with the City of South San Francisco. The WQCP is located at 195 Belle Air Road, approximately one mile north of the SFO, and is operated and maintained by the City of South San Francisco. Secondary treated wastewater is discharged into San Francisco Bay via a 60-inch outfall pipe 2 miles offshore, which is shared by the cities of San Bruno, South San Francisco, Millbrae, Burlingame, and Colma, and by SFO. The Cities of Colma and Daly City are also partially serviced by the South San Francisco/San Bruno plant; Colma produces approximately 0.2 mgd of wastewater and Daly City produces approximately 0.3 mgd of wastewater that is treated by the WQCP. There is no formal agreement about the proportion of wastewater treatment capacity entitled to each city. The cities are currently in the process of clearly defining wastewater treatment entitlements.

The WQCP has a total dry-weather capacity of 13 million gallons per day (mgd) and a wet-weather capacity of approximately 62 mgd. Current total dry weather flows from all four cities that use the WQCP average approximately 10 mgd and wet weather flows average approximately 30 mgd. San Bruno currently pumps approximately 3.4 mgd dry weather flow through the Shaw Road Pump Station to the WQCP, which comprises 34 percent of total dry weather flows. 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. On that basis, it is projected that General Plan buildout would generate an estimated 3.1 mgd of additional dry weather flow from San Bruno.[2]

13.2.2 Regulatory Setting

(a) Federal Clean Water Act. The Clean Water Act (CWA) gave the EPA authorization to implement pollution control programs, including setting standards for wastewater systems, water quality, and drinking water. The CWA regulates discharges of effluent to surface waters to protect water quality. Discharges are subject to the requirements of the National Pollutant Discharge Elimination System (NPDES) permitting process. In addition, Section 303 of the CWA requires individual states to adopt water quality standards which "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such values."

(b) Porter-Cologne Water Quality Control Act. The Porter-Cologne Act set out the functions of the SWRCB with respect to water quality control and establishes the nine regional water quality control boards. Each Regional Board is charged with preparing a water quality plan (Basin Plan) for its region, which lists the beneficial uses to be protected, water quality objectives, and an implementation program to meet these objectives.

[1]MIG, San Bruno Transit Corridors Plan Existing Conditions Analysis Report, October 2009, pp. 56-57.

[2]City of San Bruno, San Bruno General Plan Draft EIR, pp. 126-127.

(c) California Regional Water Quality Control Board, San Francisco Bay Region. The WQCP operates under a permit from the California Regional Water Quality Control Board (RWQCB). Pursuant to the federal Clean Water Act and California's Porter-Cologne Water Quality Control Act, the San Francisco RWQCB regulates wastewater discharges to surface waters, like San Francisco Bay, through its National Pollutant Discharge Elimination System (NPDES) program. The WQCP's NPDES permit governs the quantity and quality of treated wastewater that can be discharged into San Francisco Bay. RWQCB requires periodic reissuance of its NPDES permits.

(d) San Bruno General Plan. The Public Facilities and Services Element of the San Bruno General Plan contains the following policies relevant to consideration of Transit Corridors Plan wastewater impacts:

PFS-D Ensure that the City's wastewater collection and treatment systems are adequate to serve the City's present and anticipated needs, are safe, and are environmentally sound.

PFS-20 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.

13.2.3 Significance Criteria

Based on the CEQA Guidelines,[1] the Transit Corridors Plan would result in a significant impact on wastewater service if it would:

(a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;

(b) Require or result in the construction of new wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts; or

(c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

13.2.4 Impacts and Mitigation Measures

The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area by 2030. This additional development would generate an increase in wastewater requiring collection and treatment. Table 13.6 presents projected total future wastewater generation with buildout of the Transit Corridors Plan, and the associated increase in wastewater flows over existing conditions. As shown, development under the Transit Corridors Plan could be expected to result in an estimated additional

[1] CEQA Guidelines, Appendix G, items XVI(a, b, and e).

Table 13.6
ANTICIPATED TRANSIT CORRIDORS PLAN SEWER DEMAND IMPACT (GPD)

Subarea	Existing	Transit Corridors Plan Buildout	Increase
San Mateo Avenue (north)	8,720	36,700	27,980
San Mateo Avenue (south)	8,931	37,212	28,281
El Camino Real (north)	10,956	67,200	56,244
El Camino Real (south)	4,928	28,102	23,174
San Bruno Avenue	2,910	11,400	8,490
TOTAL	36,445	180,614	144,169

SOURCE: Michael Thomas & Company, Inc., 2009; MIG, 2010.

wastewater generation from the Transit Corridors Area of 180,614 gallons per day (gpd), an increase of 144,169 gpd over the existing demand of 36,445 gpd.[1]

Wastewater Collection Impacts. The Transit Corridors Plan proposes a number of sewer trunk line improvements within the Transit Corridors Area to accommodate new development under the Plan. The estimated increase in wastewater generation of 144,169 gpd resulting from future development within the Transit Corridors Area would require substantial upgrades to existing wastewater facilities in the area. The Plan identifies the following needed new wastewater system facilities:[2]

- *San Mateo Avenue (north):* a new 2,200-foot long, 18-inch sewer trunk line along Huntington Avenue and San Mateo Avenue from the existing 18-inch sewer trunk line at the of Huntington Avenue/Angus Avenue intersection to the Walnut Avenue/San Mateo Avenue intersection;

- *San Mateo Avenue (south):* a new 2,000-foot long, 18-inch sewer trunk line from the El Camino Real/San Mateo Avenue intersection north on San Mateo Avenue to the existing 18-inch sewer trunk line at the San Mateo Avenue/Angus Avenue intersection (the Plan recommends incorporating this improvement into the City's Rehabilitation Program Project, which is planned to eliminate the existing 4-inch sewer line running parallel to Mastick Avenue in the alley, mid-block);

- *El Camino Real (north):* a new 2,400-foot long, 18-inch sewer trunk line, from the El Camino Real/Kains Avenue intersection north along El Camino Real to connect to the existing 18-inch sewer trunk line at the El Camino Real/Bay Hill Drive intersection;

[1]Mark Thomas & Company, Inc., City of San Bruno Downtown - Transit Corridors Plan (DTCP) 2030 Development Potential Infrastructure Assessment Findings Summary, August 2009.

[2]Mark Thomas & Company, Inc., City of San Bruno Downtown - Transit Corridors Plan (DTCP) 2030 Development Potential Infrastructure Assessment Findings Summary, August 2009.

- *El Camino Real (south):* an approximately 850-foot long, 15-inch sewer line is proposed from the El Camino Real/Jenevein Avenue intersection south along El Camino Real to connect to the proposed 18-inch sewer trunk line at the El Camino Real/San Mateo Avenue intersection; and

- *San Bruno Avenue:* an approximately 1,500-foot long, 10-inch sewer line is proposed to replace the existing six-inch sewer line in San Bruno Avenue and connect to the new 18-inch sewer trunk line in El Camino Real.

In addition, Table 13.7 lists improvements to existing facilities identified as needed to meet City standards.[1]

Sewer lines serving the project site would be upgraded by individual development project applicants to ensure adequate capacity for residential and commercial demand. Under normal existing City development permitting procedures, each individual future development project within the Transit Corridors Area would be required to: (1) pay applicable City development and connection fees, (2) pay its fair share toward necessary sewer system facilities to support the proposed development's sewer infrastructure needs, and (3) submit final project water system design specifications and construction modifications for approval by the Engineering and Construction Division. Construction of sewer system improvements to meet the demand of future development under the Transit Corridors Plan would occur within existing public rights-of-way. Temporary construction period traffic, noise, air quality, water quality and other potential impacts would be mitigated through the City's standard construction mitigation practices. Therefore, the impact of the Transit Corridors Plan related to wastewater collection would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Wastewater Treatment Impacts. The WQCP has a total dry-weather capacity of 13 million gallons per day (mgd) and a wet-weather capacity of approximately 62 mgd. Current wastewater flow from San Bruno is approximately 3.4 mgd dry weather flow and all four cities that use the WQCP average approximately 10 mgd dry weather flow and 30 mgd wet weather flow. The available treatment capacity at the WQCP is adequate to meet the estimated net increase of 144,169 gpd (0.144 mgd) dry weather flow with the Transit Corridors Plan. Wet weather flow is a function of rainfall, which causes infiltration and inflow into the collection system, and is not caused or increased by development, unless development results in a substantial increase in impervious surfaces, which would not be the case within the already developed Transit Corridors Area. Therefore, the impact of the Transit Corridors Plan related to wastewater treatment would be ***less than significant.***

[1]Mark Thomas & Company, Inc., City of San Bruno Downtown - Transit Corridors Plan (DTCP) 2030 Development Potential Infrastructure Assessment Findings Summary, August 2009.

Table 13.7
TRANSIT CORRIDORS AREA SEWER MAIN IMPROVEMENT NEEDS

Location	From	To	Length (Linear Feet)
El Camino Real	Crystal Springs Road	Forest Lane	1,800
San Mateo Avenue	El Camino Real	Huntington Avenue	1,450
Angus Avenue (east)	1st Avenue	7th Avenue	1,250
7th Avenue	East Angus Avenue	I-380	2,500
San Bruno Ave. (east)	San Mateo Avenue	7th Avenue	1,500
Laterals			5,800
TOTAL			14,300

SOURCE: Mark Thomas & Company, Inc., 2009; MIG, 2010.

Mitigation. No significant impact has been identified; no mitigation is required.

Cumulative Wastewater Service Impacts. Development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development in the city, would result in an estimated cumulative total of approximately 2,640 new housing units and 2,340,200 square feet of new non-residential development within San Bruno by 2030. Sewer lines serving the project site would be upgraded by individual development project applicants to ensure adequate capacity for residential and commercial demand. Under normal existing City development permitting procedures, each individual future development project within the Transit Corridors Area would be required to: (1) pay applicable City development and connection fees, (2) pay its fair share toward necessary sewer system facilities to support the proposed development's sewer infrastructure needs, and (3) submit final project water system design specifications and construction modifications for approval by the Engineering and Construction Division. Construction of sewer system improvements to meet the demand of future development under the Transit Corridors Plan would occur within existing public rights-of-way. Temporary construction period traffic, noise, air quality, water quality and other potential impacts would be mitigated through the City's standard construction mitigation practices. Construction of sewer system improvements to meet the demand of future development under the Transit Corridors Plan would occur within existing public rights-of-way. Temporary construction period traffic, noise, air quality, water quality and other potential impacts would be mitigated through the City's standard construction mitigation practices. Therefore, cumulative impacts related to water service would be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

13.3 POLICE

The following describes existing conditions and potential impacts of the Transit Corridors Plan with regard to police service.

13.3.1 Environmental Setting[1]

Police service in San Bruno is provided by the San Bruno Police Department (SBPD). The SBPD employs 48 sworn officers, 19 civilian employees and seven reserve police officers.

The SBPD operates from a 23,000 square foot police facility located at 1177 Huntington Avenue, next to the San Bruno BART Station. The 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 SBPD 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 Huntington 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, Huntington 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 SBPD responded to 28,719 calls in 2001. The SBPD made a total of 1,176 arrests in 2001 and 1,187 arrests in 2002. San Bruno does not have a municipal jail but uses 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.

13.3.2 Regulatory Setting

(a) San Bruno General Plan. The Health and Safety Element of the San Bruno General Plan includes the following policies relevant to consideration of the police services impacts of the Transit Corridors Plan:

PFS-F Provide adequate public safety services for all San Bruno properties--including police protection, fire suppression, emergency medical care, and emergency management.

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.

[1]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-118.

13.3.3 Significance Criteria

Based on the CEQA Guidelines, the Transit Corridors Plan would have a significant impact related to police services if it would:[1]

(a) Result in a need for new or physically altered facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police services.

13.3.4 Impacts and Mitigation Measures

Project Impacts on Police Service. The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area by 2030. This anticipated additional development would result in an associated increase in service calls and a commensurate incremental need for additional staffing and equipment to maintain the City's response time goals. By revitalizing and activating Downtown and the San Mateo Avenue, San Bruno Avenue and El Camino Real corridors, the Transit Corridors Plan may help reduce crime as more people are brought into the areas on a more constant basis, municipal services and infrastructure are upgraded, and newer developments incorporate up-to-date security features and technology. In addition, the potential economic growth and revitalization resulting from the Transit Corridors Plan may serve to reduce crime. The Transit Corridors Plan would bring additional annual revenue to the City in the form of increased local property taxes and sales taxes that would help offset the increased demand for police service by funding increases in police personnel, training, and equipment. Furthermore, individual project applicants would be required to contribute police services development impacts fee to the City. Therefore, the impacts of the Transit Corridors Plan related to police service would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Cumulative Impacts on Police Service. Development facilitated by the proposed Transit Corridors Plan, together with other reasonably foreseeable development in the city, would result in an estimated total of approximately 2,640 new housing units and 2,340,200 square feet of new non-residential development within San Bruno by 2030. This cumulative development would result in a corresponding increase in calls for police service and a need for additional staffing, equipment and facilities to maintain the City's staffing ratio and response time goals. Cumulative development would bring additional annual revenue to the City in the form of increased local property taxes and sales taxes that would help offset the increased demand for police service by funding increases in police personnel, training, and equipment. Furthermore, individual project applicants would be required to contribute police service development impacts fee to the City. Therefore, cumulative impacts related to police service would be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

[1] CEQA Guidelines, Appendix G, items XIII(a) and XV(c).

13.4 FIRE AND EMERGENCY MEDICAL SERVICE

This section describes existing conditions related to fire and emergency medical services and the potential impacts of the Transit Corridors Plan. Emergency response and wildland fire hazard, are addressed in Chapter 8, Hazards and Hazardous Materials, of this EIR.

13.4.1 Environmental Setting[1]

Fire and emergency medical service in San Bruno is provided by the San Bruno Fire Department (SBFD). SBFD 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. The SBFD also provides all new businesses, daycare centers and residential care facilities with their initial fire safety clearance. The SBFD 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. American Medical Response, which is based in Burlingame, provides ambulance service in the City through its contract with the County of San Mateo.

The SBFD 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.

The SBFD operates two stations. Station No. 51 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 I-280, including the Transit Corridors Area. Station No. 52 is located at 1999 Earl Avenue near the intersection of Sneath Lane and 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. The SBFD is in need of new facilities, and funds have been set aside as part of the City of San Bruno's capital improvement program.

In 2002, the SBFD responded to a total of 197 fires and 1,812 medical emergencies. In addition, the SBFD 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 of the Insurance Services Office, Inc. (ISO), the SBFD has an overall rating of three, considered a top rating.

Fire hazards in urbanized areas are usually due to industrial chemical use, crowded structures, and building conditions. Higher development densities, older buildings, narrower streets, and commercial and industrial uses that may involve the use of highly flammable materials, cause potential fire hazard along San Mateo Avenue and in the Fifth Addition neighborhood. Outside of these areas, San Bruno has a very good fire rating. The fire rating is based upon the type and amount of firefighting equipment, number of firefighters, and water flow and pressure.

[1]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-111.

13.4.2 Regulatory Setting

(a) Uniform Fire Code. The Uniform Fire Code (UFC) contains regulations relating to the construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The UFC contains specialized technical regulations related to fire and life safety.

(b) California Health and Safety Code. State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building, childcare facility standards, and fire suppression training.

(c) San Bruno General Plan. The Health and Safety Element of the San Bruno General Plan includes the following policies relevant to consideration of the fire protection and EMS impacts of the Transit Corridors Plan:

PFS-F Provide adequate public safety services for all San Bruno properties--including police protection, fire suppression, emergency medical care, and emergency management.

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

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.

13.4.3 Significance Criteria

Based on the CEQA Guidelines,[1] the Transit Corridors Plan would result in a significant impact on fire and emergency medical service if it would:

(a) Result in a need for new or physically altered facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and emergency medical service.

[1] CEQA Guidelines, Appendix G, item XIII(a).

13.4.4 Impacts and Mitigation Measures

Project Fire and Emergency Medical Service Impacts. The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area by 2030. This additional development would contribute to an increase in service calls and an incremental need for additional staffing and equipment to maintain the SBFD response time goals and staffing ratios.

Development would be subject to the policies, regulations and standards of the City, including appropriate standards for emergency access roads, emergency water supply, and fire preparedness, capacity, and response. New developments may incorporate up-to-date fire protection features and technology (e.g., smoke alarms, interior sprinkling systems). The Transit Corridors Plan would bring additional annual revenue to the City in the form of increased local property taxes and sales taxes that would help offset the increased demand for fire and emergency medical services by funding increases in firefighters, administrative personnel, training, and equipment. Furthermore, individual project applicants would be required to contribute fire services development impact fees to the City. No additional mitigation would be required beyond the mandatory application of these standard, adopted procedures. In addition, new development within the Transit Corridors Area would be required to incorporate design features identified in the California Building Code, and the SBFD is given the opportunity to review and comment on the design of any project that could affect fire or public safety.

Since development would be subject to the City's normal development review and permitting procedures, with payment of development impact fees, building and fire code requirements, and development review, the impacts of the Transit Corridors Plan related to fire and emergency medical service would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Cumulative Fire and Emergency Medical Service Impacts. Development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development in the city, would result in an estimated total of 2,640 new housing units and 2,340,200 square feet of new non-residential development within San Bruno by 2030. This cumulative development would contribute to an increase in service calls and an incremental need for additional staffing and equipment to maintain the SBFD response time goals and staffing ratios.

Development would be subject to the policies, regulations and standards of the City, including appropriate standards for emergency access roads, emergency water supply, and fire preparedness, capacity, and response. By stimulating redevelopment in currently blighted areas, the proposed project may help reduce fire protection needs as new developments incorporate up-to-date fire protection features and technology (e.g., smoke alarms, interior sprinkling systems). The Transit Corridors Plan would bring additional annual revenue to the City in the form of increased local property taxes and sales taxes that would help offset the increased demand for fire and emergency medical services by funding increases in firefighters, administrative personnel, training, and equipment. Furthermore, individual project applicants would be required to contribute fire services development impact fees to the City. No additional mitigation would be required beyond the mandatory application of these standard, adopted procedures. In addition, new development within the Transit Corridors Area would be required to incorporate design features identified in the California Building Code, and the SBFD is given

the opportunity to review and comment on the design of any project that could affect fire or public safety.

Since cumulative development would be subject to the City's normal development review and permitting procedures, with payment of development impact fees, building and fire code requirements, and development review, cumulative impacts related to fire and emergency medical service would be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

13.5 SCHOOLS

The San Bruno Park Elementary School District and the San Mateo Union High School District serve the Transit Corridors Area and San Bruno. This section describes existing conditions related to these school districts, the relevant regulatory setting, and the potential impacts of the Transit Corridors Plan related to schools.

13.5.1 Environmental Setting

(a) San Bruno Park Elementary School District. The San Bruno Park Elementary School District operates seven elementary schools and one middle school. Schools in the San Bruno Park Elementary School District are at capacity; however, there are no projected increases in enrollment over the next five years. Most District school facilities were built in the 1940s and 1950s. The District also has two excess school sites which are being used for district offices and a driving range.[1] 2009/2010 enrollment at San Bruno Park Elementary School District schools is presented in Table 13.8.

(b) San Mateo Union High School District. The San Mateo Union High School District operates eight schools, of which two--Cappuccino High School and Peninsula High School--are located 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 capacity, but expects enrollment to increase once major facility upgrades are completed and curriculum changes occur. Peninsula High School is a continuation high school located at the former Crestmoor High School site. Peninsula High School is under capacity, and no facilities improvements are planned.[2] 2009/2010 enrollment at San Mateo Union High School District schools is presented in Table 13.9.

School enrollment in San Bruno has been decreasing steadily since 2000. According to the California Department of Finance, school enrollment county-wide is projected to decrease through 2018.[3]

[1]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-101.

[2]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-101.

[3]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-101.

Table 13.8
SAN BRUNO PARK ELEMENTARY SCHOOL DISTRICT 2009/2010 ENROLLMENT

School	2009/2010 Enrollment
Allen (Decima M.) Elementary	357
Belle Air Elementary	447
Crestmoor Elementary	225
El Crystal Elementary	237
John Muir Elementary	337
Parkside Intermediate	516
Portola Elementary	245
Rollingwood Elementary	256

SOURCE: California Department of Education Educational Demographics Unit, Enrollment by Grade for 2009-10 District and School Enrollment by Grade, http://dq.cde.ca.gov/dataquest, viewed February 21, 2011.

Table 13.9
SAN MATEO UNION HIGH SCHOOL DISTRICT 2009/2010 ENROLLMENT

School	2009/2010 Enrollment
Aragon High School	1,632
Burlingame High School	1,348
Capuchino High School	1,161
Hillsdale High School	1,273
Mills High School	1,469
Peninsula High School (continuation)	246
San Mateo High School	1,349

SOURCE: California Department of Education Educational Demographics Unit, Enrollment by Grade for 2009-10 District and School Enrollment by Grade, http://dq.cde.ca.gov/dataquest, viewed February 21, 2011.

13.5.2 Regulatory Setting

(a) School Facilities Act of 1986. The California School Facilities Act of 1986 (AB 2926) authorizes entities to levy statutory fees on new residential and commercial/industrial development in order to pay for school facilities. AB 2926 was revised by the passage of AB 1600, which added Section 66000 *et seq.* of the Government Code.

(b) California Government Code Sections 65995, 65996(a) and 65996(b). The California State Legislature has determined that school impact fees shall be the exclusive method of mitigating the school facilities impacts of a project or plan, has set limits on school impact fees, and has determined that payment of school impact fees shall be deemed to provide full and complete school facilities mitigation.

(c) San Bruno General Plan. The Public Facilities and Services Element of the San Bruno General Plan contains the following policies related to consideration of the Transit Corridors Plan impact on schools.

PFS-H Coordinate with local school districts to provide high quality public schooling for San Bruno's youth.

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

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.*

13.5.3 Significance Criteria

Based on the CEQA Guidelines,[1] the Transit Corridors Plan would create a significant impact on public school services if it would:

(a) Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, or the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives of the school districts.

[1] CEQA Guidelines, Appendix G, item XIII(a).

13.5.4 Impacts and Mitigation Measures

Project Impacts on Schools. The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area by 2030.

The permitted method for addressing school enrollment increase impacts is limited to the state-authorized statutory authority of school districts to impose school impact fees. State government code sections established in 1998 (sections 65995 and 65996) have pre-empted and limited the ability of cities to exercise their police power to mitigate school impacts. A city government may not impose development requirements regarding school facilities in a manner inconsistent with state statutes on the subject. Therefore, under current statutes and case law, payment of the required school impact fees would address the impact of the Transit Corridors Plan on school services to the furthest extent permitted by law. School impact fees are collected when building permits are issued. The state-mandated school fee maximums may permit increases in local school impact fees prior to issuance of building permits for development in the Transit Corridors Area.

The courts have held that increased classroom enrollment resulting in school overcrowding is considered a "social" rather than a physical "environmental" impact and is not, in itself, a significant environmental impact requiring mitigation under CEQA (Goleta Union School District vs. Regents of University of California [2d Dist. 1995]). The duty of a lead agency to mitigate school impacts beyond the state-mandated fees arises only where there is a physical environmental impact involved beyond the mere addition of students to a school. Without definitive, detailed information on specific future school district facility expansion plans, identification of such secondary physical environmental impacts at this time would be speculative.

The San Bruno Park Elementary School District and the San Mateo Union High School District collect school impact fees from non-residential development within the Transit Corridors Area. Under California Government Code Sections 65995, 65996(a) and 65996(b), payment of fees is deemed to be full and complete mitigation. Therefore, the impact of the Transit Corridors Plan related to schools would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Cumulative Impacts on Schools. Development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development in the city, would result in an estimated total of approximately 2,640 new housing units and 2,340,200 square feet of new non-residential development within San Bruno by 2030. This cumulative development would result in an increase in service calls.

School enrollment in San Bruno has been decreasing steadily since 2000. According to the California Department of Finance, school enrollment county-wide is projected to decrease through 2018. The General Plan, however, makes the conservative projection that additional development may steadily increase school-age population and thus enrollment, resulting in about 5,100 projected enrolled students in 2025 as compared to about 4,100 today. The San Bruno General Plan EIR found that since area schools are well below capacity, and Cappuccino High School is undergoing major facility upgrades, buildout of the General would not result in new facility needs.

Cumulative development would be assessed San Bruno Park Elementary School District and the San Mateo Union High School District development impact fees. The California State Legislature has determined that school impact fees shall be the exclusive method of mitigating the school facilities impacts of a project or plan, has set limits on school impact fees, and has determined that payment of school impact fees shall be deemed to provide full and complete school facilities mitigation.[1] The duty of a lead agency to mitigate school impacts beyond the state-mandated fees arises only where there is a physical environmental impact. Depending on their location and characteristics, the construction of any new or expanded school facilities could cause environmental impacts; however, the location, timing, nature, extent and severity of any potential environmental impacts are too speculative to predict or evaluate at this time. School facilities construction would require its own environmental review in accordance with CEQA.

Therefore, cumulative impacts related to schools would be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

13.6 LIBRARY SERVICE

This section describes the existing conditions and regulatory setting, and the potential impacts of the Transit Corridors Plan related to library service.

13.6.1 Environmental Setting[2]

The San Bruno Public Library is a member of the Peninsula Library System, a consortium of 35 public and community college libraries located in San Mateo County. San Bruno's 15,600 square foot library is located on El Camino Real adjacent to City Hall. The library has over 120,000 circulating items, including books, magazines, videos, DVDs, CDs, books on tape and books on CD. Adult programming encompasses computer classes, a book club, and several yearly special programs. Children's services include reading and audio-visual materials, as well as regular preschool story times, a summer reading club, after-school specials, and a computer education program for fifth-graders. 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 current library facility was built in 1955 and expanded in 1960. An August 2000 Facility Master Plan identified a shortage of materials and resources available to San Bruno residents. The Master Plan also found that the current library site is too small to support an efficient building and parking configuration. An 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 on El Camino Real. The existing library structure would then be used for City Council Chambers, meeting space, and/or offices. The Committee also recommended preparation of a parking plan in recognition of the limited parking available within the Civic Center complex.

[1] California Government Code Sections 65995, 65996(a) and 65996(b)

[2] City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-105.

13.6.2 Regulatory Setting

(a) San Bruno General Plan. The Public Facilities and Services Element of the San Bruno General Plan contains the following policies relevant to consideration of the Transit Corridors Plan impacts on library service:

PFS-I Provide a diverse range of research, educational, and reading materials through the San Bruno Public Library.

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-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.

13.6.3 Significance Criteria

Based on the CEQA Guidelines,[1] the Transit Corridors Plan would have a significant impact related to library services if it would:

(a) Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, or the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for parks and recreational services;

13.6.4 Impacts and Mitigation Measures

Project Impacts on Library Service. The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area by 2030. The Transit Corridors Plan would result in an increase in service population, which would exacerbate the existing library space deficiency and increase the need for additional library space. An August 2000 Facility Master Plan identified the need for additional library space within a new building and an Ad Hoc Library Citizens Committee recommended two sites within the existing Civic Center complex on El Camino Real. Construction of additional library space could cause a significant effect on the environment. Library facilities construction would require its own environmental review in accordance with CEQA. Additionally, cumulative development

[1] CEQA Guidelines, Appendix G, item XIII(a).

would be required to pay the development impact fee for libraries. Therefore, potential impacts related to the construction of library facilities from implementation of the Transit Corridors Plan would be ***less than significant.***

Mitigation. No impact has been identified; no mitigation is required.

Cumulative Impacts on Library Service. Development facilitated by the proposed Transit Corridors Plan, together with other reasonably foreseeable development in the city, would result in an estimated total of approximately 2,640 new housing units and 2,340,200 square feet of new non-residential development within San Bruno by 2030. This cumulative development would result in an increase in service population, which would exacerbate the existing library space deficiency and increase the need for additional library space. An August 2000 Facility Master Plan identified the need for additional library space within a new building and an Ad Hoc Library Citizens Committee recommended two sites within the existing Civic Center complex on El Camino Real. Construction of additional library space could cause a significant effect on the environment. Library facilities construction would require its own environmental review in accordance with CEQA. Additionally, cumulative development would be required to pay the development impact fee for libraries. Therefore, cumulative impacts related to library facilities would be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

13.7 PARKS AND RECREATION

This section describes the existing conditions and regulatory setting related to parks and recreation and the potential impacts of the Transit Corridors Plan.

13.7.1 Environmental Setting

(a) Existing Park and Recreation Facilities. San Bruno currently has five small pocket parks, 12 neighborhood parks, and one large community park. In addition to city parks, local recreation centers, a senior center, the City Pool, school facilities, 108-acre Junipero Serra Park operated by the San Mateo County Parks and Recreation Division, hiking trails within open space areas, and a private golf driving range offer recreational opportunities.[1]

Table 13.10 presents existing park facilities within and near the Transit Corridors Area. The only park located within the Transit Corridors Area is Posy Park, located. An additional six parks are located adjacent to or near the Transit Corridors Area, including Lion's Field Park, 7th Avenue Park, 7th & Walnut Park, Herman Park, Bayshore Circle Park and Forest Lane Park.

The Community Services Department Parks Division maintains the City's developed municipal park sites, four school sites, street medians, and common landscaping along San Mateo Avenue and at other City facilities. The Parks Division is also responsible for common street tree maintenance, vegetation management in open space areas, and for maintenance of recreation and civic buildings and facilities.

[1]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, pp. 3-90 to 3-94.

Table 13.10
EXISTING PARK FACILITIES WITHIN AND NEAR THE TRANSIT CORRIDORS AREA

Park	Type of Park	Size (acres)	Facilities
Posy Park	Pocket	0.25	
Lion's Field Park		3	Picnic/passive, sports fields, turf, rest rooms, meeting rooms.
7th Avenue Park	Neighborhood	0.5	Play areas, turf.
7th & Walnut Park	Neighborhood	1	Play areas, sports fields, turf.
Herman Tot Lot	Pocket	0.25	Play areas, turf.
Bayshore Circle Park	Neighborhood	1	Play areas, sports fields, turf.
Forest Lane Park	Neighborhood	4	Picnic/passive, play areas, turf.

SOURCE: City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-93.

The City's 2003 Comprehensive Parks and Recreational Facilities Master Plan identified priorities for San Bruno parks and recreation facilities. First, addressing the number of public health, safety and welfare issues present in all facilities. Second, replacing all playgrounds to reflect current national playground safety, accessibility and design standards. Third, developing programs for currently underrepresented user groups such as senior citizens and teens, providing quality athletic equipment for organized sports, and modernizing systems to create a more efficient and cost-effective system.[1]

This City has established a parkland standard of 4.5 acres per 1,000 residents (General Plan Policy OSR-1 and 12.44 of the Municipal Code). With 72 acres of existing city parks facilities, San Bruno currently provides approximately 1.8 acres of parkland per 1,000 residents. However, if San Mateo County's Junipero Serra Park is included in this figure, there are 4.5 acres of parkland per 1,000 residents. The San Bruno General Plan EIR identified a need for approximately 20 acres of new parkland in order to maintain the City's parkland standard under General Plan buildout conditions.[2]

The City has established a parkland dedication or in-lieu fee requirement that applies to new subdivisions.

[1]City of San Bruno, Community Services Department, Recreation Division, http://www.sanbruno.ca.gov/rec_masterplan.html, viewed February 21, 2011.

[2]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-96.

13.7.2 Regulatory Setting

(a) State Public Park Preservation Act. The primary instrument for protecting and preserving parkland is the State Public Park Preservation Act. Under the Public Resources Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

(b) Quimby Act. California Government Code Section 66477, Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fee are based upon the residential density, parkland cost, and other factors. Land dedicated and fees collected pursuant to the Quimby Act may only be used for developing new, or rehabilitating existing park or recreational facilities.

(c) San Bruno General Plan. The Open Space and Recreation Element of the San Bruno General Plan contains the following policies pertinent to consideration of Transit Corridors Plan impacts related to parks and recreation:

OSR-C Provide sufficient public open spaces and landscaped areas within Downtown, Bayhill Office Park, Tanforan District, El Camino Real, and Montgomery Street, as well as residential neighborhoods.

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 Ordinance 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 park land to the City system over the next 20 years. Seize 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 neighborhood park facilities within 1/3-mile walking distance of all residences in San Bruno.

13.7.3 Significance Criteria

Based on the CEQA Guidelines,[1] the Transit Corridors Plan would create a significant impact on parks and recreational services if its implementation would:

(a) Result in substantial adverse physical impacts associated with the provision of new or physically altered parks and recreational facilities, or the need for new or physically altered parks and recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for parks and recreational services;

[1] CEQA Guidelines, Appendix G, items XIII(a), XIV(a), and XIV(b).

(b) Result in an increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or

(c) Include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

13.7.4 Impacts and Mitigation Measures

Project Impacts on Parks and Recreation. The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area by 2030. Based on the City's parkland standard of 4.5 acres of parkland per 1,000 residents, the estimated 4,363 additional residents with the Transit Corridors Plan would generate a need for an additional 19.6 acres of parkland. The estimated 2,412 additional residents with the Transit Corridors Plan over the number at buildout of the current General Plan would generate a need for an additional 10.9 acres of parkland over the amount of parkland required at buildout of the current General Plan. Development would be required to pay the City's park and recreation facilities impact fees. Park and recreation facilities may also be provided as part of new development projects.

The Transit Corridors Plan recommendations would make important contributions to the City's parks and public realm. The Transit Corridor Plan calls for anchoring the northern end of Downtown with a redesigned Posy Park. Although not parkland per se, the Transit Corridors Plan also calls for new plazas, pedestrian connections and other enhancements of the public realm. The Transit Corridor Plan Public Realm Design Guidelines, Open Space Guidelines include guidelines for pocket parks, plazas, greenways, alleys and pedestrian connections. The Open Space Guidelines are intended to ensure that community spaces throughout the Transit Corridors Area are designed to be welcoming to pedestrians and fit seamlessly into their surrounding environments.

The Transit Corridors Plan recommendations would make important contributions to the City's parks and public realm. Development would be required to pay the City's park and recreation facilities impact fees. Park and recreation facilities may also be provided as part of new development projects. Therefore, the parks and recreation impacts of the Transit Corridors Plan would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Cumulative Impacts on Parks and Recreation. Development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development in the city under the General Plan, would result in an estimated total of approximately 2,640 new housing units and 2,340,200 square feet of new non-residential development within San Bruno by 2030. Based on the City's parkland standard of 4.5 acres of parkland per 1,000 residents, the estimated 7,174 additional residents with cumulative development would generate a need for an additional 32.2 acres of parkland. Development would be required to pay the City's park and recreation facilities impact fees. Park and recreation facilities may also be provided as part of new development projects. Therefore, cumulative impacts related to parks and recreation would be ***less than significant.***

Mitigation. No significant cumulative impact has been identified; no mitigation is required.

13.8 SOLID WASTE DISPOSAL AND RECYCLING

This section describes the existing conditions and regulatory setting related to solid waste disposal and recycling services and the potential impacts of the Transit Corridors Plan.

13.8.1 Environmental Setting

(a) Solid Waste Collection. San Bruno Garbage Company (SBGC), a Norcal Waste Systems company, located at 101 Tanforan Avenue, provides solid waste disposal services to San Bruno. SBGC transports solid waste to its transfer station, located at 101 Tanforan Avenue, where it is processed and sorted, and loaded into long-haul trucks for transfer to the landfill or recycling facilities.[1]

(b) Solid Waste Disposal. The solid waste is then hauled to the Ox Mountain Landfill, located off of State Route 92 between Half Moon Bay and San Mateo. 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 total permitted capacity of 35.9 million cubic yards. According to the California Integrated Waste Management Board (CIWMB), the Ox Mountain Landfill is estimated to have a remaining capacity of approximately 31 million cubic yards or 80 percent of its total potential capacity. This landfill is currently permitted to operate through January 2018; a longer operation period is pending renewal of the landfill's permit.[2]

(c) Recycling. San Bruno's curbside recycling program includes collection of glass, plastics, aluminum, newspaper, cardboard, and yard waste from residential and commercial developments within the city. San Bruno achieved a 49 percent diversion rate in 2006, the last year confirmed diversion rates were available from California Department of Resources Recycling and Recovery (CalRecycle).[3]

13.8.2 Regulatory Setting

(a) California Integrated Waste Management Act. California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for Cities and Counties to divert 50 percent of all solid waste from landfills by January 1, 2000 through source reduction, recycling and composting. To help achieve this goal, the Act requires that each City and County prepare and submit a Source Reduction and Recycling Element that addresses waste characterization, source reduction, recycling, composting, solid waste facility capacity, education and public information, funding, and special wastes. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

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[1]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-127.

[2]City of Redwood City, A New General Plan for Redwood City Draft Environmental Impact Report, May 2010, p. 4.12-6.

[3]California Department of Resources Recycling and Recovery (CalRecycle) jurisdiction profile for Rio Vista, http://www.calrecycle.ca.gov/Profiles/Juris/JurProfile2.asp?RG=C&JURID=405&JUR=Rio+Vista, accessed January 21, 2010.

(b) California Solid Waste Reuse and Recycling Access Act of 1991. The California Solid Waste Reuse and Recycling Access Act requires areas to be set aside for collecting and loading recyclable materials in development projects and for local agencies to adopt such an ordinance.

(c) San Bruno General Plan. The Public Facilities and Services Element of the San Bruno General Plan contains the following relevant policies:

PFS-E Ensure that the City's solid waste collection agency provides clean and convenient garbage and recycling service.

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).

13.8.3 Significance Criteria

Based on the CEQA Guidelines[1], the Transit Corridors Plan would result in a significant impact related to solid waste disposal and recycling services if it would:

(a) Result in a need for new or physically altered facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for solid waste disposal and recycling services;

(b) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or

(c) Fail to comply with federal, state, and local statutes and regulations related to solid waste.

13.8.4 Impacts and Mitigation Measures

Project Impacts on Solid Waste Service. The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area by 2030. Demolition and construction activities, and the operation of new development facilitated by the Transit Corridors Plan, would generate additional solid waste. Based on recent diversion rates for San Bruno, an estimated half of this waste would be diverted through recycling and composting, and the remainder would require landfill disposal. Given the sufficient permitted capacity of the Ox Mountain Landfill, the impact of the Transit Corridors Plan related to solid waste disposal would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

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[1] CEQA Guidelines, Appendix G, items XIII(a) and XVI(f and g).

Cumulative Impacts on Solid Waste Service. Development facilitated by the Transit Corridors Plan, together with other reasonably foreseeable development in the city, would result in an estimated total of approximately 2,640 new housing units and 2,340,200 square feet of new non-residential development within San Bruno by 2030. This cumulative development would generate additional solid waste. Based on recent diversion rates for San Bruno, an estimated half of this waste would be diverted through recycling and composting, and the remainder would require landfill disposal. Given the sufficient permitted capacity of the Ox Mountain Landfill, cumulative impacts related to solid waste disposal would be ***less than significant.***

14. TRANSPORTATION

This chapter describes existing conditions and policies related to transportation, evaluates the short-term and long-term impacts of the Transit Corridors Plan on transportation, and identifies transportation system improvements needed to mitigate impacts.

The information in this chapter is derived from the San Bruno Transit Corridors Plan Transportation Impact Analysis prepared by Fehr & Peers, transportation planners, which is available for review at the City of San Bruno Community Development Department.[1]

14.1 METHODOLOGY

14.1.1 Roadway System

(a) Intersections and Freeway Segments Studied. Traffic operations were analyzed at eight study intersections and four freeway segments, which were selected in consultation with City staff. Project roadway system impacts were evaluated following the guidelines of the City of San Bruno, the City/County Association of Governments of San Mateo County (C/CAG), and the California Department of Transportation (Caltrans).

(1) Intersections. Intersections, rather than midblock roadway segments, are almost always the critical capacity-controlling locations for vehicular travel on urban and suburban roadway networks. The selected eight (8) study intersections are listed below and shown in Figure 14.1. The jurisdiction controlling the intersection and the type of intersection traffic control are listed in parentheses after each intersection.

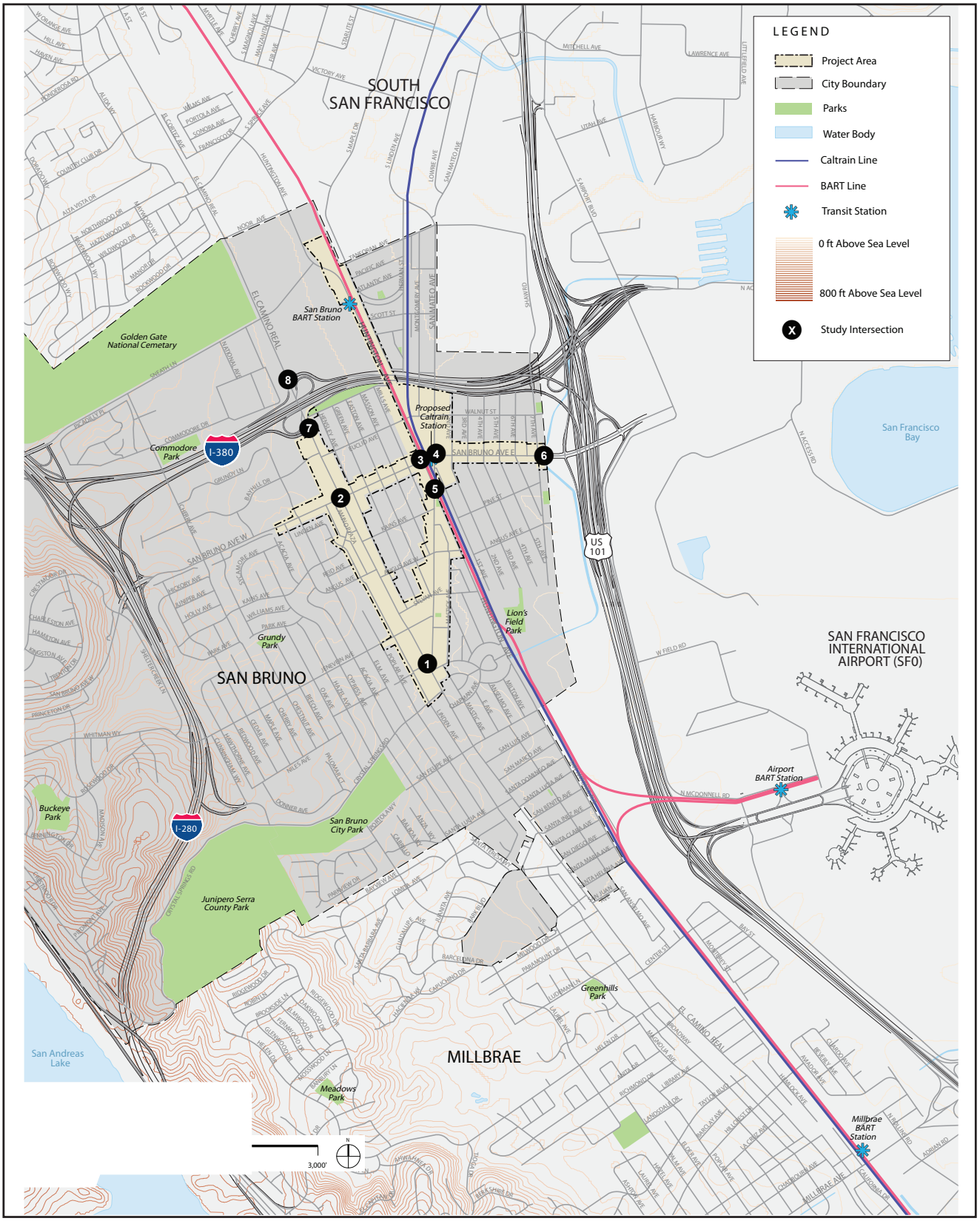
- El Camino Real/San Mateo Avenue/Taylor Avenue (San Bruno/Caltrans, Signalized);
- El Camino Real/San Bruno Avenue (C/CAG/Caltrans, Signalized);
- Huntington Avenue/San Bruno Avenue (San Bruno, Signalized);
- San Mateo Avenue/San Bruno Avenue (San Bruno, Signalized);
- San Mateo Avenue/Huntington Avenue (San Bruno, Unsignalized);
- San Bruno Avenue/Southbound US 101 Ramps (San Bruno/Caltrans, Signalized);
- El Camino Real/Eastbound I-380 Ramps (San Bruno/Caltrans, Signalized); and
- El Camino Real/Westbound I-380 Ramps (San Bruno/Caltrans, Signalized).

(2) Study Freeway Segments. The four study (4) freeway segments are listed below.[2]

- US 101 north of I-380 (northbound and southbound);

[1] Fehr & Peers, San Bruno Transit Corridors Plan Draft Transportation Impact Analysis, August 18, 2011.

[2] The US 101 segment between I-380 and San Bruno Avenue was not selected for analysis, since this short freeway segment of US 101 is not technically a true freeway segment, but rather a weaving segment due to the many on- and off-ramps from I-380 along this segment.



SOURCE: Fehr & Peers

Figure 14.1

STUDY INTERSECTIONS

- US 101 south of San Bruno Avenue (northbound and southbound);
- I-380 east of El Camino Real (eastbound and westbound); and
- I-380 west of El Camino Real (eastbound and westbound).

(b) Level of Service Methods. The operations of roadway facilities are described in this EIR using the level of service (LOS) methodology. LOS is a qualitative description of vehicle traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six LOS levels are defined, from LOS A, indicating the least congested operating conditions, to LOS F, indicating the most congested operating conditions. LOS E represents "at-capacity" operations. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions.

(1) Signalized Intersections. The LOS analysis method for signalized intersections approved by the City and C/CAG analyzes intersection operations based on average control vehicular delay, as described in Chapter 16 of the 2000 *Highway Capacity Manual* (*HCM*) published by the Transportation Research Board. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using the Synchro analysis software and is correlated to a LOS designation. Table 14.1 presents signalized intersection level of service definitions applied in this EIR using average control vehicular delay.

(2) Unsignalized Intersections. Unsignalized intersections (all-way stop controlled and side-street stop controlled) have been evaluated using the 2000 *Highway Capacity Manual--Special Report 209* (Chapter 17) method. Under this method, operations are defined by the average control delay per vehicle (measured in seconds) for each stop-controlled movement. This method incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop controlled intersections, the delay reported in this EIR is represented for the worst-case minor street approach. For all-way stop controlled intersections, the level of service is represented by the average control delay for the whole intersection. Table 14.2 summarizes the relationship between delay and LOS ratings used in this EIR for unsignalized intersections. The ranges are lower than signalized intersections as drivers accept lower delays at unsignalized intersections.

(3) Freeway Segments. Freeway operations were evaluated for this EIR using the 2000 *Highway Capacity Manual* (HCM) volume-to-capacity ratio method, per C/CAG guidelines. Under this method, the peak hour volume on a segment in each direction is compared to the segment's vehicle carrying capacity and a volume-to-capacity (v/c) ratio is calculated. The capacity is estimated as the number of lanes multiplied by 2,200 vehicles per hour per lane for four-lane freeway segments and 2,300 vehicles per hour per lane for segments with six or more lanes. For this EIR, the freeway free-flow speed was determined to be 65 miles per hour. Table 14.3 presents LOS ratings used in this EIR based on the maximum v/c ratio for freeways with a 65 mile per hour free flow speed. LOS E and LOS F are the C/CAG operating standards for US 101 and I-380, respectively, near the Transit Corridors Area.

Table 14.1
SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS USING AVERAGE CONTROL VEHICULAR DELAY

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

SOURCE: *Highway Capacity Manual*, Transportation Research Board, 2000.

Table 14.2
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay	≤ 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

SOURCE: Transportation Research Board, *Highway Capacity Manual - Special Report 209*, 2000.

Table 14.3
LEVEL OF SERVICE CRITERIA FOR FREEWAY SEGMENTS

Level of Service[a]	Description	Volume-to-Capacity Ratio
A	Free flow operations with average operating speeds at, or above, the speed limit. Vehicles are unimpeded in their ability to maneuver.	0.30
B	Free flow operations with average operating speeds at the speed limit. Ability to maneuver is slightly restricted. Minor incidents cause some local deterioration in operations.	0.50
C	Stable operations with average operating speeds near the speed limit. Freedom to maneuver is noticeably restricted. Minor incidents cause substantial local deterioration in service.	0.71
D	Speeds begin to decline slightly with increasing flows. Freedom to maneuver is more noticeably restricted. Minor incidents create queuing.	0.89
E	Operations at capacity. Vehicle spacing causes little room to maneuver but speeds exceed 50 mph. Any disruption to the traffic stream can cause a wave of delay that propagates throughout the upstream traffic flow. Minor incidents cause serious breakdown of service with extensive queuing. Maneuverability is extremely limited.	1.00
F	Operations with breakdowns in vehicle flow. Volumes exceed capacity causing bottlenecks and queue formation.	N/A

SOURCE: *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000).

[a]Freeway mainline LOS based on a 65 mph free-flow speed.

14.2 ENVIRONMENTAL SETTING

14.2.1 Existing Roadway System

(a) Existing Roadway Network. Regional access to the Transit Corridors Area is provided via US 101 and I-380. Local access is provided via El Camino Real (SR 82), San Bruno Avenue, San Mateo Avenue, and Huntington Avenue. Descriptions of these key roadway facilities are presented below.

- *US 101* extends north to San Francisco and south to San Jose. Near the Transit Corridors Area, US 101 has five mixed-flow lanes. An interchange at San Bruno Avenue provides local access. Near the Transit Corridors Area, US 101 has an existing average daily traffic (ADT) volume of approximately 240,000 vehicles. Based on peak-hour travel speeds collected for the 2007 San Mateo County Congestion Management Plan (CMP), US 101 currently operates at LOS E near the Transit Corridors Area.

- *I-380* is an approximately 1.5-mile-long east-west freeway that connects US 101 and I-280. I-380 has four mixed-flow lanes in each direction. Local access is provided via an interchange at El Camino Real. The freeway currently carries about 130,000 ADT and operates at LOS F during the morning and evening peak commute periods.

- *El Camino Real* is a six-lane, north-south, divided arterial. El Camino Real is primarily fronted by civic and commercial land uses, including retail and auto repair facilities. In the Transit Corridors Area, El Camino Real currently carries about 41,000 ADT.

- *San Bruno Avenue* is a four-lane, east-west arterial. East of El Camino Real, San Bruno Avenue is an undivided roadway and west of El Camino Real the roadway is divided by a raised median. San Bruno Avenue is primarily fronted by commercial and light industrial uses. San Bruno Avenue currently carries about 12,000 ADT.

- *Huntington Avenue* is a two- to four-lane, north-south arterial that runs parallel to the existing Caltrain tracks. North of San Bruno Avenue, Huntington Avenue is a four-lane divided roadway and, south of San Bruno Avenue, the roadway is a two-lane undivided facility. On its west side, Huntington Avenue is fronted by a mix of residential and some commercial uses. Development on the east side of Huntington Avenue is minimal due to the proximity of the Caltrain tracks. In the Transit Corridors Area, Huntington Avenue north of San Bruno Avenue currently carries about 4,000 ADT.

- *San Mateo Avenue* is a two-lane, north-south, undivided arterial that traverses San Bruno's downtown. San Mateo Avenue is fronted by commercial uses and provides parallel on-street parking. In the Transit Corridors Area, San Mateo Avenue north of San Bruno Avenue currently carries about 2,000 ADT.

(b) Existing Traffic Volumes. This section describes the existing traffic volume conditions used to evaluate existing roadway operations.

(1) Existing Intersection Volumes. Intersection operations were evaluated during the morning (AM) and evening (PM) commute periods, when traffic volumes are highest. 2008 intersection counts from other traffic studies in the area were used for five of the eight study intersections. New traffic counts were collected for the El Camino Real/I-380 Westbound Ramp and El

Camino Real/I-380 Eastbound Ramp intersections. The counts were conducted for two-hour periods, 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, in early December 2010. The highest one-hour measured volumes during each of these periods (the AM and PM peak hour volumes) were used in the intersection analysis. These AM and PM peak hour volumes, as well as intersection lane configurations and traffic control devices (stop signs or traffic signals), are shown in Figure 14.2. Traffic count summaries are included in the San Bruno Transit Corridors Plan Transportation Impact Analysis prepared by Fehr & Peers, transportation planners, which is available for review at the City of San Bruno Community Development Department.[1]

(2) Existing Freeway Segment Volumes. Freeway segments on US 101 and I-380 were evaluated per San Mateo County Congestion Management Program (CMP) requirements. Existing peak hour volumes on US 101 were obtained from the 2007 Caltrans TSN Database. New traffic 24-hour mainline counts were collected in early December 2010 for I-380. Existing freeway segment levels of service standards were obtained from the San Mateo County (C/CAG) Congestion Management Program 2009 Traffic Level of Service and Performance Measure Monitoring Report (2009 CMP Monitoring Report).

(c) Existing Traffic Operations. Existing roadway system traffic operations are described below.

(1) Existing Intersection Levels of Service. Existing lane configurations and peak-hour turning movement volumes used to calculate the LOS for each of the eight study intersections during the AM and PM peak hours are shown in Figure 14.2. The results of the intersection analysis are presented in Table 14.4 and Figure 14.2. As shown, all of the study intersections currently operate at or better than their LOS standard and therefore have acceptable operations.

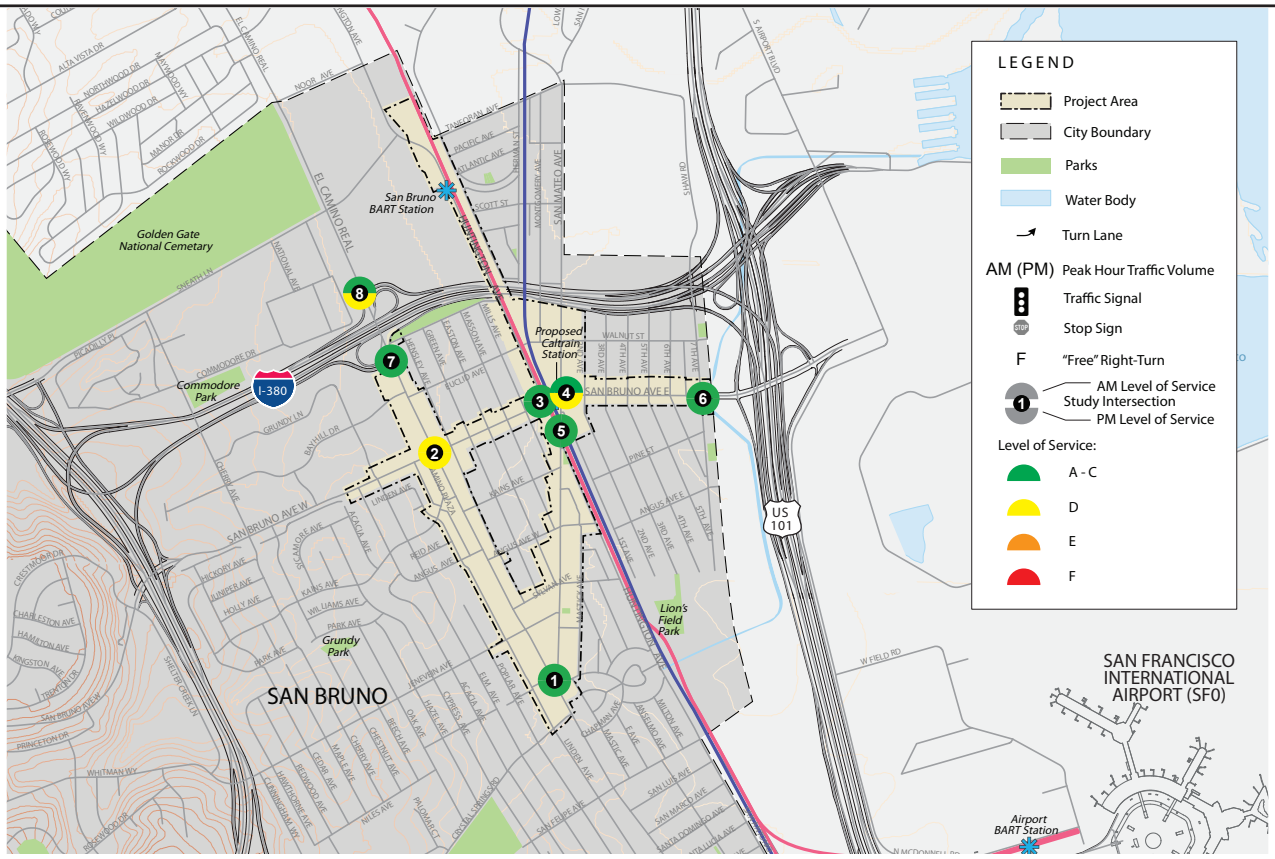
The LOS calculation sheets for the eight study intersections are contained in the San Bruno Transit Corridors Plan Transportation Impact Analysis prepared by Fehr & Peers, transportation planners, which is available for review at the City of San Bruno Community Development Department.[2] The calculation sheets include detailed input data and report the delay experienced by vehicle drivers for the intersection as a whole, on each approach, and for individual movements. An intersection "approach" corresponds to the all of the lanes approaching from one direction and intersection "movements" refer to the designated turn (left or right) or through for each lane (or lane group).

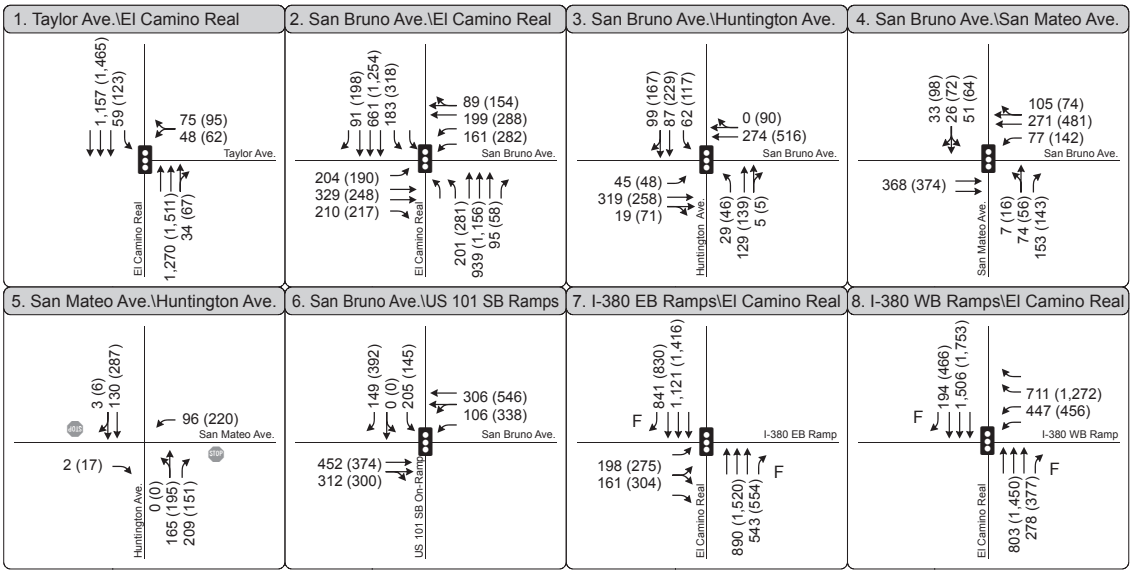
(2) Existing Freeway Segment Levels of Service. Table 14.5 describes the existing freeway segment LOS based on segment volume-to-capacity ratios due to existing volumes from Caltrans and counts. As shown, all study segments currently operate at or better than their CMP LOS standards.

(b) Existing Transit Service. The City encourages the use of transit as an alternative mode of transportation and is served by three major transit providers: Caltrain, Bay Area Rapid Transit (BART), and the San Mateo County Transit District (SamTrans). Transit service and facilities--bus routes, major bus stops, Caltrain tracks, and the existing BART/Caltrain station--are shown

[1] Fehr & Peers, San Bruno Transit Corridors Plan Draft Transportation Impact Analysis, August 18, 2011.

[2] Fehr & Peers, San Bruno Transit Corridors Plan Draft Transportation Impact Analysis, August 18, 2011.





SOURCE: Fehr & Peers

Figure 14.2

EXISTING AM AND PM PEAK-HOUR TURNING MOVEMENT VOLUMES, GEOMETRIES, AND INTERSECTION LEVELS OF SERVICE

Table 14.4
STUDY EXISTING INTERSECTION LEVELS OF SERVICE

Intersection (*Jurisdiction*)	Traffic Control	Peak Hour	Average Delay[1]	LOS[2]	LOS Standard
1. El Camino Real (SR 82)/Taylor Avenue (*SB/CT*)	Signal	AM	7.5	A	D
		PM	9.5	A	
2. El Camino Real (SR 82)/ San Bruno Avenue (*SB/CMP/CT*)	Signal	AM	37.9	D	E
		PM	39.5	D	
3. Huntington Avenue/ San Bruno Avenue (*SB*)	Signal	AM	27.3	C	D
		PM	31.5	C	
4. San Mateo Avenue/ San Bruno Avenue (*SB*)	Signal	AM	26.8	C	D
		PM	48.3	D	
5. San Mateo Avenue/ Huntington Avenue (North) (*SB*)	Side Street Stop	AM	9.2 (8.1)	A (A)	D
		PM	12.3 (10.3)	B (B)	
6. Southbound US 101 Ramps/San Bruno Avenue (*SB/CT)*	Signal	AM	19.8	B	D
		PM	18.2	B	
7. El Camino Real/ Eastbound I-380 Ramps *(SB/CT)*	Signal	AM	6.7	A	D
		PM	9.0	A	
8. El Camino Real/ Westbound I-380 Ramps *(SB/CT)*	Signal	AM	17.4	B	D
		PM	39.7	D	

SOURCE: Fehr & Peers, August 18, 2011.

Notes:

1. Whole intersection weighted average total delay for signalized and all-way stop-controlled intersections (expressed in seconds per vehicle). For side-street stop controlled intersections, delays for worst movement and average intersection delay are shown: worst movement (intersection average).
2. LOS calculations performed using the 2000 *Highway Capacity Manual - Special Report 209* delay methods for signalized and unsignalized intersections.
3. LOS standard for City of San Bruno and C/CAG.

Unacceptable operations are indicated in **bold** type.

Jurisdictions: SB = San Bruno, CMP = C/CAG Congestion Management Program, CT = Caltrans

Table 14.5
EXISTING FREEWAY LEVELS OF SERVICE

Study Segment	Direction	Number of Lanes	Capacity[2]	Peak Hour	Volume[1]	V/C[3]	LOS[4]	LOS Standard
US 101: North of I-380	NB	5	11,000	AM	6,418	0.58	C	E
				PM	6,094	0.55	C	
	SB	5	11,000	AM	5,987	0.54	C	
				PM	6,119	0.56	C	
US 101: South of San Bruno Avenue	NB	5	11,000	AM	5,954	0.54	C	E
				PM	5,001	0.45	B	
	SB	5	11,000	AM	5,376	0.49	B	
				PM	5,510	0.50	B	
I-380: West of El Camino Real	EB	3	6,600	AM	6,675	1.01	F	F
				PM	4,282	0.65	C	
	WB	4 + 2 auxiliary lanes	11,000	AM	3,271	0.30	A	
				PM	6,208	0.56	C	
I-380: East of El Camino Real	EB	3 + 1 auxiliary lane	8,100	AM	7,700	0.95	E	F
				PM	5,087	0.63	C	
	WB	4	8,800	AM	3,957	0.45	B	
				PM	7,093	0.81	D	

SOURCE: Fehr & Peers, August 18, 2011.

Notes:

1. Capacity based on number of lanes and per lane capacity of 2,200 vehicles per hour per lane (vphpl) for US 101 and I-380, per the C/CAG CMP Guidelines. Single lane auxiliary lanes were assumed to have a capacity of 1,500 vphpl, and two lane auxiliary lanes were assumed to have a capacity of 2,200 vphpl.
2. Peak hour volumes on US 101 obtained from Caltrans data and I-380 volumes obtained from counts.
3. Volume-to-Capacity ratio (V/C)
4. LOS calculations performed using the 2000 *Highway Capacity Manual - Special Report 209* methods for freeway segments

Unacceptable operations are indicated in **bold** type.

in Figure 14.3. Table 14.6 summarizes existing transit service in the Transit Corridors Area. According to 2000 Census data, approximately eight percent of San Bruno residents commute to work by transit, which is about one to two percentage points higher than the averages for the United States and California.

(1) SamTrans Bus Service. SamTrans bus routes 38, 43, 133, 140, 141, 390, 391, and MX provide service in or near the Transit Corridors Area and have existing bus stops located on El Camino Real, Jenevein Avenue, San Mateo Avenue, and San Bruno Avenue.

- *Route 38* is a limited stop route that provides service between the Colma BART station and Safe Harbor located east of US 101. Near downtown San Bruno, a stop is located at the San Bruno BART station. Route 38 provides service from Safe Harbor in the morning and to Safe Harbor in the afternoon.

- *Route 43* provides service between Millbrae Square and the San Bruno BART station. Route 43 only provides one-way service from Millbrae to San Bruno with two afternoon services. Bus stops are located on El Camino Real at Angus Avenue and San Bruno Avenue.

- *Route 133* provides bus service between the San Bruno BART station and the Serramonte Shopping Center. During the morning and evening peak periods Route 133 provides service at 30-minute headways.

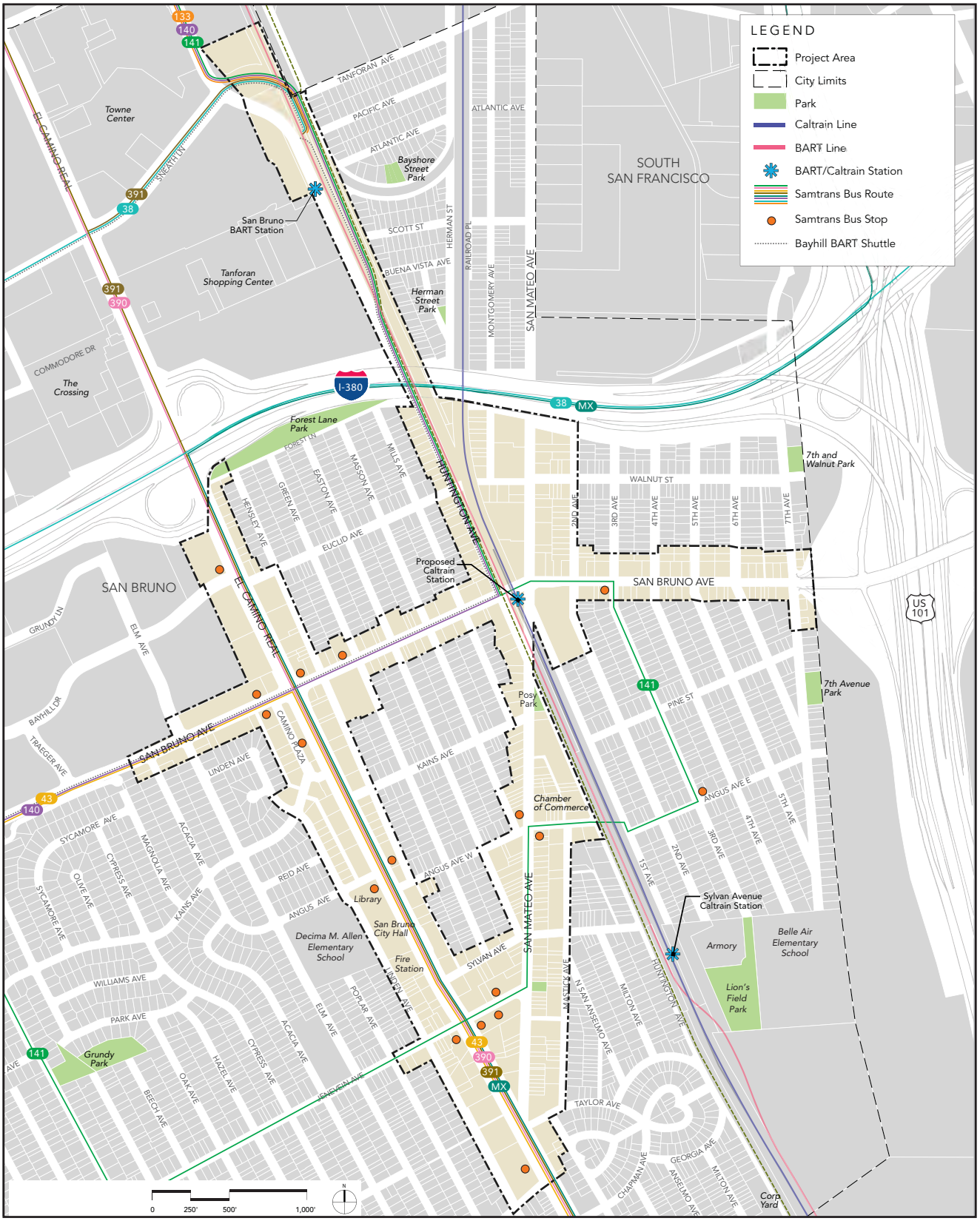
- *Route 140* provides hourly service between the San Bruno BART station and the Pacific Manor Shopping Center located in Pacifica. Bus stops near downtown San Bruno are located at the San Bruno BART station and on San Bruno Avenue near the El Camino Real intersection. Route 140 bus stops are marked by signs with some stops providing benches.

- *Route 141* provides bus service at 30-minute headways from the San Bruno BART station to the Shelter Creek/Jenevein Avenue intersection located west of I-280. In the Transit Corridors Area, bus stops are located on Jenevein Avenue east of El Camino Real and at the San Mateo Avenue/Angus Avenue intersection. The route 141 bus stops in the Transit Corridors Area do not have any amenities such as a bench and are only marked by a sign.

- *Routes 390 and 391* provide regional express bus service along El Camino Real and provide connections between Daly City and the cities of Redwood City and Palo Alto. Routes 390 and 391 provide service at 30-minute headways with bus stops located on El Camino Real at San Bruno Avenue, Angus Avenue, Jenevein Avenue, and San Mateo Avenue. The bus stops on El Camino Real provide covered shelters and benches.

- *Route MX* provides express service between San Mateo and the San Francisco Transbay Terminal. Bus stops are located on El Camino Real at San Bruno Avenue, Angus Avenue, Jenevein Avenue, and San Mateo Avenue. Route MX shares bus stops with Routes 390 and 391.

Planned short-range improvements to SamTrans service focus on optimizing the current system's condition and performance, and include vehicle replacement, vehicle expansion, adding Clipper and other fare collection equipment, installing information technology, and planning for transit oriented development.



SOURCE: Fehr & Peers

Figure 14.3

EXISTING TRANSIT SERVICE

Table 14.6
EXISTING TRANSIT SERVICE

			Weekdays			Weekends	
				Headway[1] (minutes)			Headway[1] (minutes)
Route	From	To	Operating Hours	Peak	Midday	Operating Hours	Peak
Bus Service (SamTrans):							
38	Safe Harbor	San Bruno BART	6:00 a-7:15 a 5:30 p-7:45 p	20	-	6:30 a-8:00 a 5:00 p-7:00p	40
43	Murchison/Magnolia	San Bruno BART	3:20 p-4:00 p	-	One Trip	No Service	-
133	Serramonte Shopping Center	Airport/Linden	6:00 a-7:00 p	30	120	9:30 a-6:30 p	120
140	West Manor/Palmetto	San Bruno BART	6:00 a-11:15 p	30	120	7:50 a-6:50 p	120
141	Cherry/Hickory	San Bruno BART	6:00 a-7:30 p	30	30	No Service	-
390	Palo Alto Caltrain	Daily City BART	5:30 a-1:15 a	30	30	5:45 a-2:45 a	30
391	Redwood City Caltrain	Mission/1st San Francisco	4:15 a-2:15 a	20	30	5:00 a- 2:30 a	30
MX	El Camino Real/5th San Mateo	Mission/1st San Francisco	6:00 a-8:30 a 4:00 p-6:45 p	30	-	No Service	-
Rail Service:							
Caltrain	San Francisco (4th & King)	Gilroy	5:00a-11:30p	30	30	8:00a-11:30p	60
BART	Millbrae	Richmond	4:00a-8:00p	15	15	No Service to San Bruno	-
BART	Millbrae	Pittsburg	4:00a-1:30a	15	15	6:00a-1:30a	20
BART	Millbrae	Dublin/Pleasanton	6:15p-1:30a	15	15	6:00-12:00a	20

SOURCE: SamTrans, Caltrain, BART, 2010.

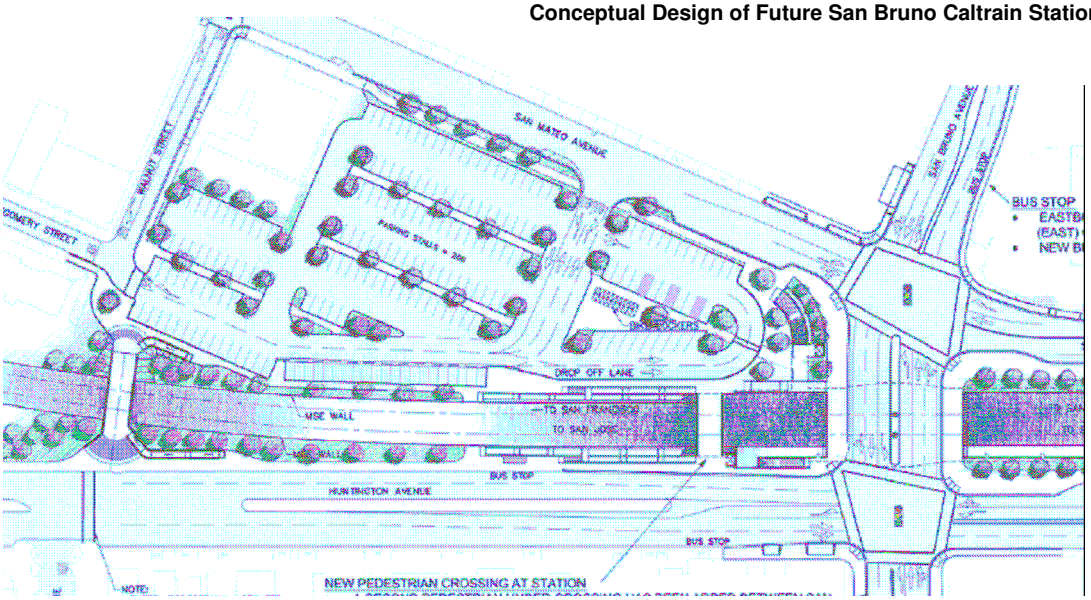
Notes:

1. Headways are defined as the time interval between two transit vehicles traveling in the same direction over the same route.

(2) Caltrain Commuter Rail Service. Caltrain is owned by the Peninsula Corridor Joint Powers Board, operated under contract with Amtrak, and managed under contract with SamTrans. Caltrain operates 50 miles of commuter rail between San Francisco and San Jose with limited service trains to Morgan Hill and Gilroy during weekday commute periods. During the morning peak period, Caltrain stops at the San Bruno station approximately every 30 minutes in the northbound direction and hourly in the southbound direction. Similarly, Caltrain operates hourly in the northbound direction and every 30 minutes in the southbound direction during the evening peak period. On weekdays, Caltrain operates approximately 100 trains per day of local, limited stop, and Baby Bullet express services in both directions. The travel time between San Bruno and San Francisco ranges from 15 and 27, minutes depending on the type of train service (i.e., local vs. limited stop trains). Between San Bruno and San Jose, the travel time is approximately 60 minutes for both local and limited stop services. The San Bruno Caltrain station is not served by the system's Baby Bullet express service. In 2010, the San Bruno Caltrain station had an average weekday ridership of approximately 760 passengers, with ridership ranking as number 19 out of the 29 Caltrain stations.

The Caltrain San Bruno Grade Separation Project currently under construction will relocate the existing Sylvan Avenue Caltrain Station to the San Mateo Avenue/San Bruno Avenue/ Huntington Avenue location and elevate the tracks above the street. A conceptual design of the station area is shown below. The station relocation will require the realignment of the San Mateo Avenue/Huntington Avenue intersection.

Conceptual Design of Future San Bruno Caltrain Station



Planned short-range system-wide improvements to Caltrain focus on a strategy called the State of Good Repair, a systematic approach to optimizing the current system's condition and performance. Planned improvements to Peninsula Caltrain service include upgrading signaling and communications systems, replacing old bridges, enhancing approach speeds and flexibility at the San Francisco terminus, and eliminating all remaining "hold-out" stations, where trains are

required to wait while another train is in the main station. Planned long-range improvements include electrification of the entire line to improve operating efficiency and provide environmental benefits.

(3) Bay Area Rapid Transit District (BART). BART is a regional commuter rail line that provides rapid transit service to the counties of Alameda, Contra Costa, San Francisco, and northern San Mateo. BART completed the construction of four new stations in 2003, the South San Francisco, SFO, Millbrae, and San Bruno stations. At the San Bruno station, BART provides service to Richmond and Pittsburg to the north via San Francisco, and to Millbrae and the San Francisco airport to the south. Each route provides service at approximately 15-minute headways weekdays. In fiscal year 2010, the San Bruno BART station had an average weekday ridership of approximately 5,200 passengers, which is low compared to other BART stations. The low ridership numbers can be partially attributed to low residential density in the vicinity of the station. The average weekday ridership for all 43 BART stations is 15,600 passengers, with a range between 4,200 and 68,600 passengers. Ridership at the San Bruno BART station has increased by two percent each quarter since its opening in 2003.

(c) Existing Pedestrian Facilities. The mild climate, relatively flat terrain, and proximity to recreational and non-recreational destinations provide an ideal environment for walking and bicycling in San Bruno. According to 2000 Census data, a total of approximately three percent of San Bruno residents commute to work by bicycle or walking, which is similar to both the California and the United States averages.

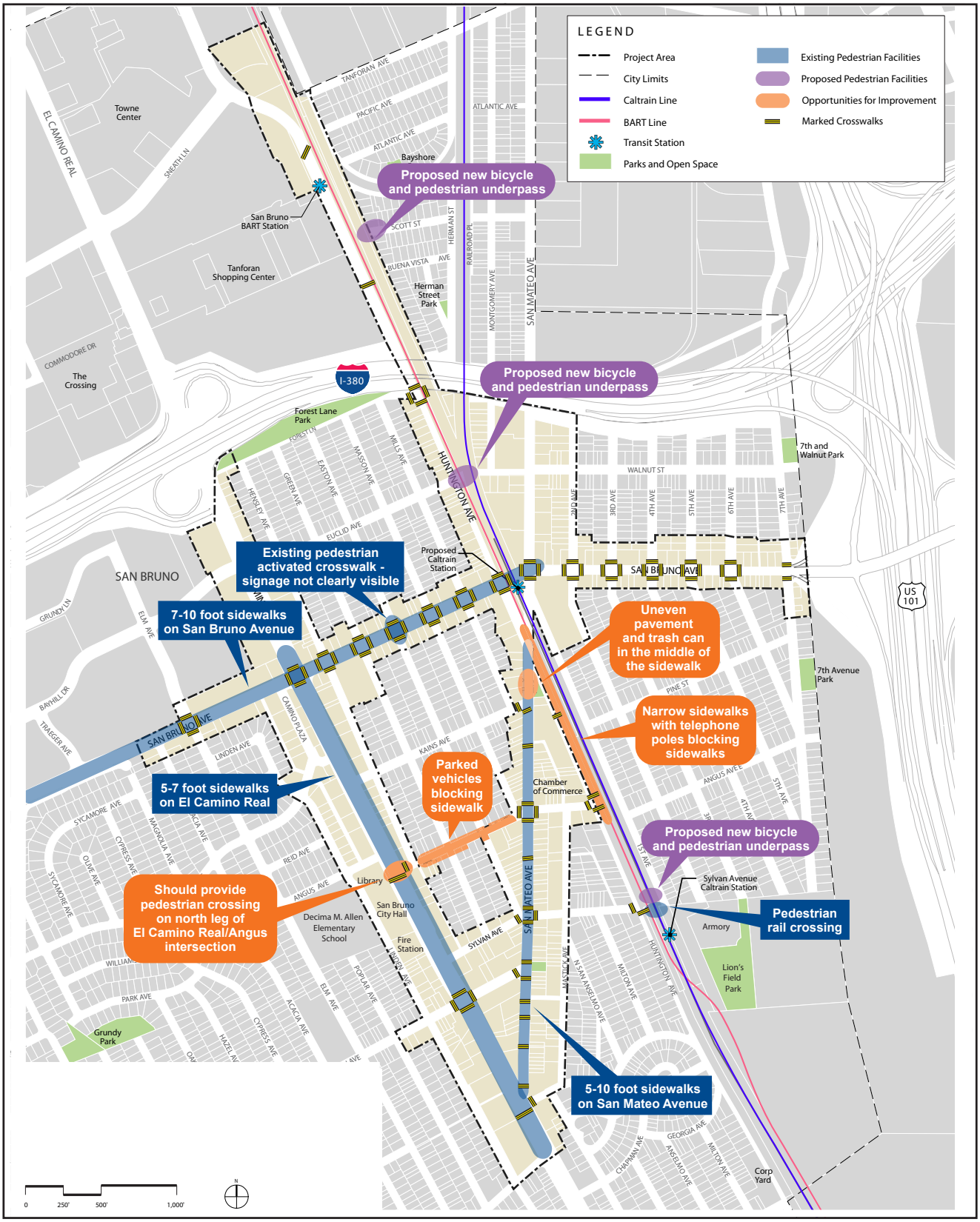
Figure 14.4 illustrates existing pedestrian facilities in the Transit Corridors Area, including sidewalks, crosswalks, and pedestrian signals. Sidewalks are provided along all roadways within the area, although the width and quality of sidewalks varies. Sidewalks along San Mateo Avenue are generally the widest in the area, and the highest levels of walking activity are also along San Mateo Avenue. Some sidewalks in the area are partially blocked by telephone poles or parked vehicles and adversely impact pedestrian circulation.

At least one crosswalk and pedestrian signal is provided at all signalized intersections in the Transit Corridors Area. On San Mateo Avenue, a number of regularly spaced crosswalks facilitate pedestrian connectivity between commercial uses on both sides of the street. All crosswalks on San Mateo Avenue are high visibility “ladder” crosswalks that are used in conjunction with pedestrian curb extensions, or bulbouts, to improve lines of sight between drivers and pedestrians and to shorten the pedestrian crossing distance.

Several alleyways or paseos in the main Downtown corridor connect San Mateo Avenue with surface parking lots located behind businesses on the east. While they provide connectivity, some of these connections can appear uninviting to pedestrians.

The existing Caltrain station near Sylvan Avenue also provides a direct pedestrian connection to the neighborhood to the east of downtown. This connection will be maintained with the bicycle and pedestrian underpass included in the Caltrain Grade Separation Project currently underway.

Crosswalks are provided at all side-street controlled intersections along San Bruno Avenue between El Camino Real and US 101. A pedestrian-activated crosswalk with in-pavement flashers is located at Easton Avenue and 5th Avenue. This crosswalk is located at a side-street



SOURCE: Fehr & Peers

Figure 14.4

EXISTING PEDESTRIAN FACILITIES

stop controlled intersection and provides a highly visible pedestrian connection between the downtown and the residential neighborhood to the north.

Some of the most heavily used pedestrian connections into Downtown are along San Mateo Avenue, Huntington Avenue, and Angus Avenue. In addition to commercial uses on San Mateo Avenue, major pedestrian generators uses on the west side of El Camino Real near the Civic Center, the BART and Caltrain stations, and surrounding residential neighborhoods.

(d) Existing Bicycle Facilities. Existing and proposed bicycle facilities in the Transit Corridors Area are illustrated in Figure 14.5. Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the Highway Design Manual. Caltrans provides for three distinct types of bikeway facilities, as described below.

- *Class I Bikeway (Bike Path)* provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.

- *Class II Bikeway (Bike Lane)* provides a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five (5) feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.

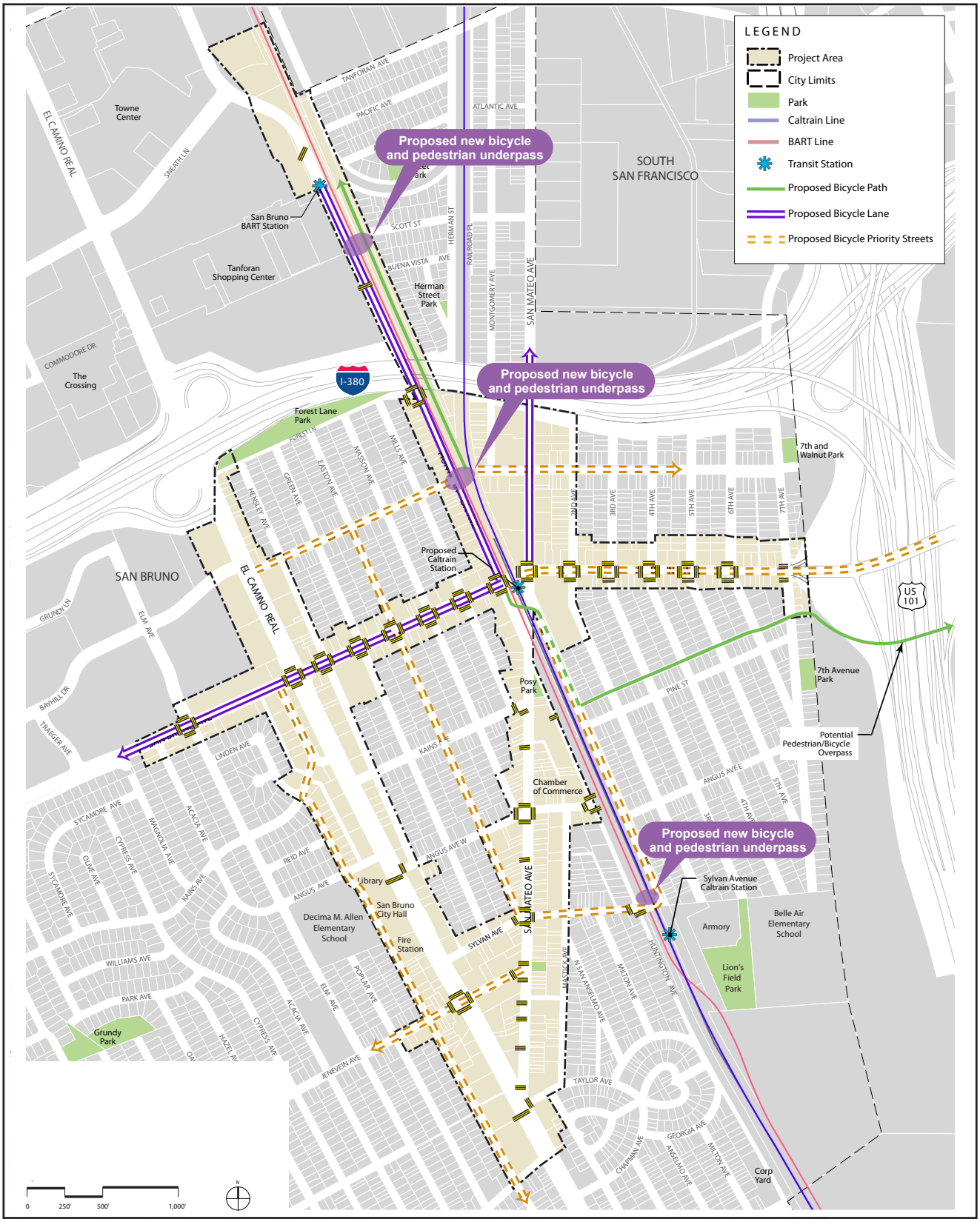
- *Class III Bikeway (Bike Route)* provides for a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.

There are no existing Class I or Class II bicycle facilities in the Transit Corridors Area. A Class III bike route is located on Jenevein Avenue west of El Camino Real. According to the San Bruno General Plan, there are plans to construct a Class I multi-use bike path along Huntington Avenue between Angus Avenue and Sneath Lane, and Class III bike routes on El Camino Real, San Bruno Avenue, and Angus Avenue. The *San Mateo County 2000 Comprehensive Bicycle Route Plan* identifies a North-South Bikeway Signing Project that provides funding for improved bicycle signage throughout San Mateo County including San Bruno.

Although there are few designated bicycle facilities in the Transit Corridors Area, a moderate number of bicyclists were observed during field observations conducted for this EIR. Bicyclists were especially notable on San Mateo Avenue and Huntington Avenue. In the morning peak period, bicycles were typically heading north--possibly to access the San Bruno BART station or employment centers located South San Francisco. There are currently few bicycle racks or other bicycle parking accommodations in the Transit Corridors Area.

14.3 REGULATORY SETTING

The minimum acceptable LOS standards for intersections and freeway segments vary based on the type of facility and the jurisdiction that controls the facility. The LOS standards listed below have been applied in this EIR to analyze the roadway system impacts of the Transit Corridors Plan. Acceptable LOS, significant impacts and mitigation measures for intersection and freeway segments used in this EIR are based on the LOS standards for the jurisdiction that controls the facility--i.e., the City, C/CAG or Caltrans.



SOURCE: Fehr & Peers

Figure 14.5

EXISTING AND PROPOSED BICYCLE FACILITIES

14.3.1 California Department of Transportation (Caltrans)

Segments of US 101 and I-380 and the El Camino Real/San Bruno Avenue, Southbound US 101 Ramp/San Bruno Avenue, El Camino Real/Westbound I-380 Ramps and El Camino Real/ Eastbound I-380 Ramps intersections are under the jurisdiction of Caltrans. In *Guide for the Preparation of Traffic Impact Studies* (2002), Caltrans defines the following LOS standards for State-operated facilities, which typically include mainline segments, ramp junctions, weaving segments, and intersections on State Routes:

- Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D.

- If an existing State-operated facility is operating at less than LOS C, the existing LOS should be maintained. Caltrans staff has indicated that Caltrans considers any increase in traffic to a state-operated facility operating at an unacceptable level of service is considered a significant impact.

14.3.2 San Mateo County

(a) Congestion Management Program (CMP). The San Mateo City and County Association of Governments (C/CAG) has developed LOS standards for roadways on the designated Congestion Management Program (CMP) network. CMP facilities in the Transit Corridors Area are US 101, I-380, and El Camino Real (SR 82). The CMP peak hour LOS standard is LOS E for the study segments of US 101. The CMP standard is LOS F for the study segments of I-380. The El Camino Real/San Bruno Avenue intersection has a CMP LOS standard of LOS E.[1]

(b) Traffic Operation Management System (SMART Corridors) Project. In the San Mateo County SMART Corridors Project, San Bruno Avenue between El Camino Real and US 101 will serve as one of the emergency alternate routes to divert traffic off the freeway and onto surface streets. The SMART Corridors Project is intended to provide improved traffic operations during special events and non-recurring congestion; it is not intended as a continually operating system. SMART Corridors equipment and devices to be installed along San Bruno Avenue are Fixed/PTZ CCTV cameras, trailblazer/directional signs, vehicle detection systems, and communication infrastructure and equipment.

The San Mateo County Department of Public Works is administering the SMART Corridors Project construction contract. Construction is tentatively scheduled to commence in the summer of 2012. Upon completion of the project, the City of San Bruno will share operation responsibilities with C/CAG.

[1]The adopted 2009 CMP changed the methodology used to calculate intersection levels of service for the County. C/CAG determined that the new method (2000 HCM method) was more consistent with field observations (including vehicle queuing) than the previous method (Circular 212 method). The previous method was used for the San Bruno General Plan Update and the County CMP prior to 2009. When reviewing the LOS data in this EIR, it is important to note that the LOS ratings using the new methodology are one or more levels lower than the ratings based on the former methodology, essentially downgrading the intersection rating. For example, the existing AM and PM peak-hour level of service at the El Camino Real/San Bruno Avenue intersection declined from LOS A to LOS D without any changes in existing traffic volumes.

14.3.3 City of San Bruno

(a) LOS Policy. The City maintains a LOS policy for signalized intersections of LOS D or better. A significant traffic impact would occur when the addition of traffic associated with implementation of the Transit Corridors Plan causes:

- Peak hour intersection operations to deteriorate from an acceptable level (LOS D or better) to an unacceptable level (LOS E or LOS F); or

- Exacerbation of unacceptable operations by increasing the average critical delay by four (4) seconds or more at an intersection operating at LOS E or LOS F.

(b) San Bruno General Plan. The San Bruno General Plan specifies that the minimum acceptable peak hour level of service for signalized and unsignalized intersections within the Transit Corridors Area is LOS D, except for the El Camino Real/San Bruno Avenue intersection, which has a LOS standard of LOS E. The General Plan includes the following policies relevant to consideration of the transportation impacts of the Transit Corridors Plan:

T-A Provide for efficient, safe, and pleasant movement for all transportation modes--vehicles, bicycles, transit, and pedestrians.

T-B Maintain acceptable levels of service for vehicular movement along the city's street network. Acceptable level of service could vary based on characteristics of the area under consideration.

T-D Provide adequate parking facilities for commercial, industrial, and transit station areas.

T-E Focus San Bruno's efforts on improvements to the non-motorized transportation system (i.e., bicycles, pedestrians, strollers, etc) adjacent to transit corridors and stations, and their connections to those systems.

T-F Provide efficient local transit--such as a shuttle system--to the BART and Caltrain stations to avoid dependence on individual motor vehicles.

T-G Protect residential areas from congestion and associated noise resulting from BART and Caltrain spillover traffic.

T-H Expand the existing bus network to provide convenient and efficient public transit to employment centers, shopping areas, parks, and other key destinations.

T-I Develop and maintain a comprehensive bicycle network within San Bruno, providing connections to BART and Caltrain, surrounding cities, employment and shopping areas, and natural areas.

T-J Develop a safe, convenient, and continuous network of sidewalks and pedestrian paths within the city.

T-2 Ensure that all transportation improvements--roadway, transit, bicycle, and pedestrian--are designed and constructed according to Americans with Disabilities Act standards. Improve existing facilities so they are compliant with American Disability Act standards.

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

T-7 Undertake improvements to intersections shown in [General Plan] *Table 4-8 and in Figure 4-7 to ensure their operation at the LOS shown in Figure 4-2. Determine costs for these improvements and establish an impact fee program to assess improvement costs to new development, proportionate to the impacts created by such development.*

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

HS-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 BART Station.

HS 19 Should CalTrans vacate El Camino Real as a State highway, reconfigure the roadway to include wide sidewalks, streetscaping, and marked bicycle lanes. Consider various alternative configurations of traffic flow.

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

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-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 as one option.

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.

T-43 Create a "pedestrian-friendly" environment surrounding the BART and Caltrain stations by installing additional street trees, lighting, signage, and widening sidewalks along streets adjacent to these stations.

T-44 Support the Caltrain Grade Separation Project, featuring relocation of the Caltrain station above grade at the San Mateo Avenue/San Bruno Avenue intersection. Provide main parking facilities for the Caltrain station on the former San Bruno Lumber site north of the intersection, and bicycle and pedestrian connections to surrounding areas with prominence given to access south to Downtown.

T-45 During the Caltrain Grade Separation Project, ensure that the San Bruno station serves as an important gateway and northern anchor to Downtown, which should be clearly visible from the station platform.

T-46 As rail capacity increases with expanded BART and Caltrain service, install pedestrian safety measures--such as clear markings, safety gates, alternative routes, or overcrossings--at all at-grade railway crossings in the city. At grade-separated locations, provide safe pedestrian under-crossings.

T-47 Improve multi-modal access--specifically for pedestrians, cyclists, and transit passengers--to the BART and Caltrain stations through improvements along Huntington Avenue.

T-48 Incorporate a dedicated pedestrian crossing and flashing street markers at the new four-way signal installed on El Camino Real connecting The Crossing with The Shops at Tanforan and the San Bruno BART station.

T-49 Install adequate turning, driveway, and drop-off lanes at the San Bruno BART and planned San Bruno Avenue Caltrain stations to accommodate the increased levels of traffic expected.

T-50 Consider developing a shuttle service to provide reliable, consistent, and convenient access between the BART and Caltrain stations and other destinations within the city, including Bayhill Office Park, Skyline College, Downtown, schools and neighborhoods in the western and southern portions of the city.

T-51 Publicize all routes that provide non-auto access to the BART and Caltrain station areas, such as the GAP Inc. shuttle, bicycle routes, etc.

T-52 Work with BART and Caltrain to provide park and ride facilities with convenient, safe pedestrian access to the transit stations.

T-53 Coordinate with the Peninsula Corridor Joint Powers Board to ensure design of the planned San Bruno Avenue Caltrain Station (and Grade Separation Project) that will accommodate such regional transit improvements.

T-55 Consider developing a parking permit system in residential areas adjacent to the new Caltrain Station to prevent overflow parking, when requested by a designated majority of residents in that area.

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-58 Work with SamTrans to design the local bus transit system for maximum passenger satisfaction, safety, comfort, convenience, and privacy.

T-59 Encourage SamTrans to configure bus transit service to serve connections with other transit systems (BART, Caltrain, SFO Airport, and other bus lines).

T-65 Work with SamTrans to locate transit stops directly adjacent to buildings with retail frontage, rather than severed by large parking lots.

T-66 Design arterial and collector streets to facilitate safe pedestrian crossings to transit stops. Provide crosswalks at all signalized arterial intersections.

T-67 Encourage installation of bus shelters, appropriate for year-round weather, to provide comfortable, safe waiting areas for SamTrans riders.

T-69 Continue to work toward dedication and/or installation of bicycle lanes throughout the city in accordance with [General Plan] *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.*

T-70 Identify funding for and implement as a priority bicycle/pedestrian paths along the BART and Caltrain track alignments (Huntington Avenue and Herman Avenue) within the city limits. Coordinate with the Linear Park planned in South San Francisco and Millbrae.

T-71 Provide bicycle parking facilities in Downtown, Bayhill Office Park, BART and Caltrain Stations, The Shops at Tanforan and Towne Center, parks, schools, and other key destinations. Review bicycle standards as part of the Zoning Ordinance Update.

T-72 Identify and mark safe bicycle routes providing connections between the BART and Caltrain stations, and the following regional trail networks:

- *Bay Area Ridge Trail,*
- *Sweeney Ridge Trail,*
- *Bay Trail,*
- *San Andreas Trail, and*
- *Sawyer Camp Trail.*

T-75 Link sidewalks directly to building entrances. Avoid routes through parking lots or at the rear of residential developments.

T-76 Require construction of sidewalks at least five (5) feet wide along newly built streets within San Bruno, and four (4) feet wide on older streets to preserve street character in older neighborhoods.

T-77 Create a pedestrian-oriented setting along the Pedestrian Emphasis Zones (see [General Plan] *Figure 4-6) through potential construction of the following public improvements:*

- *Brick pavers to make sidewalks look more distinct;*

- *Street trees to soften the environment and provide color and shade;*
- *Human-scale street lights for enhanced aesthetics and illumination;*
- *Banners and flags to make the area look more festive and cheerful; and*
- *Benches to give people a place to sit, rest, and watch what goes on around them.*

T-78 Allow new development to contribute to the Pedestrian Emphasis Zones (Figure 4-6) through construction of off-site improvements.

T-80 Install safety improvements for pedestrian crossings along El Camino Real. Such improvements may include bulb-outs at the corners, crossing medians, and signal synchronization.

14.4 IMPACTS AND MITIGATION MEASURES

14.4.1 Significance Criteria

(a) Significance Criteria. The Transit Corridors Plan would be considered in this EIR to have a significant impact related to transportation if it would[1]:

(1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

(2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

(3) 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;

(4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

(5) Result in inadequate emergency access; or

(6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

(b) Thresholds of Significance. The thresholds used to determine the significance of impacts are based on recent environmental impact reports prepared by the City of San Bruno and the C/CAG CMP guidelines.

(1) Signalized Intersections. A significant traffic impact at City of San Bruno intersections would occur when the addition of traffic associated with implementation of the Transit Corridors Plan causes:

[1] CEQA Guidelines, Appendix G, item XVI(a-f).

- Peak hour intersection operations to deteriorate from an acceptable level (LOS D or better) to an unacceptable level (LOS E or LOS F); or,

- Exacerbation of unacceptable operations by increasing the average critical delay by four (4) seconds or more at an intersection operating at LOS E or LOS F.

Significant traffic impacts at C/CAG CMP intersections would occur when the addition of traffic associated with implementation of the Transit Corridors Plan causes:

- Peak hour intersection operations to deteriorate from an acceptable level (LOS E or better) to an unacceptable level (LOS F) or,

- Exacerbation of unacceptable operations by increasing the average control delay by more than four (4) seconds or more at an intersection operating at LOS F.

Significant traffic impacts at Caltrans intersections (i.e., the El Camino Real/San Bruno Avenue, Southbound US 101 Ramp/San Bruno Avenue, El Camino Real/Westbound I-380 Ramps and El Camino Real/ Eastbound I-380 Ramps intersections) would occur when the addition of traffic associated with implementation of the Transit Corridors Plan causes:

- Peak hour intersection operations to deteriorate from an acceptable level (the transition between LOS C and LOS D) to an unacceptable level (LOS D or worse); or,

- Exacerbation of unacceptable operations by any increase in traffic.

(2) Freeway Segments. A significant traffic impact on a freeway segment would occur when the addition of traffic associated with implementation of the Transit Corridors Plan causes:

- Freeway segment operations to deteriorate from an acceptable level as defined by the C/CAG CMP LOS standards to an unacceptable level; or

- Freeway segment v/c ratio to increase by one (1) percent or more, or adds traffic equivalent to one (1) percent or more of the segment's capacity for segments violating the C/CAG CMP LOS standard.

(3) Transit System. A significant impact related to transit service would occur if the implementation of the Transit Corridors Plan causes:

- A substantial increase in transit riders that cannot be adequately served by existing transit services; or

- Conflicts with existing or planned transit facilities.

(4) Bicycle System. A significant impact related to the bicycle system would occur if the implementation of the Transit Corridors Plan causes:

- A lack of adequate bicycle facilities to connect to the area circulation system;

- Conflicts with existing or planned bicycle facilities; or

- Increased potential for bicycle/vehicle conflicts.

(5) Pedestrian System. A significant impact related to the pedestrian system would occur if the implementation of the Transit Corridors Plan causes:

- A lack of adequate pedestrian facilities to connect to the area circulation system; or
- Vehicles to cross pedestrian facilities on a regular basis without adequate design and/or warning systems, causing safety hazards.

14.4.2 Roadway Impacts

(a) Impact Assessment Methodology. This section summarizes the methodology used to develop traffic volume forecasts and presents daily roadway segment and AM and PM peak hour intersection turning movement forecasts for existing plus project conditions and 2030 cumulative conditions without and with the project.

(1) Traffic Volume Forecasting. Traffic volume forecasts were developed for the following scenarios:

- *Existing Plus Project*. The Existing Plus Project scenario includes existing volumes plus traffic estimates to account for full buildout under the proposed Transit Corridors Plan. This scenario includes transportation improvements identified as part of the Transit Corridors Plan.
- *2030 General Plan No Project*. The 2030 General Plan No Project scenario assumes that the Transit Corridors Area and the remainder of San Bruno will be developed with the type and intensity of land uses assumed in the General Plan. The General Plan and the *City of San Bruno Caltrain Grade Separation and New Station Transportation Impact Analysis* (Kimley Horn, July 2009), and the *Centrum Logistics Draft Environmental Impact Report* (Lamphier Gregory, June 2009) were used to develop 2030 General Plan No Project volumes at the study intersections and freeway segments. Transportation improvements identified by the City as likely to be completed by 2030 were also included in this scenario.
- *2030 General Plan With Project*. This scenario includes the 2030 General Plan No Project volumes adjusted to account for the change in land uses proposed under the Transit Corridors Plan. This scenario includes transportation improvements identified as part of the Transit Corridors Plan.

(2) Project Trip Generation. A fundamental objective of the Transit Corridors Plan is to reduce motor vehicle use and trip generation by:

- encouraging compact, transit-accessible, pedestrian-oriented housing and mixed use (commercial/housing) development located near public transit (SamTrans, Caltrain and BART), shopping, employment, and other community facilities;
- integrating transit into the Transit Corridors Area activity patterns and pathways so that transit becomes the primary mode of transportation chosen by the daytime and evening populations within walking distance of the station;
- making pedestrian comfort, safety, and convenience a priority in the Transit Corridors Area; and

- creating a parking supply located and priced to create an effective "park once and walk" district.

(2) Trip Generation Forecasting. There are few methodologies available to estimate the unique trip generation characteristics of mixed-use and infill developments. One of the most commonly used methods is to use trip generation rates or equations from the Institute of Transportation Engineers (ITE) *Trip Generation* and apply reductions from the mixed-use internalization spreadsheet from the ITE *Trip Generation Handbook*. This method has some shortcomings in that it is based on a limited sample size of three mixed-use sites in Florida, it is not recommended for town center projects such as the land uses changes proposed in the Transit Corridors Plan, it is limited to three land use types (residential, retail, and office), and it does not take into account the influence of nearby land uses.

The development anticipated in the Transit Corridors Plan is not a typical suburban development in that it includes a mix of uses with higher development densities. It is also located in an area with local bus service and is within walking distance of the San Bruno Caltrain station and San Bruno BART Station. Trip reductions were applied in this EIR analysis to account for (1) the infill and mixed-use nature of the Transit Corridors Plan, (2) retail pass-by trip reductions for traffic accessing the Transit Corridors Area that was already on the roadway network, and (3) for transit trips due to the close proximity of the San Bruno Caltrain and BART stations.

The mixed-use development (MXD) trip generation model, developed by Fehr & Peers, was used to refine the trip generation estimates. The MXD model is a quantitative model that captures the traffic benefits of mixed-use developments and is based on the results of a national research project conducted for the United State Environmental Protection Agency (EPA) co-led by Fehr & Peers and Dr. Reid Ewing of the University of Utah. The MXD model and the mixed use development and transit trip reduction methodology applied in this EIR analysis is described in more detail in Appendix 19.4.

The MXD trip generation model consists of three steps to estimate external automobile trips generated by a mixed-use development:

1. Compute daily trip estimates using the equations from the ITE *Trip Generation* manual (these are referred to as “Raw ITE Trips”). These estimates assume no internalization, and only minimal trips made by walking and/or transit modes.

2. Compute the probability of a trip staying internal to the mixed-use development.

3. Compute the probability an external trip will be made by transit.

The increase in travel activity generated by the Transit Corridor Plan proposed land use and transportation system changes was estimated by applying trip generation rates and equations from the ITE’s *Trip Generation*, 8th edition. Table 14.7 presents trip generation estimates for the Transit Corridors Plan, as well as the ITE trip generation rates and associated ITE land use categories. The ITE land use categories were selected to reflect that the project consists of a land use plan which does not include specific land use developments. For example, general office rates were used to estimate trips generated by all office uses, even though other uses, such as medical office space which has a slightly higher trip generation rate, might also be

Table 14.7
TRANSIT CORRIDORS PLAN TRIP GENERATION ESTIMATES

Land Use	Size	Daily		AM Peak Hour				PM Peak Hour			
		Rate[1]	Trips	Rate[1]	In	Out	Total	Rate[1]	In	Out	Total
Net New Project Conditions											
Residential (du) [ITE 220]	890	6.65	5,517	0.49	88	352	440	0.57	330	177	507
Commercial/Retail (sf) [ITE 820]	19,100	42.9	2,315	3.03	35	23	58	11.00	103	107	210
Office (sf) [ITE 710]	666,600	11.01	5,749	1.55	753	103	856	1.24	140	685	825
Hotel (sf) [ITE 310]	190	8.62	1,552	1.28	65	41	106	0.59	59	53	112
Total ITE Trip Generation		--	*15,133*	--	*941*	*519*	*1,460*	--	*632*	*1,022*	*1,654*
MXD Reduction[2]		--	(2,008)	--	(64)	(41)	(105)	--	(78)	(125)	(203)
Transit Reduction		--	(707)	--	(52)	(29)	(81)	--	(31)	(49)	(80)
Retail Passby Reduction (25%)		--	(558)	--	(9)	(5)	(14)	--	(19)	(32)	(51)
Total Net New Trip Generation			*11,860*		*816*	*444*	*1,260*		*504*	*816*	*1,320*

SOURCE: Fehr & Peers, August 18, 2011.

Notes:
1. *Trip Generation*, 8th Edition, Institute of Transportation Engineers.
2. MXD reductions calculated based on the (MXD) trip generation model developed by Fehr & Peers. See discussion under trip generation methodology.

permitted. Using more land use specific rates was deemed overly speculative, especially since the City has discretion to require more detailed analyses of specific land use projects when they are proposed. As shown in Table 14.7, using only ITE rates, development under the Transit Corridors Plan at buildout would generate an estimated 15,113 daily trips, 1,460 AM peak-hour trips and 1,654 PM peak-hour trips.

In addition to the MXD model trip reductions for mixed-use development and transit use, since the Transit Corridors Plan includes retail development, additional pass-by trip reductions were applied to account for trips accessing Transit Corridors Area retail locations that are already on the roadway network. The average pass-by trip rates presented in ITE's *Trip Generation Handbook* (2nd Edition) for a shopping center land use is 34 percent. To present a conservative analysis, Fehr & Peers applied a 25 percent pass-by trip reduction to the peak-hour trip generation estimates.

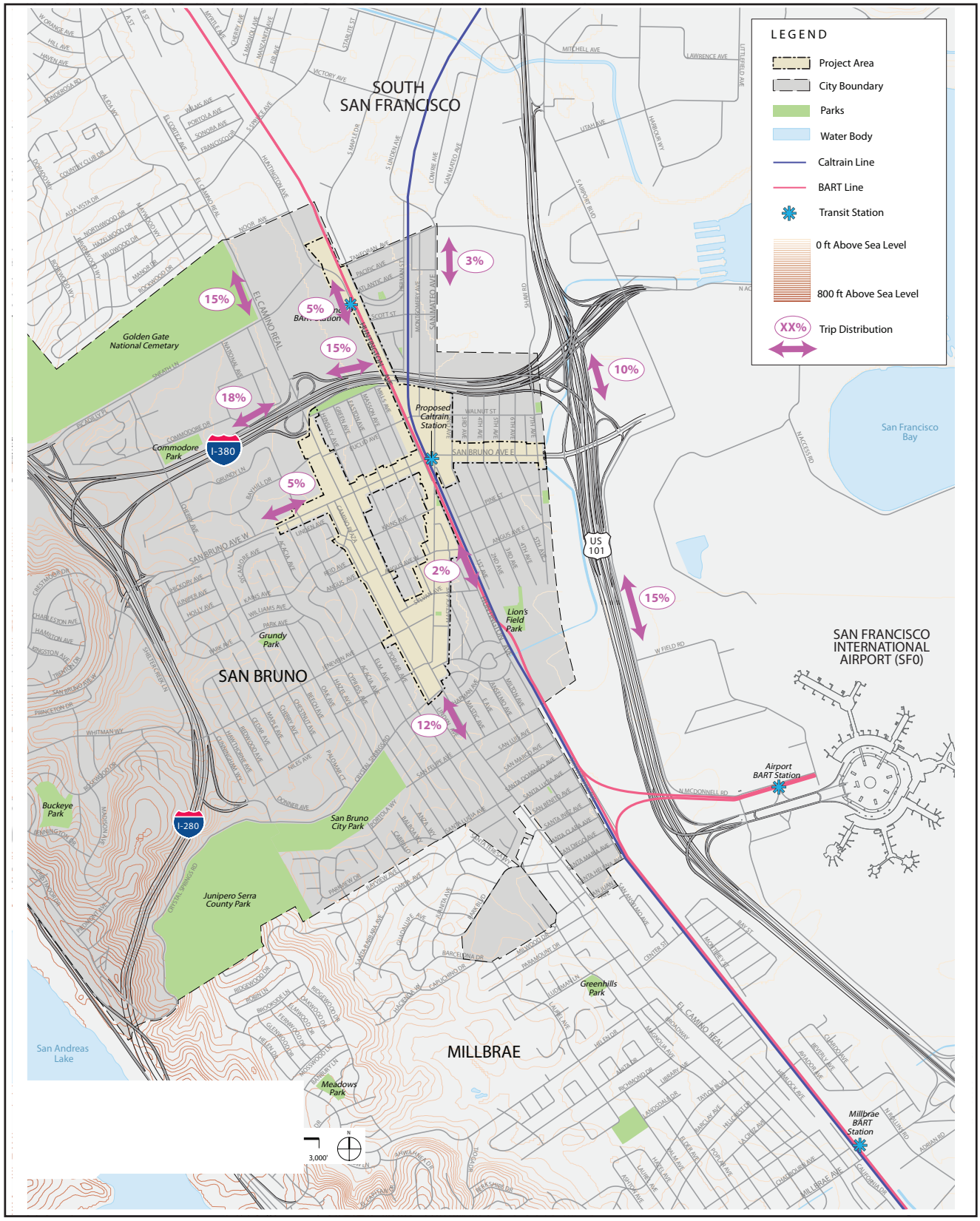
As shown in Table 14.7, after applying trip reductions from mixed use development internal trips, transit use, and retail passby trips, development under the Transit Corridors Plan would generate an estimated 11,860 daily trips, 1,260 AM peak-hour trips (816 inbound and 444 outbound) and 1,320 PM peak-hour automobile trips (504 inbound and 816 outbound).

(3) Trip Distribution and Assignment. Traffic generated by development under the Transit Corridors Plan land uses would be distributed on the roadway system based on the locations of complementary land uses, prevailing travel patterns, and surrounding population densities. The major directions of approach and departure dictating the trip distribution pattern are illustrated on Figure 14.6. Approximately 60 percent of trips are estimated to approach/depart the Transit Corridors Area from the north via I-380, El Camino Real, and US 101. Similarly, approximately 40 percent of traffic is estimated to approach/depart the Transit Corridors Area from the south. These directions of approach and departure were used to assign Transit Corridors Plan trips from Table 14.7 to the study intersections and freeway segments. The estimated AM and PM peak hour trip assignments for the eight study intersections are presented on Figure 14.7.

As discussed under the "internal capture" section above, many of the internal trips within the Transit Corridors Area will be made by foot. However, since the Transit Corridors Area encompasses three corridors (El Camino Real, San Mateo Avenue, and San Bruno Avenue) the distance between destinations within the area may sometimes exceed ½-mile. ½-mile is generally considered the maximum distance that most pedestrians are willing to walk to reach their desired destination. Some internal trips will also be made by bicycle or transit. Other internal trips will be made by automobile (e.g., for trips between the south end of El Camino Real to San Bruno Avenue near US 101). To account for this fact that some internal trips will be made by automobile, 50 percent of the mixed-use development reduction trips listed in Table 14.7 were assigned internally to the Transit Corridors Area. These trips are not considered external trips because they would not cross the boundaries of the Transit Corridors Area.

(b) Existing Plus Project Conditions. Based on recent California Environmental Quality Act (CEQA) case law,[1] a project must be analyzed solely against "Existing conditions," even if the proposed project is a planning-level analysis projected to be built over a long-term horizon, such as the Transit Corridors Plan. To satisfy CEQA requirements, section 14.5 of this EIR chapter, which is derived from the analyses below, evaluates transportation and circulation impacts, and presents intersection level of service (LOS) calculations, under Existing Plus Project conditions.

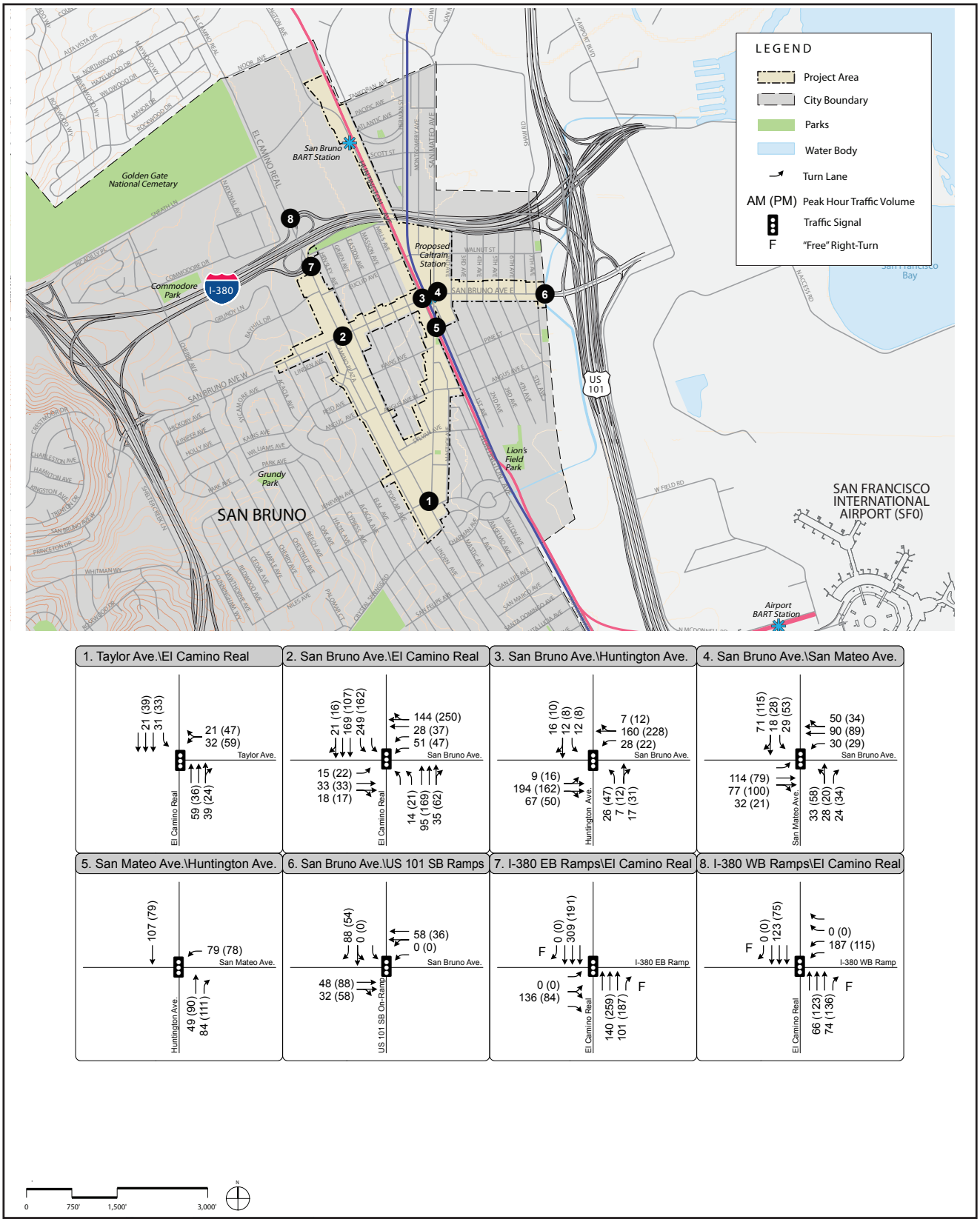
[1] *Sunnyvale West Neighborhood Association v. City of Sunnyvale City Council* (December 16, 2010).



SOURCE: Fehr & Peers

Figure 14.6

TRIP DISTRIBUTION



SOURCE: Fehr & Peers

Figure 14.7

TRIP ASSIGNMENT

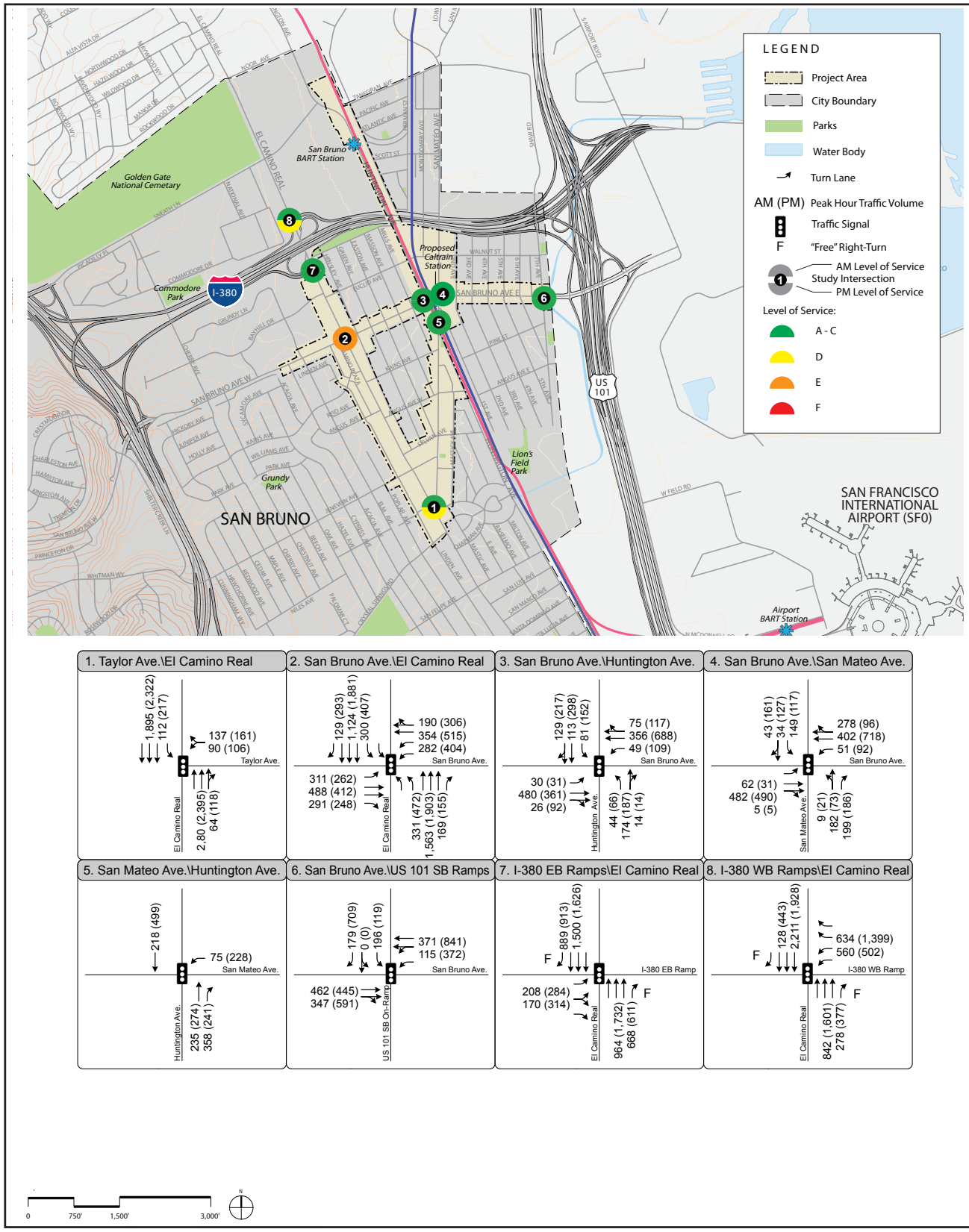
(c) 2030 General Plan No Project Conditions. General Plan buildout-based traffic volume estimates presented in the City's General Plan EIR, the *Caltrain Grade Separation and New Station TIA* (Kimley-Horn and Associates, Inc., July 2009), and other studies were used to calculate intersection traffic volumes under 2030 General Plan No Project conditions. Freeway volumes were estimated by multiplying existing volumes by a 20-year growth factor based on the C/CAG transportation demand forecasting model.

(1) 2030 General Plan No Project Traffic Volumes. Figure 14.8 illustrates the peak hour turning movement volumes for 2030 General Plan No Project conditions. For the purpose of this report, volume estimates presented in the General Plan EIR, *Caltrain Grade Separation and New Station TIA* (Kimley-Horn and Associates, Inc., July 2009), *San Bruno Cinema Redevelopment at 400-48 San Mateo Avenue TIA* (DKS Associates, February 2008), and the *Centrum Distribution Center TIA* (DKS Associates, June 2009) were used to calculate intersection operations under 2030 General Plan No Project conditions. The C/CAG transportation demand forecasting model was used to calculate a growth factor to apply to existing freeway volumes. Freeway volumes were multiplied by a 0.7 percent per year compounded over 20 years, or 15 percent, to present growth between 2010 and 2030.

- *San Bruno Caltrain Grade Separation Project*. Planned intersection improvements likely to be completed by the year 2030 include improvements associated with the Caltrain Grade Separation Project. Currently, San Bruno Avenue crosses the rail tracks between the two closely spaced San Bruno Avenue/Huntington Avenue and San Bruno Avenue/San Mateo Avenue intersections, which is the main roadway operations constraint point in the Transit Corridor Area where extensive delays and queues can develop during peak periods. The grade separation project will greatly improve operations at the most congested crossing points on San Bruno Avenue and will help to facilitate connectivity for all travel modes on San Bruno Avenue east and west of the train tracks. Intersection geometry assumptions presented in the *Caltrain Grade Separation and New Station TIA* for the San Bruno Avenue/ Huntington Avenue, San Bruno Avenue/San Mateo Avenue, and San Mateo Avenue/ Huntington Avenue intersections were included in the analysis. The City has no other planned or funded improvements for the roadway system within the Transit Corridors Area.

- *I-280/I-380 Interchange Project*. The proposed I-280/I-380 interchange project is intended 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. To present a conservative analysis, this improvement project was not included in the future scenario analysis.

- *California High Speed Rail Project*. The California High Speed Rail project is proposed to link San Francisco and Los Angeles via high speed trains. Major cities served would include San Francisco, San José, Fresno, Bakersfield, Los Angeles, and Anaheim. Future expansion of the rail project would further link additional areas of the state including Sacramento, Stockton, Modesto, San Diego, Riverside, and Ontario. High speed rail service would be provided between about 5:00 a.m. and midnight daily and is projected to serve approximately 13.5 million riders annually by 2020 and 41 million riders annually by 2035. This project is currently entering the conceptual design and environmental clearance stage. The California High Speed Rail project would pass through San Bruno. Given its current unfunded status, the California High Speed Rail project was not included in this EIR



SOURCE: Fehr & Peers

Figure 14.8

2030 GENERAL PLAN NO PROJECT AM AND PM PEAK HOUR TURNING MOVEMENT VOLUMES, GEOMETRIES, AND INTERSECTION LEVELS OF SERVICE

cumulative analysis. The California High Speed Rail project could potentially reduce traffic volumes on US 101 and I-380 and other parallel facilities. Therefore, not including the California High Speed Rail project results in a conservative analysis of roadway impacts.

(2) 2030 General Plan No Project Intersection Level of Service. Table 14.8 presents the LOS calculation results for the study intersections under 2030 General Plan No Project conditions. The intersection results are shown graphically in Figure 14.8. Based on City and C/CAG LOS standards, all study intersections would operate at an acceptable LOS under 2030 General Plan No Project conditions. The LOS calculation sheets are contained in the San Bruno Transit Corridors Plan Transportation Impact Analysis prepared by Fehr & Peers, transportation planners, which is available for review at the City of San Bruno Community Development Department.[1]

(3) 2030 General Plan No Project Freeway Level of Service. Table 14.9 presents the LOS calculation results for the study freeway segments under 2030 General Plan No Project conditions. Based on C/CAG CMP guidelines, all of the study freeway segments would operate at or better than the applicable LOS standard. In the AM peak hour, the eastbound segments on I-380 would operate at the C/CAG LOS standard (LOS F).

(d) 2030 General Plan With Project Conditions. 2030 General Plan With Project conditions are defined as 2030 General Plan No Project conditions plus reasonably foreseeable (funded) planned transportation improvements, plus traffic generated by additional growth under the Transportation Corridors Plan, plus the transportation changes proposed by the Transit Corridors Plan. Transit Corridors Plan impacts are identified for this scenario by comparing the LOS results under 2030 General Plan With Project conditions to those under 2030 General Plan No Project conditions.

(1) 2030 General Plan With Project Intersection Levels of Service. Intersection LOS were calculated for 2030 General Plan With Project conditions. The volumes used in this analysis are the 2030 General Plan No Project volumes on Figure 14.8 plus the trip assignment on Figure 14.7. The resulting volumes are shown on Figure 14.9. The intersection LOS results are summarized in Table 14.10, and are shown graphically on Figure 14.9. The corresponding LOS calculation sheets are included in the San Bruno Transit Corridors Plan Transportation Impact Analysis prepared by Fehr & Peers, transportation planners, which is available for review at the City of San Bruno Community Development Department.[2]

The LOS computation results for this scenario show a reduction in average delay at the Huntington Avenue/San Bruno Avenue and El Camino Real/Westbound I-380 Ramps intersections with the addition of project traffic, which is counter-intuitive. The average delay values in the table are weighted averages. Weighted average delays are reduced when traffic is added to a movement with a low delay, such as the through movements in the non-peak

[1]Fehr & Peers, San Bruno Transit Corridors Plan Draft Transportation Impact Analysis, August 18, 2011.

[2]Fehr & Peers, San Bruno Transit Corridors Plan Draft Transportation Impact Analysis, August 18, 2011.

Table 14.8
2030 GENERAL PLAN CUMULATIVE NO PROJECT INTERSECTION LEVELS OF SERVICE

Intersection (*Jurisdiction*)	Traffic Control	Peak Hour	Average Delay[1]	LOS[2]	LOS Standard[3]
1. El Camino Real (SR 82)/Taylor Avenue (*SB/CT*)	Signal	AM	13.7	B	D
		PM	38.5	D	
2. El Camino Real (SR 82)/ San Bruno Avenue (*SB/CMP/CT*)	Signal	AM	55.2	E	E
		PM	74.4	E	
3. Huntington Avenue/ San Bruno Avenue (*SB*)	Signal	AM	31.4	C	D
		PM	30.1	C	
4. San Mateo Avenue/ San Bruno Avenue (*SB*)	Signal	AM	32.9	C	D
		PM	32.1	C	
5. San Mateo Avenue/ Huntington Avenue (North) (*SB*)	Signal	AM	4.7	A	D
		PM	6.7	A	
6. Southbound US 101 Ramps/San Bruno Avenue (*SB/CT)*	Signal	AM	19.0	B	D
		PM	34.9	C	
7. El Camino Real/ Eastbound I-380 Ramps *(SB/CT)*	Signal	AM	8.0	A	D
		PM	9.0	A	
8. El Camino Real/ Westbound I-380 Ramps *(SB/CT)*	Signal	AM	18.0	B	D
		PM	53.2	D	

SOURCE: Fehr & Peers, August 18, 2011.

Notes:

1. Whole intersection weighted average total delay for signalized and all-way stop-controlled intersections (expressed in seconds per vehicle). For side-street stop controlled intersections, delays for worst movement and average intersection delay are shown: worst movement (intersection average).
2. LOS calculations performed using the 2000 *Highway Capacity Manual - Special Report 209* delay methods for signalized and unsignalized intersections.
3. LOS standard for City of San Bruno and C/CAG.

Unacceptable operations are indicated in **bold** type.

Jurisdictions: SB = San Bruno, CMP = C/CAG Congestion Management Program, CT = Caltrans

Table 14.9
2030 GENERAL PLAN NO PROJECT FREEWAY LEVELS OF SERVICE

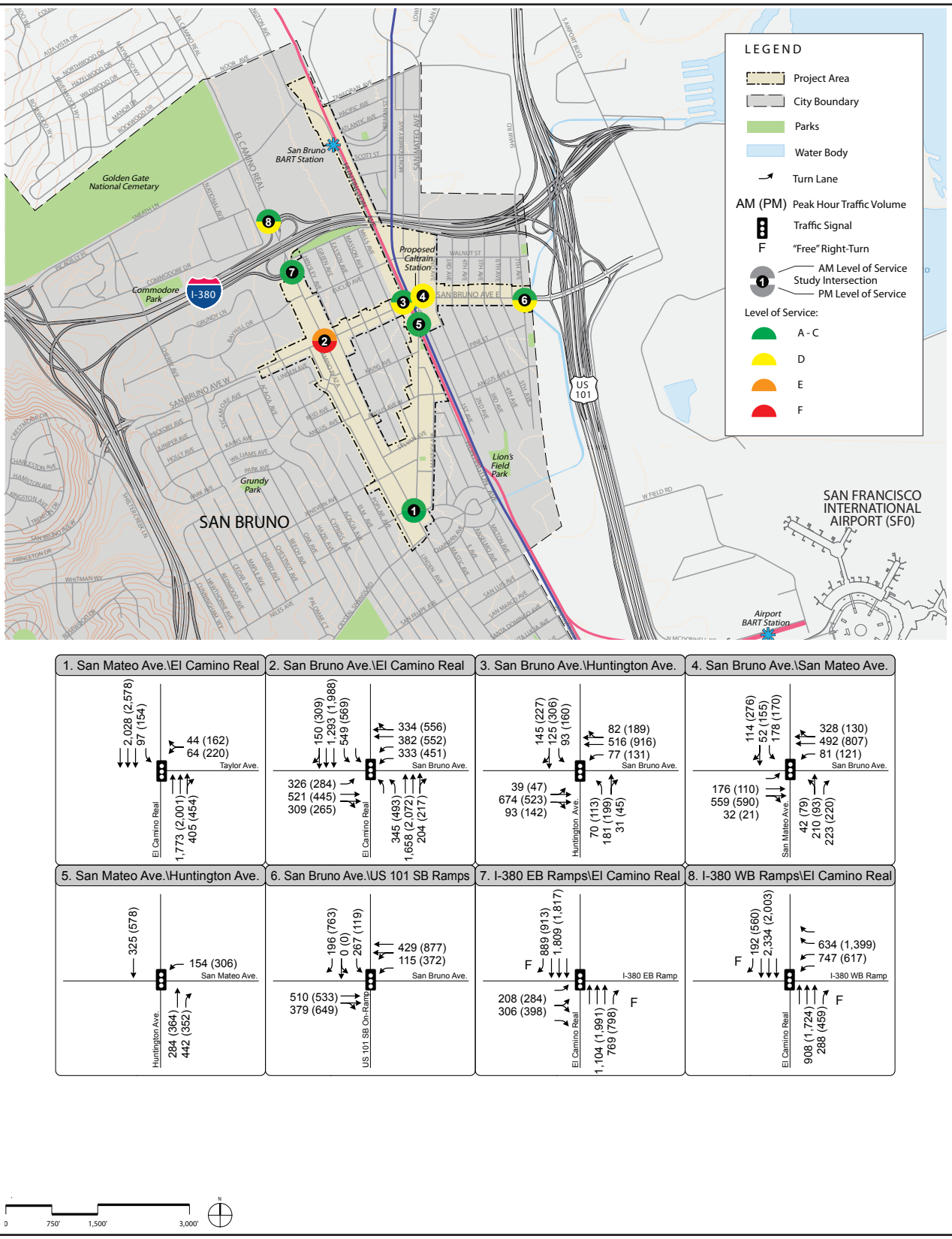
Segment	Direction	Number of Lanes	Capacity[2]	Peak Hour	Volume[1]	V/C[3]	LOS[4]	LOS Standard
US 101: North of I-380	NB	5	11,000	AM	7,379	0.67	C	E
				PM	7,006	0.64	C	
	SB	5	11,000	AM	6,883	0.63	C	
				PM	7,035	0.64	C	
US 101: South of San Bruno Avenue	NB	5	11,000	AM	6,845	0.62	C	E
				PM	5,750	0.52	C	
	SB	5	11,000	AM	6,181	0.56	C	
				PM	6,335	0.58	C	
I-380: West of El Camino Real	EB	3	6,600	AM	7,674	1.16	F	F
				PM	4,923	0.75	D	
	WB	4 + 2 auxiliary lanes	11,000	AM	3,761	0.34	B	
				PM	7,137	0.65	C	
I-380: East of El Camino Real	EB	3 + 1 auxiliary lane	8,100	AM	8,853	1.09	F	F
				PM	5,849	0.72	D	
	WB	4	8,800	AM	4,549	0.52	C	
				PM	8,155	0.93	E	

SOURCE: Fehr & Peers, August 18, 2011.

Notes:

1. Capacity based on number of lanes and per lane capacity of 2,200 vehicles per hour per lane (vphpl) for US 101 and I-380, per the C/CAG CMP Guidelines. Single lane auxiliary lanes were assumed to have a capacity of 1,500 vphpl, and two lane auxiliary lanes were assumed to have a capacity of 2,200 vphpl.
2. Peak hour volumes on US 101 obtained from Caltrans data and I-380 volumes obtained from counts. Volumes adjusted for corridor growth based on C/CAG travel demand forecasting model.
3. Volume-to-Capacity ratio (V/C)
4. LOS calculations performed using the 2000 *Highway Capacity Manual - Special Report 209* methods for freeway segments

Unacceptable operations are indicated in **bold** type.



SOURCE: Fehr & Peers

Figure 14.9

2030 GENERAL PLAN WITH PROJECT AM AND PM PEAK HOUR TURNING MOVEMENT VOLUMES, GEOMETRIES, AND INTERSECTION LEVELS OF SERVICE

Table 14.10
2030 GENERAL PLAN NO PROJECT AND 2030 GENERAL PLAN WITH PROJECT
INTERSECTION LEVELS OF SERVICE

Intersection (*Jurisdiction*)	Traffic Control	Peak Hour	2030 General Plan No Project Conditions		2030 General With Project Conditions		Existing vs. Project Conditions Impact based on:		
			Average Delay[1]	LOS[2]	Average Delay[1]	LOS[2]	SB	C/CAG	CT
1a. El Camino Real (SR 82)/Taylor Avenue (*SB,CT*)	Signal	AM PM	13.7 38.5	B D	-- --	-- --	No	--	**Yes**
1b. El Camino Real (SR 82)/San Mateo Avenue (*SB/CT*)	Signal	AM PM	-- --	-- --	8.5 31.9	A C	No	--	No
2. El Camino Real (SR 82)/ San Bruno Avenue *(SB/CMP/CT*)	Signal	AM PM	55.2 74.4	E E	74.9 **139.5**	E **F**	**Yes**	**Yes**	**Yes**
3. Huntington Avenue/San Bruno Avenue (*SB*)	Signal	AM PM	31.4 30.1	C C	29.6 45.4	C D	No	--	--
4. San Mateo Avenue/San Bruno Avenue (*SB*)	Signal	AM PM	32.9 32.1	C C	35.6 40.7	D D	No	--	--
5. San Mateo Avenue/ Huntington Avenue (North) (*SB*)	Signal	AM PM	4.7 6.7	A A	7.1 9.5	A A	No	--	--
6. Southbound US 101 Ramps/San Bruno Avenue (*SB/CT)*	Signal	AM PM	19.0 34.9	B C	21.4 44.8	C D	No	--	**Yes**
7. El Camino Real/ Eastbound I-380 Ramps *(SB/CT)*	Signal	AM PM	8.0 9.0	A A	10.6 10.2	B B	No	--	No
8. El Camino Real/ Westbound I-380 Ramps *(SB/CT)*	Signal	AM PM	18.0 53.2	B D	20.8 51.8	C D	No	--	**Yes**

SOURCE: Fehr & Peers, August 18, 2011.

Notes:

1. Whole intersection weighted average total delay for signalized and all-way stop-controlled intersections (expressed in seconds per vehicle). For side-street stop controlled intersections, delays for worst movement and average intersection delay are shown: worst movement (intersection average).
2. LOS calculations performed using the 2000 *Highway Capacity Manual - Special Report 209* delay methods for signalized and unsignalized intersections.
3. As indicated in EIR subsection 14.3.2(a), the change in methodology for calculation of intersection levels of service established by C/CAG in the 2009 CMP results in a one-or-more level lower LOS rating than the previous methodology. Thus, the Transit Corridors Plan 2030 General Plan With Project Conditions scenario results in unacceptable LOS at three intersections, which might have been acceptable LOS under the former methodology.

Unacceptable operations are indicated in **bold** type.

Jurisdictions: SB = San Bruno, CMP = C/CAG Congestion Management Program, CT = Caltrans

direction on San Bruno Avenue.[1] Conversely, relatively small volume increases to movements with high delays can substantially increase the weighted average delay.

(2) Intersections. As indicated in Table 14.10, based on City or Caltrans thresholds of significance, the Transit Corridors Plan would result in potentially significant impacts at the following three intersections in the PM peak hour under 2030 General Plan With Project conditions:

- El Camino Real/San Bruno Avenue,
- Southbound US 101 Ramps/San Bruno Avenue, and
- El Camino Real/Westbound I-380 Ramps

Impact 14-1: El Camino Real/San Bruno Avenue Intersection Impact. Under 2030 General Plan With Project conditions, with the Transit Corridors Plan proposed changes to this intersection, intersection operations would deteriorate from acceptable LOS D (existing) to unacceptable LOS F during the PM peak hour, which would represent a ***potentially significant impact*** (see criterion (1) in subsection 14.4.1, "Significance Criteria," above).

Mitigation 14-1. Maintain the current intersection lane geometries and provide a short dedicated westbound right-turn lane. This measure would improve delay, but the intersection would continue to operate at an unacceptable LOS F, and the average critical delay would still increase over existing conditions by approximately 39 seconds. In addition, because El Camino Real is a Caltrans facility, this improvement would exceed the City's authority to implement. With implementation of this measure, the impact of the Transit Corridors Plan on the El Camino Real/San Bruno Avenue intersection would remain an ***unavoidable significant impact.***

The Transit Corridors Plan proposes pedestrian improvements at the El Camino Real/San Bruno Avenue intersection, including bulbouts on all four corners and median refuge islands on the San Bruno Avenue legs. Implementation of these improvements would require removal of the exclusive right-turn lanes on the northbound, southbound, and eastbound approaches, and conversion of the outside through lanes to shared through-right turn lanes. Although these improvements would worsen the intersection traffic impacts, they would be consistent with the basic objectives of the Transit Corridors Plan to promote a pedestrian-, bicycle-, and transit-friendly environment. On the other hand, automobile capacity-enhancing improvements at the El Camino Real/San Bruno Avenue intersection designed to reduce the intersection traffic impacts would adversely affect bicycle and pedestrian circulation.

[1]For example, if you have one movement with 10 vehicles with a delay of 100 seconds and another movement with 400 vehicles and 10 seconds of delay, the weighted average delay is calculated as (100 seconds X 10 vehicles + 10 seconds X 400 vehicles) / 410 vehicles = 12.2 seconds per vehicle. Now if you add 100 vehicles to the movement with 10 seconds of delay, the weight average is calculated as (100 seconds X 10 vehicles + 10 seconds X 500 vehicles) / 510 vehicles = 11.8 seconds per vehicle. The weighted average delay improves, even though more vehicles are added.

To address the potentially conflicting needs of pedestrians, bicyclists, transit ,and automobiles, the Transit Corridors Plan recommends implementation of a multi-modal LOS policy that also evaluates bicycle, pedestrian and transit access in conjunction with vehicle LOS. The purpose of this policy would be to promote a more pedestrian-, bicycle-, and transit-friendly environment in the Transit Corridors Area with wider sidewalks, shorter pedestrian crossing distances and delays, a limited number of travel lanes, and more convenient non-automobile travel. Estimating the effects of this LOS policy on roadway system operation is currently considered too speculative for CEQA purposes.

In addition, maintaining the City's current LOS D policy is not conducive to mixed-use, high density, transit-oriented development areas that include an enhanced pedestrian, bicycle and transit environment as a goal. Under current City policy, intersections that do not meet the City's current LOS standard require additional traffic lanes and street widening to add capacity or signal phasing changes, measures that would worsen conditions for bicycle and pedestrian travel by increasing rider and walker exposure to conflicts with vehicles, and would also detract considerably from a comfortable and vibrant downtown environment. Also, by limiting vehicle congestion, this current City LOS policy reduces the incentive for residents to use non-automobile travel modes such as transit, bicycling, walking and ridesharing. In this light, a change in LOS policy is recommended in the Transit Corridors Plan, but no specific new LOS policy is yet proposed. A specific LOS policy change is therefore not a part of the "project" nor evaluated in this EIR. However, the comparative effects of this alternative are qualitatively discussed in chapter 16, Alternatives to the Proposed Action, herein, under Alternative 4: Transit Corridors Plan Incorporating a Pedestrian-Oriented Intersection Standard (LOS F). If adopted, implementation of an LOS F standard would partially mitigate the impact on the El Camino Real/San Bruno Avenue intersection based on City criteria, but it would still exceed the Caltrans threshold and the threshold for CMP intersections established by C/CAG.

Impact 14-2: Southbound US 101 Ramps/San Bruno Avenue Intersection Impact. Under 2030 General Plan With Project conditions, intersection operations would deteriorate from acceptable LOS B (existing) to unacceptable LOS D during the PM peak hour, which would represent a ***potentially significant impact*** under Caltrans criteria (see criterion (1) in subsection 14.4.1, "Significance Criteria," above).

Mitigation 14-2. This impact could be mitigated to a less-than-significant level by converting the westbound shared left-turn lane to a dedicated through lane. This measure would result in LOS C operations during both the AM and PM peak hours. However, because US 101 is a Caltrans facility, this improvement would exceed the City's authority to implement. Thus, the impact of the Transit Corridors Plan on the Southbound US 101 Ramps/San Bruno Avenue intersection represents an ***unavoidable significant impact.***

Impact 14-3: El Camino Real/Westbound I-380 Ramps Intersection Impact. Under 2030 General Plan With Project conditions, intersection operations would deteriorate from LOS D (existing) to LOS D intersection operations during the PM peak hour with an increase in delay of 12.1 seconds, which would represent a ***potentially significant impact*** under Caltrans criteria (see criterion (1) in subsection 14.4.1, "Significance Criteria," above).

Mitigation 14-3. This impact could be mitigated to a less-than-significant level by providing three westbound right-turn lanes from the I-380 ramp onto northbound El Camino Real. However, this improvement would require the acquisition of additional right-of-way from adjacent developed properties and may therefore be considered infeasible. Additionally, because I-380 is a Caltrans facility, this improvement would exceed the City's authority to implement. Thus, the impact of the Transit Corridors Plan on the El Camino Real/Westbound I-380 Ramps intersection represents an ***unavoidable significant impact.***

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(2) Freeway Segments. This EIR uses the C/CAG threshold of significance to determine the significance of impacts on freeway segments. A comparison to Caltrans thresholds of significance is also provided for informational purposes.

For CMP facilities, the C/CAG threshold of significance is whether the addition of project traffic would cause a segment to exceed its LOS standard. If the segment is exceeding its LOS standard before the addition of project traffic, the threshold of significance is whether the project would add an amount of traffic greater than one percent of the segment's capacity or would increase the v/c ratio by one percent or more.

The C/CAG LOS standard for US 101 is LOS E, and all segments on US 101 are projected to operate at an acceptable LOS E or better under Cumulative No Project conditions. The addition of Transit Corridors Plan traffic would not cause any of the study segments on US 101 to deteriorate to an unacceptable LOS.

The C/CAG LOS standard on I-380 is LOS F, and all segments on I-380 are projected to operate at an acceptable LOS E or better under Cumulative No Project conditions with the exception of the eastbound segments of I-380 during the AM peak period. The Transit Corridors Plan would increases the v/c ratio by more than one percent and add more than one percent of the segments' capacity for the eastbound segments of I-380 during the AM peak period, which would represent a significant impact.

Based on Caltrans thresholds of significance, the addition of any project traffic to a freeway segment operating at LOS D, E, or F would be a significant impact. Based on Caltrans thresholds of significance, the Transit Corridors Plan would have a significant impact on all segments of I-380 except the westbound I-380 segment west of El Camino Real during one or both peak periods.

As indicated in Table 14.11, based on C/CAG thresholds of significance, the Transit Corridors Plan would result in potentially significant impacts on the eastbound I-380 between I-280 and US 101 freeway segment under 2030 General Plan With Project conditions.

Impact 14-4: Eastbound I-380 Freeway Segment Impact Between I-280 and US 101. Under 2030 General Plan With Project conditions during the AM peak hour, the existing unacceptable LOS rating of F along this eastbound freeway segment west of El Camino Real would deteriorate to a worse F (an increase in volume-to-capacity ratio from 1.01 to 1.18), and the existing LOS rating of E east of El Camino Real would deteriorate to F (an increase in volume-to-capacity ratio from 0.95 to 1.11). The increase in volume-to-capacity ratio along this freeway segment from existing conditions by more than one percent and the increase in traffic volume would represent more than one percent of the segment's capacity. These effects would represent a ***potentially significant impact*** under CMP and Caltrans criteria (see criterion (1) in subsection 14.4.1, "Significance Criteria," above).

Mitigation 14-4. Two mitigation options have been identified for this impact:

(a) Increase capacity by widening the freeway. The measure could reduce this Project impact to a less-than-significant level, but widening would require acquisition of additional freeway right-of-way from adjacent properties and may therefore be considered infeasible. Additionally, because I-380 is a Caltrans facility, this improvement would exceed the City's authority to implement.

(b) Reduce the amount of traffic added to the freeway. By facilitating mixed use and higher intensity infill development in an existing urban area at corridor locations with good local and regional transit access, including convenient San Mateo County Transit District (SamTrans) bus service, Bay Area Rapid Transit District service (San Bruno BART station), and Caltrain commuter rail service (new San Bruno Caltrain station), the Transit Corridors Plan would minimize project-related peak hour vehicle trips. The Transit Corridors Plan also recommends implementation of an area-wide transportation demand management (TDM) program to further reduce peak period trip generation. These measures would be expected to substantially reduce automobile trip generation and the severity of freeway segment impacts, but not to a less-than-significant level.

Therefore, the impact of the Transit Corridors Plan on eastbound I-380 between I-280 and US 101 would remain an ***unavoidable significant impact.***

Table 14.11
2030 GENERAL PLAN NO PROJECT AND 2030 GENERAL PLAN WITH PROJECT FREEWAY LEVELS OF SERVICE

Segment	Direction	Number of Lanes	Capacity[2]	Peak Hour	2030 General Plan No Project Conditions			2030 General Plan With Project Conditions							LOS Standard
					Volume[1]	V/C[3]	LOS[4]	Project Volume	% of Capacity	Volume[1]	V/C[3]	LOS[4]	% increase in v/c	Impact?	
US 101: North of I-380	NB	5	11,000	AM	7,380	0.67	C	114	1.0%	7,494	0.68	C	1.5%	No	E
				PM	7,010	0.64	C	211	1.9%	7,221	0.66	C	3.1%	No	
	SB	5	11,000	AM	6,880	0.63	C	275	2.5%	7,155	0.65	C	3.2%	No	
				PM	7,040	0.64	C	169	1.5%	7,209	0.65	C	1.6%	No	
US 101: South of San Bruno Avenue	NB	5	11,000	AM	6,850	0.62	C	122	1.1%	6,972	0.63	C	1.6%	No	E
				PM	5,750	0.52	C	76	0.7%	5,826	0.53	C	1.9%	No	
	SB	5	11,000	AM	6,180	0.56	C	67	0.6%	6,247	0.57	C	1.8%	No	
				PM	6,340	0.58	C	122	1.1%	6,462	0.59	C	1.7%	No	
I-380: West of El Camino Real	EB	3	6,600	AM	7,670	1.16	F	136	2.1%	7,806	1.18	F	1.7%	**Yes**	F
				PM	4,920	0.75	D	84	1.3%	5,004	0.76	D	1.3%	No	
	WB	4 + 2 auxiliary lanes	11,000	AM	3,760	0.34	B	74	0.7%	3,834	0.35	B	2.9%	No	
				PM	7,140	0.65	C	136	1.2%	7,276	0.66	C	1.5%	No	
I-380: East of El Camino Real	EB	3 + 1 auxiliary lane	8,100	AM	8,850	1.09	F	101	1.2%	8,951	1.11	F	1.8%	**Yes**	F
				PM	5,850	0.72	D	187	2.3%	6,037	0.75	D	4.2%	No	
	WB	4	8,800	AM	4,550	0.52	C	187	2.1%	4,737	0.54	C	3.8%	No	
				PM	8,160	0.93	E	115	1.3%	8,275	0.94	E	1.1%	No	

SOURCE: Fehr & Peers, August 18, 2011.

Notes:

1. Capacity based on number of lanes and per lane capacity of 2,200 vehicles per hour per lane (vphpl) for US 101 and I-380, per the C/CAG CMP Guidelines. Single lane auxiliary lanes were assumed to have a capacity of 1,500 vphpl, and two lane auxiliary lanes were assumed to have a capacity of 2,200 vphpl.
2. Peak hour volumes on US 101 obtained from Caltrans data and I-380 volumes obtained from counts. Volumes adjusted for corridor growth based on C/CAG travel demand forecasting model.
3. Volume-to-Capacity ratio (V/C)
4. LOS calculations performed using the 2000 *Highway Capacity Manual - Special Report 209* methods for freeway segments

Unacceptable operations are indicated in **bold** type.

Roadway Design Hazard Impacts. The Transit Corridors Plan includes the following recommended circulation improvements which emphasize the principles of "complete streets," considering the complementary relationship between land uses and travel needs, and goal to increase access and mobility for transit users, bicycles and pedestrians, while balancing the needs of vehicles:

- Street section configurations that balance traffic demand with improvements for other travel modes, reduction of travel lanes from four travel lanes to two lanes on San Bruno Avenue and on Huntington Avenue north of San Bruno Avenue; and

- Roundabouts at the Huntington Avenue/San Bruno Avenue, San Mateo Avenue/San Bruno Avenue, San Mateo Avenue/Huntington Avenue, and San Bruno Avenue/Elm Avenue intersections.

(a) San Bruno Avenue Road Diet. In the long-term, the Plan recommends evaluating a possible reduction of travel lanes from four travel lanes to two lanes to provide bicycle and pedestrian amenities on San Bruno Avenue and Huntington Avenue north of San Bruno Avenue, based on a study of traffic patterns after completion of the Caltrain Grade Separation project. In the case of San Bruno Avenue, roadway capacity might not be reduced, because the road diet would enable left-turning vehicles to have a dedicated turn lane rather than having to stop in a through lane before executing the left turn.

(1) Road Diet Traffic Estimates. Traffic volumes for the road diet analysis were based on the Existing Plus Project and 2030 General Plan With Project volumes presented earlier in this chapter. Traffic volumes were balanced between the El Camino Real/San Bruno Avenue and Huntington Avenue/San Bruno Avenue intersections to estimate turning movement volumes for the side-street stop controlled intersections between the two primary intersections. Similarly, the volumes were balanced between the San Mateo Avenue/San Bruno Avenue and Southbound US 101 Ramps/San Bruno Avenue intersections to estimate the turning movement volumes on San Bruno Avenue between San Mateo Avenue and US 101.

Research published by Walkable Communities, Inc.[1] lists 17 studies from different cities in North America where road diets were successfully implemented. Ideally, roadways should have moderate volumes (up to 15,000 daily vehicles), though eight cities have successfully implemented road diets on facilities that carried up to 23,000 daily vehicles. Data published in the 2007 *Road Diet Handbook*[2] suggests that roadways with up to 20,000 vehicles can accommodate road diets without diversion to alternate or parallel facilities. By comparison, San Bruno Avenue currently carries approximately 12,000 vehicles per day.

To account for potential traffic diversion due to the roadway narrowing, the through volumes on San Bruno Avenue were reduced by 10 percent under the road diet scenario. This assumes that some through traffic traveling between US 101 and El Camino Real, without any destinations along the San Bruno Avenue corridor, would divert to parallel routes, such as I-380, to reach its destination. Table 14.12 summarizes the vehicle volume estimates for San Bruno

[1]Burden, Dan and Lagerwey, Peter. "Road Diets: Fixing the Big Roads." *Walkable Communities, Inc.* (March 1999).

[2]Rosales, Jennifer. *Road Diet Handbook: Setting Trends for Livable Streets*, Second Edition, Parsons Brinckerhoff, Inc., 2007.

Table 14.12
SAN BRUNO AVENUE TRAFFIC VOLUME ESTIMATES WITH ROAD DIET

Segment	Analysis Period	Existing (2010) (4-Lane Undivided Arterial)	Existing Plus Project (4-Lane Undivided Arterial)	Existing Plus Project With Road Diet (2-Lane Divided Arterial)[4]	2030 General Plan With Project (4-Lane Undivided Arterial)	2030 General Plan With Project With Road Diet (2-Lane Divided Arterial)[4]
Between El Camino Real and Huntington Avenue[1]	AM Peak	1,100	1,800	1,600	2,300	2,200
	PM Peak	1,300	2,100	1,900	2,800	2,700
	Daily[3]	12,000	19,500	17,600	25,500	24,200
Between San Mateo Avenue and US 101[2]	AM Peak	1,000	1,500	1,400	1,900	1,800
	PM Peak	1,300	1,800	1,600	2,000	1,900
	Daily[3]	11,500	16,500	15,000	19,500	18,500

SOURCE: Fehr & Peers, August 18, 2011.

Notes:

1. Volume estimates based on turning movement volumes at El Camino Real/San Bruno Avenue intersection.
2. Volume estimates based on turning movement volumes at San Mateo Avenue/San Bruno Avenue intersection.
3. Daily volume is assumed to be 5x AM plus PM peak hour volumes (i.e., AM plus PM peak hour volumes = 20 percent of daily volume).
4. Traffic volumes under Road Diet conditions are assumed to be 10 percent lower than the 4-Lane Undivided Arterial conditions.

Avenue under Existing, Existing Plus Project, Existing Plus Project With Road Diet, General Plan With Project, and General Plan With Project With Road Diet conditions.

(2) Road Diet Assumptions. The road diet assumes that San Bruno Avenue would be narrowed from four travel lanes down to two. However, at two locations four lanes have been maintained to accommodate traffic volumes in the most congested areas, as follows:

- San Bruno Avenue just east of El Camino Real was assumed to remain at four lanes to accommodate the dual eastbound through and southbound left-turn lanes at the San Bruno Avenue/El Camino Real intersection; and

- San Bruno Avenue through the Huntington Avenue and San Mateo Avenue intersections was assumed to be four lanes to accommodate the higher through and turning movement volumes at the intersections.

Therefore, the road diet design would be implemented along San Bruno Avenue between Hensley Avenue and Huntington Avenue, as well as between San Mateo Avenue and 7th Street.

(3) Road Diet Operations Analysis. To determine the feasibility and affect of the road diet on San Bruno Avenue, an operations analysis of the San Bruno Avenue corridor was conducted. Since the PM peak hour would have the higher volumes compared to the AM peak hour, only the PM peak hour was analyzed under Existing Plus Project and General Plan With Project conditions. SimTraffic, a microsimulation software program, was used to identify travel times though the San Bruno Avenue corridor. SimTraffic captures the random nature of driver behavior and models the interaction between vehicles in a study network. When compared to traditional analysis methods, traffic simulation better accounts for delays under congested conditions, including pedestrian crossings, queue blocking, and queue interactions between adjacent intersections.

Several Measures of Effectiveness (MOEs) computed by the SimTraffic model were used to quantify traffic operations of the San Bruno Avenue corridor with implementation of the road diet, as follows:

- **Average Travel Time (ATT)** is a measure of the time it takes (on average) to travel from one end of a corridor to the other during the peak period. The travel time calculation considers the average delay throughout the corridor, vehicle queues, and friction caused by merging vehicles.

- **Average Travel Speed (ATS)** is directly related to Average Travel Time and the corridor length. Travel speeds are presented in miles per hour (mph).

Corridor MOEs are presented in Table 14.13 for the eastbound and westbound directions on San Bruno Avenue during the PM peak hour.

Current travel speeds on this one-mile corridor of San Bruno Avenue are about 10 to 15 mph. Based on the analysis presented in Table 14.13, the ATS through the corridor would be about 4 to 7 mph in the westbound direction and 11 to 15 mph in the eastbound direction. Overall, the ATS under Existing Plus Project conditions would be slightly better than under General Plan With Project Conditions. The overall travel speeds within the corridor would not degrade

Table 14.13
SAN BRUNO AVENUE[1] ROAD DIET PM PEAK HOUR MEASURES OF EFFECTIVENESS

Location		Average Travel Time (minutes:seconds)	Average Travel Speed (mph)
Existing Plus Project Conditions			
Between El Camino Real and Huntington Avenue	Eastbound	1:20	13
	Westbound	2:20	7
Between San Mateo Avenue and US 101	Eastbound	1:40	15
	Westbound	5:50	4
General Plan With Project Conditions			
Between San Mateo Avenue and US 101	Eastbound	1:30	11
	Westbound	3:00	6
Between San Mateo Avenue and US 101	Eastbound	1:50	13
	Westbound	5:55	4

SOURCE: Fehr & Peers, August 18, 2011.

Note:

[1] The study segment of San Bruno Avenue extends from El Camino Real to US 101 Southbound Ramps.

substantially, while multi-modal access would be improved along the corridor. It should also be noted that the analysis represents a worst-case scenario, since additional geometric modifications or greater diversion from San Bruno Avenue to I-380 may improve travel times and speeds. The next step in pursuing a road diet on San Bruno Avenue would include a detailed operations analysis to determine exact lane configurations, taper lengths, and geometries for the corridor.

(b) Roundabouts. A roundabout is a circular intersection with yield control on entry points with splitter islands to direct traffic through the intersection. One-lane roundabouts provide one lane for internal circulation and typically have a diameter between 100 and 150 feet, while two-lane roundabouts with two internal circulation lanes are typically between 150 and 230 feet in diameter. Roundabouts provide several important traffic safety benefits such as fewer conflict/collision points (resulting in a 39 percent reduction in collisions nationally) and slower intersection speeds that improve safety for pedestrians and bicyclists. Roundabouts also result in lower average delays than stop signal or signal controlled intersections for locations with less than 20,000 vehicles daily.

(1) Roundabout Assumptions. The Transit Corridors Plan identifies four potential roundabout locations: Huntington Avenue/San Bruno Avenue, San Mateo Avenue/San Bruno Avenue, San Mateo Avenue/Huntington Avenue, and San Bruno Avenue/Elm Avenue. The findings on the operations of one-lane roundabouts at these four locations are described below. Since only one-lane roundabouts were considered for this analysis, the Existing Plus Project and 2030 General Plan With Project volumes for the road diet analysis (narrowing San Bruno from four to two lanes) discussed above were used for the roundabout analysis. Two-lane roundabouts were not considered in this analysis, since they would require more right-of-way than is available. Additionally, roundabouts would not be feasible on San Bruno Avenue with the current railroad crossing between Huntington Avenue and San Mateo Avenue; thus, the Existing Plus Project (as well as the General Plan With Project) analysis for roundabouts assumes that the Caltrain Grade Separation project would be in place.

(2) Roundabout Operations Analysis. The study intersections were analyzed using procedures consistent with the 2010 Highway Capacity Manual (HCM) (Transportation Research Board, 2010), which is based on NCHRP Report 672--Roundabouts: An Informational Guide (TRB, 2010). Based on research presented at the 2011 TRB International Roundabout Conference that compared six different analysis methods for single lane roundabout analysis, the HCM 2010 method has the consistently lowest capacity, so it provides a conservative approach. The roundabout operations analysis results are presented in Table 14.14 for Existing Plus Project Conditions and 2030 General Plan With Project conditions.

For comparative purposes, the intersection operations for the selected roundabout locations in Table 14.14 were compared to the Synchro signalized LOS calculated for the road diet scenarios for Existing Plus Project and General Plan With Project conditions. As explained above, the Synchro results for the road diet scenario were selected for comparison, since one-lane roundabouts are assumed.

Based on the analysis presented in Table 14.14, the San Mateo Avenue/Huntington Avenue intersection exhibits the greatest opportunity for a one-lane roundabout. In all the study cases, roundabouts are projected to operate better than conventional intersections, except for possibly San Bruno Avenue/Elm Avenue, which would operate at LOS F with a roundabout.

Table 14.14
ROUNDABOUT ANALYSIS METHOD COMPARISON

		Analysis Method			
		Synchro Road Diet--Signal		HCM--Roundabout	
Intersection	Peak Hour	Average Delay[1]	LOS[2]	Average Delay[1]	LOS[2]
Existing Plus Project Conditions					
Huntington Avenue/San Bruno Avenue	AM	N/A	N/A	11.8	B
	PM	21.4	C	19.0	C
San Mateo Avenue/San Bruno Avenue	AM	N/A	N/A	19.3	C
	PM	27.1	C	19.7	C
San Mateo Avenue/Huntington Avenue	AM	15.2	B	6.6	A
	PM	20.7	C	7.3	A
Elm Avenue/San Bruno Avenue	AM	N/A	N/A	17.1	C
	PM			19.0	C
General Plan With Project Conditions					
Huntington Avenue/San Bruno Avenue	AM	N/A	N/A	9.5	A
	PM	28.2	C	26.5	D
San Mateo Avenue/San Bruno Avenue	AM	N/A	N/A	**54.1**	**E**
	PM	33.5	C	29.0	D
San Mateo Avenue/Huntington Avenue	AM	23.2	C	8.7	A
	PM	11.6	B	9.0	A
Elm Avenue/San Bruno Avenue	AM	N/A	N/A	**>80.0**	**F**
	PM			**>80.0**	**F**

SOURCE: Fehr & Peers, August 18, 2011.

Notes:

[1] Average control delay calculated using the *2010 Capacity Manual (HCM)* (Transportation Research Board, 2010) methodology for roundabouts. Average control delay for the worst-case approach is presented.

[2] LOS calculations performed using the 2000 *Highway Capacity Manual - Special Report 209* delay methods for signalized and unsignalized intersections.

N/A = Level of service was not calculated under road diet scenario.

Unacceptable operations are indicated in **bold** type.

It should be noted that the road diet analysis assumed four lanes on San Bruno Avenue between Huntington Avenue and San Mateo Avenue, but that the roundabouts would allow the corridor to be two lanes throughout and continue to operate at acceptable levels. Alternatively, although roundabouts typically require more land area at an intersection than conventional intersections, two lane roundabouts could possibly be accommodated on the land area necessary to accommodate conventional intersections along the four travel lanes on San Bruno Avenue between Huntington Avenue and San Mateo Avenue.

Conclusions. As discussed above, the Transit Corridors Plan could accommodate a road diet on San Bruno Avenue as well as roundabouts in the identified locations without substantially increasing circulation hazards due to design features or substantially deteriorating levels of service. Because Huntington Avenue north of San Bruno Avenue would have lower traffic volumes than San Bruno Avenue, the conclusions regarding the road diet also apply to this roadway segment. The roadway design hazard impacts of the Transit Corridors Plan would be ***less than significant.***

Mitigation. No significant impacts have been identified; no mitigation is required.

Emergency Access Impacts. Emergency access would be maintained to all properties within the project limits and the surrounding vicinity during construction. Following common practice, for each future individual development project that will disrupt street traffic a project traffic control plan would be developed and implemented by the City to maintain access to properties within the project limits and emergency access to and through the area, and to minimize traffic disruption and congestion, and traffic safety hazards. The need for traffic lane reductions or street closure due to individual project construction would be short-term, temporary and localized, and adequately managed through standard traffic management practices implemented in the project traffic control plan.

Traffic generated by development facilitated by the Transit Corridors Plan is projected to increase traffic volumes. However, all intersections within the Transit Corridors Area would be expected to continue to operate acceptably with the Transit Corridors Plan, with the exception of the El Camino Real/San Bruno Avenue intersection, where operations would deteriorate from acceptable LOS E to unacceptable LOS F during the PM peak hour. The road diets, roundabouts, intersection reconfiguration, and pedestrian and bicycle improvements proposed by the Transit Corridors Plan would not impede emergency access. Therefore, the emergency access impact of the Transit Corridors Plan would be ***less than significant.***

Mitigation. No significant impacts have been identified; no mitigation is required.

Transit System Impacts. The Transit Corridors Plan encourages the integration of land use and transit, with a mixture and density of uses that would support transit ridership, viability, and high service levels. With the proposed changes in land use, density, and connectivity under the Transit Corridors Plan, the Caltrain station would be located towards the center (rather than at the edge) of the Transit Corridors Area and would be better connected to Downtown destinations and adjacent neighborhoods. The Caltrain and BART stations would also be better integrated into the activity patterns, viewsheds, and pathways of the Transit Corridors Area in order to promote transit use as the primary mode of transportation.

Transit Corridors Plan recommended transit improvements are shown in Figure 3.14 in Chapter 3, Project Description, of this EIR. The Transit Corridors Plan recommends a local transit shuttle between the Caltrain station and the BART station, with stops within the Transit Corridors Area to improve connections for those areas that are beyond a half mile from either station. The Plan also recommends consideration of a second shuttle to the San Francisco International Airport. Additionally, the Plan recommends that bus stops within the Transit Corridors Area be enhanced with transit amenities such as shelters, benches, lighting and information displays.

Based on trip generation characteristics and transit mode share, the additional development that would be allowed by the proposed Transit Corridors Plan over the amount of development within the Transit Corridors Area allowed under the current General Plan, would be expected to generate 710 additional transit riders. SamTrans, Caltrain and BART each have available capacity to accommodate these additional riders. The entire Transit Corridors Area lies within ¼ mile of a transit stop. Therefore, the implementation of the Transit Corridors Plan will have a less-than-significant impact to transit.

In summary, because the entire Transit Corridors Area lies within ¼ mile of a transit stop, the Transit Corridors Plan recommends transit improvements and provides for a mix of land uses and a character of development that is supportive of transit, and SamTrans, Caltrain and BART have available capacity to accommodate the estimated 710 additional riders generated by the Plan, the transit service impacts of the Transit Corridors Plan would be ***less than significant.***

Mitigation. No significant impacts have been identified; no mitigation is required.

Bicycle and Pedestrian System Impacts. The Transit Corridors Plan would promote increased pedestrian and bicycle use within the Transit Corridors Area and citywide by improving pedestrian and bicycle conditions, increasing pedestrian and bicycle safety, and creating a land use context supportive of pedestrians and bicycles. The Transit Corridors Plan would promote a network of “complete streets” that accommodates multiple travel modes, including pedestrians and bicycles. The Transit Corridors Plan would require the provision of high quality pedestrian environments and facilities, such as sidewalks that provide direct walking routes with adequate width, pedestrian scale lighting, landscaping, storefronts, and other appropriate amenities.

The Transit Corridors Plan would establish new standards for sidewalk widths, street trees, and lighting scaled for people more so than for cars, allowing pedestrians to walk comfortably without being too crowded. Adequate sidewalk widths would also allow for retail displays, outdoor dining, benches, and other activities which make sidewalks safe, comfortable, and inviting.

The Transit Corridors Plan would also provide for active building frontages, requiring that buildings place their entrances in front, facing the street, and that streets also be lined with windows, awnings, signage, stoops, and other sources of visibility, activity, and interest, which would promote a feeling of safety and comfort for pedestrians. Plan-specific street trees, on-street parking, and crosswalk improvements would serve to slow traffic and increase pedestrian comfort and safety. Plan-specified mixing of residential and commercial uses would bring trip origins and destinations closer together and would be one of the single most important factors in improving walkability. The Transit Corridors Plan would promote “just enough” parking at the

right price, and organize the parking facilities in relation to Transit Corridors Area destinations and activities in a manner that would create a "park-once and walk" district.

Transit Corridors Plan recommended bicycle improvements are shown in Figure 3.15 in Chapter 3, Project Description, of this EIR. The Transit Corridors Plan recommends Class II bicycle lanes on portions of San Bruno Avenue, Huntington Avenue and San Mateo Avenue, which could be accomplished through either narrowing vehicle lane widths, removing on street parking, or "road diets." Because some Transit Corridors Area streets are too narrow for bicycle lanes, the Plan also recommends a network of Bicycle Priority Streets on smaller, slower traffic streets parallel to the main corridors, where the provision of traffic calming measures may also be considered. The Plan also recommends a new connection between Downtown and the San Francisco Bay Trail via a new path within the right-of-way approximately 100 feet north of Pine Street and a new pedestrian/bicycle overpass just south of the Highway 101/San Bruno Avenue interchange. Additionally, the Plan recommends improved bicycle parking. The bicycle facilities improvements recommended by the Transit Corridors Plan would enhance access to and from BART and Caltrain, Downtown, surrounding land uses and the San Francisco Bay Trail located east of US 101.

Transit Corridors Plan recommended pedestrian improvements are shown in Figure 3.16 in Chapter 3, Project Description, of this EIR. The Transit Corridors Plan recommends various crosswalk improvements, including raised crosswalks on San Mateo Avenue, and new crosswalks and crosswalk enhancements with bulbouts and pedestrian refuge islands on El Camino Real, San Bruno Avenue and Mastick Avenue. The proposed "road diets" on San Bruno Avenue and Huntington Avenue would allow for wider sidewalks on these street segments.

In summary, because the Transit Corridors Plan would enhance the bicycle and pedestrian circulation systems and does not contain any design aspects that would cause an increased potential for bicycle/vehicle conflicts, the bicycle and pedestrian system impacts of the Transit Corridors Plan would be ***less than significant.***

Mitigation. No significant impacts have been identified; no mitigation is required.

14.5 EXISTING PLUS PROJECT CONDITIONS ANALYSIS

14.5.1 Analysis Assumptions

Based on recent California Environmental Quality Act (CEQA) case law,[1] a project must be analyzed solely against "Existing conditions," even if the proposed project is a planning-level analysis projected to be built over a long-term horizon, such as the Transit Corridors Plan. To satisfy CEQA requirements, this section evaluates transportation and circulation impacts, and presents intersection level of service (LOS) calculations, under Existing Plus Project conditions.

To avoid redundancy and provide a focused analysis, only those intersections and freeway segments that were assumed to include roadway improvements or were identified as having significant impacts based on the City of San Bruno and C/CAG impact criteria under General Plan With Project conditions were selected for the Existing Plus Project conditions analysis.

[1] *Sunnyvale West Neighborhood Association v. City of Sunnyvale City Council* (December 16, 2010).

This decision is based on the logical assumption that the General Plan With Project total volumes would be greater than Existing Plus Project total volumes, and that traffic operations under General Plan With Project conditions would have higher delays and worse LOS than operations under Existing Plus Project conditions. Therefore, if less-than-significant impacts were identified under General Plan With Project conditions, reduced less-than-significant impacts would be identified under Existing Plus Project conditions. Based on this methodology, the following locations were analyzed under Existing Plus Project conditions:

(a) Intersections

- Int. # 2: El Camino Real/San Bruno Avenue (significant impact under General Plan With Project conditions),
- Int. # 3: Huntington Avenue/San Bruno Avenue (assumed Caltrain Grade Separation project improvements under General Plan With Project conditions),
- Int. # 4: San Mateo Avenue/San Bruno Avenue (assumed Caltrain Grade Separation project improvements under General Plan With Project scenario), and
- Int. # 5: San Mateo Avenue/Huntington Avenue (assumed Caltrain Grade Separation project improvements under General Plan With Project conditions).

(b) Freeway Segments

- I-380 West of El Camino Real (significant impact under General Plan With Project conditions), and
- I-380 East of El Camino Real (significant impact under General Plan with Project conditions).

14.5.2 Existing Plus Project Roadway Improvements and Volume Estimates

Consistent with CEQA, the roadway network existing at the time of the Transit Corridor Plan's EIR Notice of Preparation (NOP) represents Existing conditions. Thus, the Existing Plus Project analysis includes the existing roadway network plus all roadway infrastructure improvements assumed as part of the proposed Transit Corridors Plan itself, as discussed in chapter 3 (Project Description) of this EIR (such as removing exclusive right-turn lanes on northbound, southbound, and eastbound approaches, and converting outer through lanes to shared through/right-turn lanes). Roadway improvements that are not envisioned as part of the project, including the Caltrain Grade Separation project, are not included in the Existing Plus Project analysis.

Traffic volume estimates for the proposed Transit Corridors Plan were added to Existing conditions traffic volumes. These totals were then used to calculate intersection traffic volumes under Existing Plus Project conditions. Freeway volumes were estimated based on existing US 101 volumes from Caltrans and I-380 counts plus proposed project traffic forecasts.

(a) Trip Generation. Similar to the trip estimates formulated for General Plan With Project conditions (see subsection 14.4.2 of this EIR chapter), the increases in vehicle trips generated by the proposed land use changes with development of the Transit Corridors Plan were

estimated by applying trip generation rates and equations from the ITE *Trip Generation*, 8th edition. The resulting ITE trip generation rates and trip estimates are presented in Table 14.15. Using only ITE rates, the project would generate 29,474 total daily trips, 2,607 AM peak-hour trips, and 3,133 PM peak-hour trips. Trip reductions were applied to account for the infill and mixed-use nature of the Transit Corridors Plan and to account for transit trips due to the close proximity of the San Bruno Caltrain and BART stations. Additionally, pass-by trip reductions were applied to retail uses to account for traffic that is already on the roadway network accessing the project area. The analysis applied a 25 percent pass-by trip reduction to the peak-hour trip generation estimates.

As shown in Table 14.15, after trip reductions, project development is estimated to generate 15,039 new daily vehicle trips, 2,084 new AM peak-hour trips (1,337 inbound and 752 outbound), and 1,867 new PM peak-hour trips (720 inbound and 1,152 outbound). Consistent with the methodology assumptions, the number of trips generated by the project under Existing Plus Project conditions would be higher than the number generated by the project under General Plan With Project conditions. This is because the trip generation analysis under Existing Plus Project conditions estimates the trips for ***total*** development anticipated under the Transit Corridors Plan (including General Plan buildout within the Transit Corridors Plan area), while the trip generation analysis under General Plan With Project conditions estimates the trips for the ***net increase*** in development over General Plan No Project conditions.

14.5.3 Existing Plus Project Intersection Levels of Service

Intersection levels of service (LOS) were calculated for Existing Plus Project conditions, using the Existing volumes shown on previous Figure 14.2 plus project trips based on Table 14.15. The resulting volumes are shown on Figure 14.10. The intersection LOS results are summarized in Table 14.16 and shown graphically on Figure 14.10.

The Huntington Avenue/San Bruno Avenue intersection would operate deficiently per the LOS standard defined by the City of San Bruno during the PM peak hour, with LOS E and an average control delay of 60.1 seconds. The San Mateo Avenue/San Bruno Avenue intersection would also operate deficiently per the City of San Bruno standard during the AM peak hour with LOS E and an average delay of 69.7 seconds, and during the PM peak hour with LOS F and an average delay of greater than 80 seconds.

It should be noted that the Existing Plus Project analysis does not include the Caltrain Grade Separation project currently under construction. As discussed above, consistent with CEQA, the Existing Plus Project evaluation evaluates the transportation network existing at the time of the EIR's NOP plus infrastructure improvements included as part of the Transit Corridors Plan itself. The grade separation project will substantially improve traffic operations at the most congested crossing points on San Bruno Avenue, but it is not expected to be completed before certification of this EIR or approval of the Transit Corridors Plan. Intersection operations at the San Bruno Avenue intersections with Huntington Avenue and San Mateo Avenue would operate at acceptable service levels under Existing Plus Project conditions with the grade separation project.

14.5.4 Existing Plus Project Freeway Segment Levels of Service

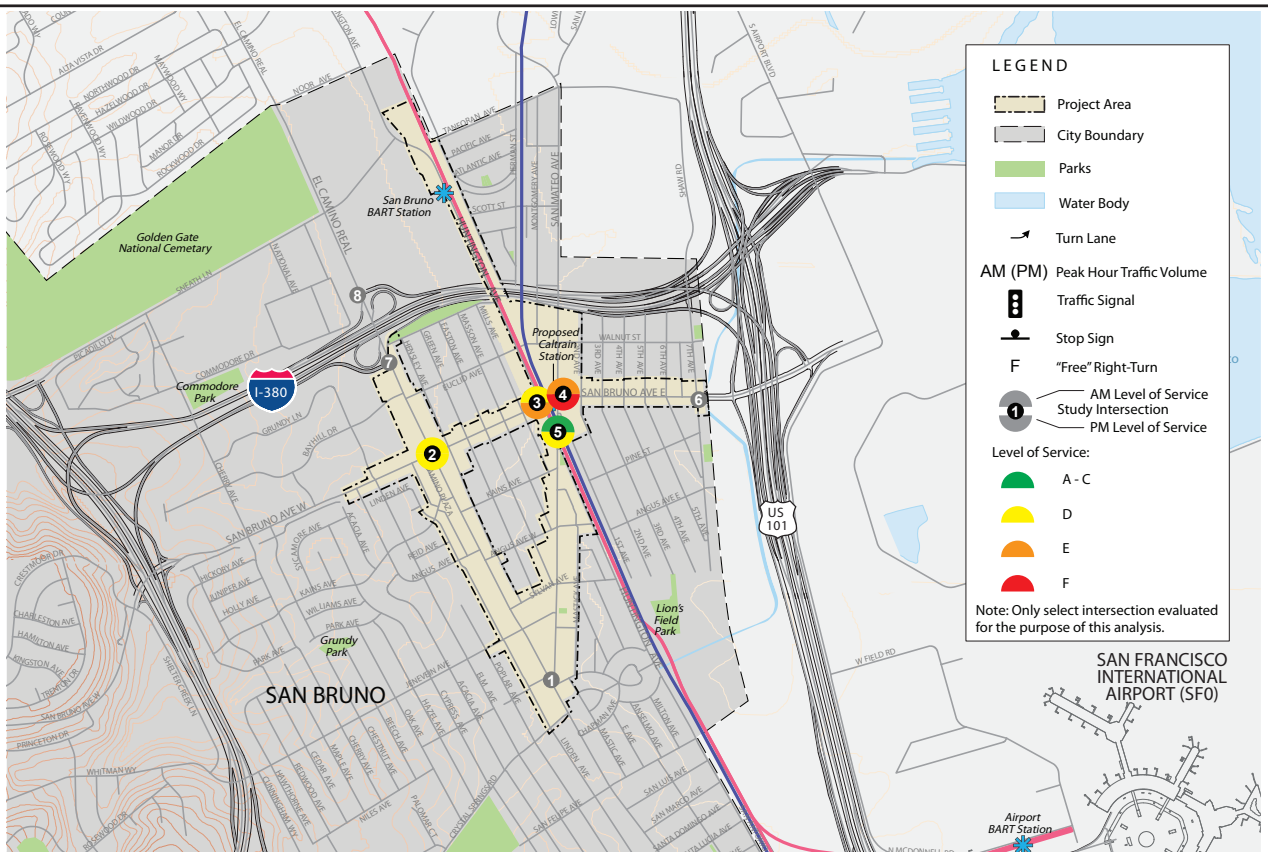
For CMP facilities, the significance threshold is whether the addition of project traffic causes a freeway segment to exceed its LOS standard. If the segment is exceeding its LOS standard

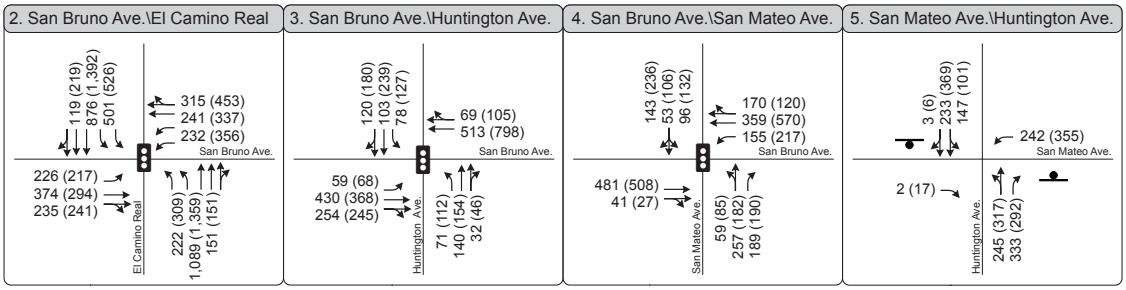
Table 14.15
EXISTING PLUS PROJECT TRIP GENERATION ESTIMATES

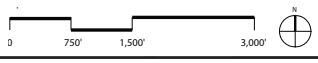
Land Use	Size	Daily		AM Peak Hour				PM Peak Hour			
		Rate[1]	Trips[2]	Rate[1]	In	Out	Total	Rate[1]	In	Out	Total
Existing Plus Project Conditions											
Residential (du) [ITE 220]	1,610	6.65	10,707	0.51	164	657	821	0.62	649	349	998
Commercial/Retail (sf) [ITE 820]	147,700	42.9	6,336	1.0	90	58	148	3.73	270	281	551
Office (sf) [ITE 710]	988,100	11.01	10,879	1.55	1,348	184	1,532	1.49	250	1,222	1,472
Hotel (sf) [ITE 310]	190	8.17	1,552	0.56	65	41	106	0.59	59	53	112
Total ITE Trip Generation		--	*29,474*	--	*1,669*	*942*	*2,607*	--	*1,230*	*1,907*	*3,133*
MXD Reduction[3]		--	(11,378)	--	(227)	(128)	(355)	--	(381)	(591)	(972)
Transit Reduction		--	(1,474)	--	(83)	(47)	(130)	--	(61)	(95)	(156)
Retail Passby Reduction (25%)		--	(1,584)	--	(23)	(15)	(38)	--	(68)	(70)	(138)
Total Trip Generation			15,039		1,337	752	2,084		720	1,152	1,867

SOURCE: Fehr & Peers, August 18, 2011.

Notes:
1. *Trip Generation*, 8th Edition, Institute of Transportation Engineers.
2. The number of trips generated by the project under Existing Plus Project conditions would be higher than the number generated by the project under General Plan With Project conditions. This is because the trip generation analysis under Existing Plus Project includes the ***total*** development anticipated under the Transit Corridors Plan (including General Plan buildout within the Transit Corridors Plan area), while the trip generation analysis under General Plan With Project conditions includes the ***net increase*** in development over General Plan No Project conditions.
3. MXD reductions calculated based on the (MXD) trip generation model developed by Fehr & Peers.







SOURCE: Fehr & Peers

Figure 14.10

EXISTING PLUS PROJECT AM AND PM PEAK HOUR TURNING MOVEMENT VOLUMES, GEOMETRIES, AND INTERSECTION LEVELS OF SERVICE

Table 14.16
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE

Intersection (*Jurisdiction*)	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project Conditions		Existing vs. Project Conditions Impact based on:		
			Average Delay[1]	LOS[2]	Average Delay[1]	LOS[2]	SB	C/CAG	CT
9. El Camino Real (SR 82)/ San Bruno Avenue *(SB/CMP/CT)*	Signal	AM PM	37.9 39.5	D D	44.8 52.7	D D	No	No	No
10. Huntington Avenue/ San Bruno Avenue (*SB*)	Signal	AM PM	27.3 31.5	C C	51.6 **60.1**	D **E**	**Yes**	--	--
11. San Mateo Avenue/ San Bruno Avenue (*SB*)	Signal	AM PM	26.8 48.3	C D	**69.7** **>80.0**	**E** **F**	**Yes**	--	--
12. San Mateo Avenue/ Huntington Avenue (North) (*SB*)	Side-Street Stop	AM PM	9.2 (8.1) 12.3 (10.3)	A (A) B (B)	14.8 (13.5) 26.0 (18.8)	B (B) C (D)	No	--	--

SOURCE: Fehr & Peers, August 2011.

Notes:

1. Whole intersection weighted average total delay for signalized and all-way stop-controlled intersections (expressed in seconds per vehicle). For side-street stop controlled intersections, delays for worst movement and average intersection delay are shown: worst movement (intersection average).
2. LOS calculations performed using the 2000 *Highway Capacity Manual - Special Report 209* delay methods for signalized and unsignalized intersections.

Unacceptable operations are indicated in **bold** type.

Jurisdictions: SB = San Bruno, CMP = C/CAG Congestion Management Program, CT = Caltrans

prior to the addition of project traffic, the significance threshold is whether the project would increase the volume-to-capacity (V/C) ratio by one percent or more or add an amount of traffic greater than one percent of the segment's capacity. The capacities of the study freeway segments and the project-generated trips are shown in Table 14.17.

A V/C ratio analysis was conducted to determine whether the addition of project traffic would result in a significant impact to freeways under Existing Plus Project conditions. The results are presented in Table 14.17. For the eastbound segment of I-380 west of El Camino Real, the project would have a significant impact during the AM peak period because it both increases the V/C ratio by more than one percent and adds more than one percent of the segment's capacity.

Based on Caltrans criteria, the addition of any project traffic to a freeway segment operating at LOS D, E, or F would constitute a significant impact. The project would have significant freeway impacts on the eastbound segments of I-380 west of El Camino Real and east of El Camino Real during the AM peak period.

14.5.5 Existing Plus Project Roadway Facility Impacts and Mitigation Measures

Impacts under Existing Plus Project conditions, based on the significance criteria used by the City of San Bruno, C/CAG, and Caltrans, are described below. Mitigation measures for impacts are also presented below.

(a) Intersections. The results in Table 14.16 indicate that the proposed project would result in significant traffic impacts at the following two intersections under Existing Plus Project conditions, based on City of San Bruno significance criteria:

- Int. # 3. Huntington Avenue/San Bruno Avenue: intersection operations would deteriorate from acceptable LOS C to unacceptable level LOS E during the PM peak hour.

- Int. # 4. San Mateo Avenue/San Bruno Avenue: intersection operations would deteriorate from acceptable LOS C to unacceptable level LOS E during the AM peak hour and from acceptable LOS D to unacceptable level LOS F during the PM peak hour.

As discussed above, the Existing Plus Project analysis assumed that the proposed Caltrain Grade Separation project would not be implemented. The grade separation project, which is currently under construction, will substantially improve operations at the most congested crossing points on San Bruno Avenue. Thus, intersection operations at the San Bruno Avenue intersections with Huntington Avenue and San Mateo Avenue would operate at acceptable LOS under Existing Plus Project conditions with the grade separation project. As of August 2011, Caltrain expects the grade separation project to be completed by summer 2012 (prior to buildout of the proposed Transit Corridors Plan), and thus implementation of the grade separation project can be considered as mitigation for the project impacts at the San Bruno study intersections.

(b) Freeway Segments. The results in Table 14.17 indicate that the proposed project would result in significant traffic impacts on the following freeway segment under Existing Plus Project conditions based on C/CAG impact criteria:

Table 14.17
EXISTING AND EXISTING PLUS PROJECT FREEWAY LEVELS OF SERVICE

Segment	Direction	Number of Lanes	Capacity[1]	Peak Hour	Existing Conditions			Existing Plus Project Conditions							LOS Standard
					Volume[2]	V/C[3]	LOS[4]	Project Volume	% of Capacity	Volume[2]	V/C[3]	LOS[4]	% increase in V/C	Impact?	
I-380: West of El Camino Real	EB	3	6,600	AM	6,675	1.01	F	173	2.6%	6,848	1.04	F	3.0%	**Yes**	F
				PM	4,282	0.65	C	109	1.7%	4,391	0.67	C	3.1%	No	
	WB	4 + 2 auxiliary lanes	11,000	AM	3,271	0.30	A	118	1.1%	3,389	0.31	B	3.3%	No	
				PM	6,208	0.56	C	163	1.5%	6,371	0.58	C	3.6%	No	
I-380: East of El Camino Real	EB	3 + 1 auxiliary lane	8,100	AM	7,700	0.63	E	162	2.0%	7,862	0.97	E	2.1%	No	F
				PM	5,087	0.97	C	224	2.8%	5,311	0.66	C	4.8%	No	
	WB	4	8,800	AM	3,957	0.81	B	237	2.7%	4,194	0.48	D	6.7%	No	
				PM	7,093	0.48	D	149	1.7%	7,242	0.82	D	1.2%	No	

SOURCE: Fehr & Peers, August 2011.

Notes:

1. Capacity based on number of lanes and per lane capacity of 2,200 vehicles per hour per lane (vphpl) for US 101 and I-380, per the C/CAG CMP Guidelines. Single lane auxiliary lanes were assumed to have a capacity of 1,500 vphpl, and two lane auxiliary lanes were assumed to have a capacity of 2,200 vphpl.
2. Peak hour volumes on US 101 obtained from Caltrans data and I-380 volumes obtained from counts. Volumes adjusted for corridor growth based on C/CAG travel demand forecasting model.
3. Volume-to-Capacity ratio (V/C).
4. LOS calculations performed using the 2000 *Highway Capacity Manual - Special Report 209* methods for freeway segments.

Unacceptable operations are indicated in **bold** type.

- I-380 west of El Camino Real: the addition of project traffic would add more than one percent of the segment's capacity and would increase the V/C by more than one percent for the eastbound freeway segment, which is already operating at LOS F during the AM peak hour.

Mitigation measures to increase freeway capacity could mitigate the impact on I-380. However, freeway widening would require right-of-way acquisition and may have secondary impacts rendering the widening infeasible. Also, the City of San Bruno could not ensure implementation of this mitigation because the City does not have jurisdiction over state highway facilities. Another type of mitigation measure would be to reduce the amount of traffic added to the freeway. The Transit Corridors Plan includes provisions for new developments to have Transportation Demand Management (TDM) programs to reduce their traffic generation. TDM programs are discussed in section 14.2 (Impact and Mitigation Measures) of this EIR chapter (see especially Impact/Mitigation 14-4). Since the TDM measures are not likely to fully mitigate the impact on the freeway segment, the proposed project would continue to have a significant unavoidable impact on the I-380 eastbound segment between I-280 and US 101 under Existing Plus Project conditions.

15. CEQA-REQUIRED ASSESSMENT CONCLUSIONS

This chapter summarizes the EIR findings in terms of the assessment categories required by Section 21100 of the California Environmental Quality Act (CEQA)--i.e., in terms of "growth inducement," "unavoidable significant impacts," "irreversible environmental changes," "cumulative impacts," and "effects found not to be significant."

15.1 GROWTH-INDUCING IMPACTS

Section 21100(b)(5) of CEQA requires that an EIR include information regarding the growth-inducing impacts of the proposed project. CEQA Guidelines section 15126.2(d) states that an EIR shall: "*Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing either directly or indirectly, in the surrounding environment….It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."* The Transit Corridors Plan would foster economic growth, result in population growth, and indirectly result in the construction of additional housing within San Bruno and San Mateo County.

The Transit Corridors Plan would result in population growth and would foster economic growth, stimulate private investment and increase the community's supply of housing, including affordable housing. For "worst case" CEQA environmental impact assessment purposes, it is assumed in this EIR that the Transit Corridors Plan would be fully successful in facilitating the revitalization of the Transit Corridors Area and the development of additional new housing outside the Transit Corridors Area, and in indirectly stimulating economic activity throughout the city.

As shown in Table 12.2 in Chapter 12, Population and Housing, of this EIR, the Transit Corridors Plan would provide for the development of up to an additional 1,610 new dwelling units, 147,700 square feet of new retail uses, 988,100 square feet of new office uses, and 190 new hotel rooms within the Transit Corridors Area by 2030. As shown in Table 12.2, this development would result in an estimated 4,363 new residents and 3,976 new jobs in the Transit Corridors Area. This population increase would not in itself constitute a significant adverse environmental impact.[1]

The Transit Corridors Plan is, on balance, consistent with the general vision, and the guiding and implementing policies, of the General Plan. The amount of new development allowed under the Transit Corridors Plan would represent an increase over the amount of development allowed under the current General Plan of approximately 890 housing units, 19,100 square feet

[1]CEQA Guidelines section 15126.2(d) states that an EIR shall: "*Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing either directly or indirectly, in the surrounding environment….It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

of retail, 666,600 square feet of office, and 190 hotel rooms. Implementation of the Transit Corridors Plan would require the adoption of General Plan amendments to achieve consistency between the General Plan and the Transit Corridors Plan provisions for land uses and other proposals within the Transit Corridors Area.

Growth within the Transit Corridors Area under the Transit Corridors Plan would generate jobs, personal income, and revenue to the City. Development within the Transit Corridors Area may in turn induce additional growth within San Bruno and San Mateo County through an economic "multiplier effect". A multiplier effect describes the indirect and induced employment and income generated by a project. For every new job, other jobs are created in the local economy to support that job. New uses developed within the Transit Corridors Area would generate increased demand for local goods and services. This economic multiplier effect would generate additional indirect jobs throughout San Mateo County and additional personal income in the San Mateo County economy. A portion of this indirect economic activity would occur in San Bruno.

The Transit Corridors Plan recommends improving water, sewer and storm drainage facilities within the Transit Corridors Area, which may be designed to also accommodate growth outside the area. Also, redevelopment-facilitated growth within the Transit Corridors Area may increase the development potential for development and redevelopment in surrounding areas. New economic activity and growth outside the Transit Corridors Area may in turn increase traffic, air quality and noise impacts, and generate demand for housing, public services and utilities, the expansion or new construction of which could cause environmental impacts. Potential new development projects would require their own project-level environmental review in accordance with CEQA. The location, timing, nature, extent and severity of the potential environmental impacts of any given project is too speculative to predict or evaluate in this EIR.

The potential environmental impacts of development within the Transit Corridors Area induced by the Transit Corridors Plan have been evaluated at a program level in this EIR. Potential induced growth outside the Transit Corridors Area due to enhanced development potential on adjacent land and increased economic activity, would occur as already contemplated in and consistent with adopted plans and the environmental documents prepared for those plans, and would therefore not represent growth for which adequate planning has not occurred.

15.2 UNAVOIDABLE SIGNIFICANT ADVERSE IMPACTS

CEQA Guidelines section 15126.2(b) requires that the EIR discuss "significant environmental effects which cannot be avoided if the proposed project is implemented." Unavoidable significant impacts are those that could not be reduced to less-than-significant levels by mitigation measures, as part of the project, or other mitigation measures that could be implemented. The Transit Corridors Plan would result in the following unavoidable significant impacts:

- **Impact 7-2: Plan-Related and Cumulative Impacts on Historic Resources,**
- **Impact 11-6: Plan-Related Cumulative Noise Impacts,**
- **Impact 14-1: El Camino Real/San Bruno Avenue Intersection Impact,**

- **Impact 14-2: Southbound US 101 Ramps/San Bruno Avenue Intersection Impact,**
- **Impact 14-3: El Camino Real/Westbound I-380 Ramps Intersection Impact,** and
- **Impact 14-4: Eastbound I-380 Freeway Segment Impact Between I-280 and US 101.**

15.3 IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines section 15126.2(c) requires that an EIR also discuss *"significant irreversible environmental changes which would be caused by the proposed project should it be implemented."*

The Transit Corridors Plan would commit future generations to an increase in development intensity and changes in land use and visual character within the Transit Corridors Area. Given the significant public and private investments in buildings and other improvements associated with these changes, and the anticipated lifetime of these improvements, these changes would not be likely to be reversed or significantly changed for many years to come.

The Transit Corridors Plan could result in the unavoidable irreversible loss of significant historic resources, if EIR-identified Mitigation 7-2 is considered infeasible in particular circumstances.

Development under Transit Corridors Plan would not be expected to involve significant quantities of hazardous materials, nor other potential for environmental accidents. While the Transit Corridors Plan would involve the use, transport, storage and disposal of hazardous materials, such activities would comply with existing federal, State and County regulations and standards, and the routine practices of regulatory and oversight agencies, which would reduce the likelihood and severity of environmental accidents which could result in irreversible environmental damage.

Development under the Transit Corridors Plan would irreversibly commit construction materials and non-renewable energy resources to the purposes of the projects. These energy resource demands would be used for demolition, construction, transportation of people and goods, heating, ventilation and air conditioning, lighting, and other associated energy needs. Because development facilitated by the Transit Corridors Plan would be required to comply with California Code of Regulations Title 24 energy regulations, the Transit Corridors Plan would not be expected to use energy in a wasteful, inefficient, or unnecessary manner.

Non-renewable and slowly renewable resources used by projects that implement the Transit Corridors Plan would include, but are not limited to, lumber and other forest products; sand and gravel; asphalt; petrochemical construction materials; steel; copper; lead and other metals; water; etc. The impacts of the Transit Corridors Plan related to consumption of non-renewable and slowly renewable resources are considered to be less than significant because these projects would not use unusual amounts of energy or construction materials.

15.4 CUMULATIVE IMPACTS

The cumulative impact development assumptions used throughout this EIR are described in Chapter 10, Land Use and Planning. Cumulative Impacts are evaluated for each environmental topic in Chapters 4 through 14 of this EIR. The Transit Corridors Plan would result in a cumulatively considerable contribution and thus a significant impact related to the following:

- **Impact 7-1: Plan-Related and Cumulative Disturbance of Archaeological Resources,**
- **Impact 7-2: Plan-Related and Cumulative Impacts on Historic Resources,**
- **Impact 7-3: Plan-Related and Cumulative Disturbance of Paleontological Resources,** and
- **Impact 11-6: Plan-Related Cumulative Noise Impacts.**

15.5 EFFECTS FOUND NOT TO BE SIGNIFICANT

CEQA allows environmental issues for which there is no likelihood of an impact to be "scoped out" during an EIR scoping process and not covered in the EIR. All environmental topics suggested by Appendix G of the CEQA Guidelines or raised by responsible agencies or trustee agencies, or interested members of the public during the EIR scoping process were addressed in this EIR, except for the following topics, which was "scoped out" for the reasons summarized below and discussed in more detail in the Initial Study included in Appendix 19.2, Notice of Preparation and Initial Study, of this EIR.

- **Agricultural and Forestry Resources.** The Transit Corridors Area is designated Urban and Built Up Land on the California Department of Conservation Farmland Mapping and Monitoring Program San Mateo County Important Farmlands map. None of the Transit Corridors Area is designated as Farmland, and no Farmland would be converted under the Transit Corridors Plan. None of the Transit Corridors Area is zoned for agricultural use or contains Williamson Act contracts. None of the Transit Corridors Area is zoned for forest land or timberland, and no such lands would be converted under the Transit Corridors Plan. The project does not involve any changes which could directly or indirectly result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.
- **Biological Resources.** Special status species have been reported from or may potentially occur at Lion's Field within approximately 1,000 feet to the southeast of the Transit Corridors Area. Suitable habitat for special-status species is absent within the Transit Corridors Area and the surrounding residential neighborhoods. There is no riparian habitat or other sensitive natural community within or adjacent to the Transit Corridors Area. The Transit Corridors Plan would not involve the direct removal or fill of wetlands or indirectly affect the hydrology, soil, vegetation or wildlife of small areas of freshwater emergent wetland near the southwest quadrant of the U.S. 101/Interstate 380 interchange near 7th and Walnut Park. There are no known wetlands within the Transit Corridors Area. Due to the developed nature of the area, the proximity to freeways and roadways, and the nearby availability of Lion's Field as a potential wildlife movement corridor, the Transit Corridors Area is limited in its function as a wildlife movement corridor. Trees within the Transit Corridors Area could

potentially provide nesting habitat for small songbirds; nesting birds are protected by the Migratory Bird Treaty Act and the California Fish and Game Code. The Transit Corridors Plan would have no impact on wildlife movement or native wildlife nursery sites. The Transit Corridors Plan would not conflict with policies of the San Bruno General Plan related to biological resources. The City does not currently have a Tree Preservation Ordinance, or any other policies or ordinances specifically pertaining to biological resources. There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other habitat conservation plan applicable to the Transit Corridors Area.

- **Geology and Soils.** The only Alquist-Priolo Earthquake Fault Zone in San Bruno extends approximately 800 feet on either side of the San Andreas Fault, northeast of Skyline Boulevard, approximately three miles outside the Transit Corridors Area. The potential San Bruno Fault traverses the center of the Transit Corridors Area in a north-south alignment. There is evidence to suggest that the San Bruno fault may not exist, or at least that it is not as significant as initially proposed. 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.[1] The portion of the Transit Corridors Area east of the Caltrain tracks is underlain by artificial fill material used to reclaim Bay tidelands.[2] Future development under the Transit Corridors Plan could be exposed to risk of loss or injury related to liquefaction. The project area is flat and is not subject to landslides. Expansive soils are likely to be encountered within the Transit Corridors Area given the underlying Colma Formation and the Sunnyvale-Castro soils association. Differential settlement could also occur in areas underlain by the Colma Formation or less consolidated alluvial material and artificial fill.[3] No use of septic tanks or alternative wastewater disposal systems is proposed within the Transit Corridors Area. Therefore, the project would have no impact related to the capacity of local soils to effectively accommodate septic systems. Potential risks to life and property from seismic hazards would be adequately mitigated by existing laws, regulations and polices, including the California Building Codes and the City's development review procedures.

- **Mineral Resources.** San Bruno west of U.S. 101 and east of Interstate 280, including the Transit Corridors Area, is classified by the California Geological Survey (CGS) as Mineral Resource Zone (MRZ)-1. 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. There are no locally important mineral resource recovery sites delineated in the San Bruno General Plan.

[1]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, pp. 3-162 through 3-170.

[2]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, pp. 3-170.

[3]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, pp. 3-158 through 3-161.

16. ALTERNATIVES TO THE PROPOSED PROJECT

Section 15126.6 of the CEQA Guidelines requires an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. The section also states that the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if those alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

Pursuant to Section 15126.6, this chapter describes five alternatives to the Transit Corridors Plan and compares their impacts to those of the Plan. Pursuant to the CEQA Guidelines, the ability of the alternatives to meet the basic project objectives is also described, and the "environmentally superior" alternative among the five is identified.

Several unavoidable significant impacts of the Transit Corridors Plan were identified in Chapters 4 through 17. Pursuant to the CEQA Guidelines, the five alternatives were developed with the purpose of avoiding or substantially reducing these unavoidable significant impacts, as well as other significant impacts of the Plan for which feasible mitigation measures have been identified.

In accordance with CEQA Guidelines Section 15126.6(a), this EIR does not evaluate every conceivable alternative. Only a feasible range of alternatives that would allow decision-makers to make a reasoned choice, and only alternatives that meet most of the basic objectives of the Transit Corridors Plan identified in section 3.3 (Project Objectives) of Chapter 3, Project Description, have been evaluated.

The following alternatives have been evaluated in comparison to the project:

- **Alternative 1: No Project--Existing Conditions.** Pursuant to CEQA Guidelines section 15126.6(e)(1), Alternative 1 compares the effects of the project (the Transit Corridors Plan buildout scenario) to existing "no project" conditions. Alternative 1 would maintain existing conditions as described in the "Setting" sections of each environmental topic chapter in this EIR. There would be no new development within the Transit Corridors Area under Alternative 1.

- **Alternative 2: No Project--Buildout Under Existing Land Use Policy (General Plan and Zoning).** Alternative 2 would reflect the amount of new development allowed in the Transit Corridors Area under the City's existing land use policies (General Plan and zoning)--i.e., 720 additional housing units, 128,600 additional square feet of retail, and 321,500 additional square feet of office. Other aspects of Alternative 2 would be similar to the project.

- **Alternative 3: Transit Corridors Plan with Reduced Building Heights (Ordinance 1284 Height Limits).** Alternative 3 would change the Transit Corridors Plan to maintain the City

Ordinance 1284 height limit of three (3) stories or fifty (50) feet. This building height limit would substantially reduce the overall Plan capacity for new development by roughly 20 percent, including roughly 40 percent in the proposed TOD-SO (Station Area) zone, roughly 20 percent in the TOD-MXD1 (San Bruno Avenue/Huntington) zone, roughly 20 percent in the TOD-MXD2 (El Camino Real) zone, roughly 20 percent in the P/QP (Civic Center) zone, and roughly 10 percent in the CBD (Downtown) zone. The estimated total development capacity under Alternative 3 would be approximately 1,280 new residential units, 117,000 square feet of new retail space, 783,000 square feet of new office space, and 150 new hotel rooms. Other aspects of Alternative 3 would be similar to the proposed project.

- **Alternative 4: Transit Corridors Plan Incorporating a Pedestrian-Oriented Intersection Operational Standard (LOS of F).** The San Bruno General Plan specifies that the minimum acceptable peak hour level of service (LOS) for signalized and unsignalized intersections within the Transit Corridors Area is LOS D, except for the El Camino Real/San Bruno Avenue intersection, which is LOS E. The Transit Corridors Plan incorporates these General Plan LOS policies. Alternative 4 would revise the Transit Corridors Plan to incorporate a less stringent LOS policy for the Transit Corridors Area in order to reduce the conventional tendency to simply widen intersection approaches to add new through and turning lanes, and make signal phasing changes, to improve vehicular traffic flow, thereby worsening conditions for pedestrians and bicycles, and detracting from a desired more comfortable and pedestrian-friendly Downtown environment. Alternative 4 would change the City's policy for maximum acceptable LOS in the Transit Corridors Area from LOS D to LOS F for intersections of El Camino Real, San Bruno Avenue, San Mateo Avenue, and Huntington Avenue. The amount of new development and all other aspects of Alternative 4 would be similar to the proposed project.

- **Alternative 5: Alternative Plan Location.** The CEQA Guidelines state that an EIR shall describe and evaluate a reasonable range of alternatives to the project, "or the location of the project," which would feasibly attain most of the project objectives, but would avoid or substantially lessen one or more of the EIR identified significant effects of the project. In particular, the CEQA Guidelines indicate that EIR identification of significant unavoidable impacts warrants consideration of alterative project locations that may avoid or substantially lessen these effects. Pursuant to this requirement, the Alternatives chapter includes under Alternative 5 a discussion of the possibility of alternative sites for the proposed Transit Corridors Plan, and an explanation of the City's determination that there are no specific sites of adequate size and general "sustainable" character (e.g., including an established Downtown environment adjacent to existing and planned local and regional transit facilities) available in San Bruno where such a project could be undertaken.

In accordance with Section 15126.6(d) of the CEQA Guidelines, the discussion in this chapter of the impacts of the alternatives is intended to be less detailed than the discussions in chapters 4 through 14 of this EIR of the impacts of the proposed Transit Corridors Plan. Table 16.1 provides a summary comparison of the impacts of the alternatives to those of the Transit Corridors Plan.

Table 16.1
ALTERNATIVES COMPARISON TO THE PROJECT

	Alternatives[1]			
Impact	**Alternative 1: No Project--No Development**	**Alternative 2: Existing General Plan and Zoning**	**Alternative 3: Ordinance 1284 Height Limits**	**Alternative 4: LOS Policy of LOS F**
(a) Aesthetics	No impacts.	Reduced less than significant impacts.	Reduced less than significant impacts.	Similar less than significant impacts.
(b) Air Quality	No impacts.	No significant unavoidable impact. Reduced less than significant impacts.	Reduced significant impacts. Reduced significant unavoidable impacts.	Similar significant unavoidable impact. Similar less than significant impacts.
(c) Climate Change	No impacts.	Reduced less than significant impact.	Reduced less than significant impact.	Reduced less than significant impact.
(e) Cultural Resources	No impacts.	Similar significant unavoidable impact.	Similar significant unavoidable impact.	Similar significant unavoidable impact.
(h) Hazards and Hazardous Materials	No impacts.	Similar less than significant impacts. Similar significant impacts.	Similar less than significant impacts. Similar significant impacts.	Similar less than significant impacts. Similar significant impacts.
(i) Hydrology and Water Quality	No impacts.	Similar significant unavoidable impact. Reduced significant impacts. Reduced less than significant impacts.	Similar significant unavoidable impact. Reduced significant impacts. Reduced less than significant impacts.	Similar significant unavoidable impact. Similar less than significant impacts.
(j) Transportation	No impacts.	No significant unavoidable impacts. Reduced less than significant impacts.	Reduced significant unavoidable impacts. Reduced less than significant impacts.	No significant unavoidable impacts. Similar less than significant impacts.
(k) Public Services and Utilities	No impacts.	Reduced less than significant impacts.	Reduced less than significant impacts.	Similar less than significant impacts.
(l) Noise	No impacts.	Reduced less than significant impacts.	Reduced less than significant impacts.	Similar less than significant impacts.
(m) Land Use and Planning	No impacts.	Similar less than significant impacts.	Similar less than significant impacts.	Similar less than significant impacts.
(n) Population and Housing	No impacts.	Reduced less than significant impacts.	Reduced less than significant impacts.	Similar less than significant impacts.
Attainment of Project Objectives	No attainment.	No attainment.	Reduced attainment.	Greater attainment.

SOURCE: Wagstaff/MIG, 2011.

[1]Alternative 5: Alternative Plan Location would not achieve the basic project objectives, would not necessarily avoid or lessen the significant impacts of the project and may result in new significant impacts, and would be infeasible, and thus was eliminated from further consideration.

16.1 ALTERNATIVE 1: NO PROJECT--EXISTING CONDITIONS

16.1.1 Principal Characteristics

CEQA Guidelines section 15126.6(e)(1) requires the specific alternative of No Project to "be evaluated along with its impact…to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." CEQA Guidelines section 15126.6(e)(2) requires the No Project analysis to "discuss the existing conditions at the time the (EIR) notice of preparation is published…as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans." Accordingly, Alternative 1: No Project compares the effects of the project to existing conditions. Alternative 1 would maintain the existing conditions as described in the "Setting" sections of each environmental topic chapter in this EIR. There would be no new development within the Transit Corridors Area and existing conditions would remain.

16.1.2 Alternative 1 Evaluation: Comparative Impacts and Mitigating Effects

(a) Aesthetics. No impacts. The existing visual character and light, glare and shadow conditions within the Transit Corridors Area would remain unchanged.

(b) Air Quality. No impacts. There would be no new development and thus no increase in air pollutant emissions, and no increased number of sensitive receptors exposed to toxic air contaminants, $PM_{2.5}$ and odors.

(c) Climate Change. No impacts. There would be no new development and thus no increase in greenhouse gas emissions and no impact on climate change.

(e) Cultural Resources. No impacts. The existing significant historical resources within and adjacent to the Transit Corridors Area would remain undisturbed for potential future rehabilitation, documentation and interpretation. There would also be no opportunity for rehabilitation as part of development under the Transit Corridors Plan.

(h) Hazards and Hazardous Materials. No impacts. There would be no change in potential exposure of people or property to hazards or hazardous materials.

(i) Hydrology and Water Quality. No impacts. Potential degradation of water quality from construction period erosion and sedimentation would be avoided. There would be no change in the existing impervious surface area, the amount or rate of surface water runoff, or potential impacts to surface water quality from new development.

(j) Transportation. No impacts. There would be no development and thus no new vehicle trips generated from within the Transit Corridors Area and no impact on area roadways and intersections. The Transit Corridors Plan substantial improvements to existing transit service, and bicycle and pedestrian circulation within the Transit Corridors Area would not be realized.

(k) Public Services and Utilities. No impacts. There would be no development and thus no additional water demand, sewage generation, calls for police or fire service, student generation, demand for library space, need for park and recreation facilities, or solid waste generation associated with the Transit Corridors Area. There would also be no new infrastructure installed to support and stimulate development.

(l) Noise. No impacts. There would be no development and thus no increase in noise generated from within the Transit Corridors Area, such as noise from construction activities or increases in traffic, as well as no increase in the number of sensitive receptors exposed to traffic, Caltrain or airport noise.

(m) Land Use and Planning. No impacts. The existing land use characteristics within the Transit Corridors Area would remain unchanged.

(n) Population and Housing. No impacts. There would be no potential displacement of housing or people and no growth inducement. There would also be no new housing to meet the community and regional need for housing and affordable housing, and no increases in employment, income, or revenue accruing to the City.

16.1.3 Attainment of Project Objectives

Existing conditions would remain within the Transit Corridors Area. This alternative would not achieve the project objectives to stimulate the economic revitalization of the Downtown, and the Caltrain and BART station areas; to reinvigorate the community's identity; to capture the potential for transit-oriented development; to strengthen the area's walkability and bikeability; and to coherently approach the enhancement of the Transit Corridors Area.

16.2 ALTERNATIVE 2: NO PROJECT--EXISTING GENERAL PLAN AND ZONING

16.2.1 Principal Characteristics

As shown in Table 10.1 in chapter 10 herein, the Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area within approximately 20 years, or by 2030. This amount of additional development would represent an increase over the amount of development allowed under the current General Plan of approximately 890 housing units, 19,100 square feet of retail, 666,600 square feet of office, and 190 hotel rooms. Implementation of the Transit Corridors Plan would require General Plan amendments to achieve consistency between the General Plan and the Transit Corridors Plan. Alternative 2 would maintain the amount of development currently allowed by the City's existing land use policies (General Plan and zoning) for the area--i.e., 720 additional housing units, 128,600 additional square feet of retail, and 321,500 square feet of additional office. Other aspects of Alternative 2 would be similar to the project.

16.2.2 Alternative 2 Evaluation: Comparative Impacts and Mitigating Effects[1]

(a) Aesthetics. With less development and lower building height limits, Alternative 2 would have less substantial less-than-significant impacts as compared to the Transit Corridors Plan with respect to aesthetics, including potential impacts related to visual character, light and glare, and shadows.

[1]The impacts and mitigation needs of buildout of the General Plan within the Transit Corridors Area and throughout San Bruno were identified in the December 2008 San Bruno General Plan Draft EIR.

(b) Air Quality. This alternative would result in lower air pollutant emissions, and fewer sensitive receptors exposed to toxic air contaminants, $PM_{2.5}$ and odors.

(c) Climate Change. With fewer housing units and less non-residential development, buildout of the Transit Corridors Area under the existing General Plan and zoning would result in a reduction in greenhouse gas (GHG) emissions as compared to the Transit Corridors Plan.

(e) Cultural Resources. Buildout under the existing General Plan and zoning would have similar impacts and mitigation needs as the Transit Corridors Plan with respect to cultural resources.

(h) Hazards and Hazardous Materials. Buildout of the Transit Corridors Area under the existing General Plan and zoning would have less potential exposure of people or property to hazards or hazardous materials.

(i) Hydrology and Water Quality. Alternative 2 would have similar impacts to the project with respect to impacts on drainage and water quality. Surface runoff is determined by a parcel's impervious surface area and not use or density. With less intensive development, there would be limited change from existing conditions and limited change as compared to development under the Transit Corridors Plan, in terms of impervious surface area, stormwater runoff, and pollutant loading.

(j) Transportation. Trip generation from new development within the Transit Corridors Area would be reduced by 11,860 daily trips, including 1,260 AM peak hour and 1,320 PM peak hour trips, with buildout of the Transit Corridors Area under the existing General Plan and zoning as compared to the Transit Corridors Plan. The impacts of this alternative are evaluated in the section 14.4.2(b) 2030 General Plan No Project in Chapter 14, Transportation of this EIR. In 2030 under buildout of the current General Plan, all study intersections and freeway segments would operate at an acceptable level of service. Alternative 2 would avoid the unavoidable significant impacts of the Transit Corridors Plan on the El Camino Real/San Bruno Avenue intersection and the El Camino Real/Westbound I-380 Ramps intersection. With buildout of the Transit Corridors Area under the existing General Plan and zoning, the substantial improvements of the Transit Corridors Plan to existing transit service, and bicycle and pedestrian circulation would not be realized.

(k) Public Services and Utilities. This alternative would result in reduced water demand and sewage generation, as compared to the Transit Corridors Plan. Due to the age and condition of existing water and sewer facilities in the Transit Corridors Area, buildout under the existing General Plan and zoning would still require many of the infrastructure upgrades within existing rights-of-way required for the project. This alternative would also result in a corresponding reduction in calls for police and fire service, student generation, demand for library space, need for park and recreation facilities, and solid waste generation, relative to the project, as well as a reduction in development impact and connection fees received by the City.

(l) Noise. Buildout under the existing General Plan and zoning would result in less noise than the Transit Corridors Plan due to a reduction in the number of new vehicle trips added to local roadways, as well as a reduction in the number of sensitive receptors exposed to traffic, Caltrain or airport noise.

(m) Land Use and Planning. This alternative would have similar impacts as the project with respect to community cohesion, changes in land use, and land use compatibility.

(n) Population, Housing, and Employment. This alternative would result in lesser increases in employment and income, and revenue accruing to the City, less new housing to meet the community and regional need for housing and affordable housing, and less jobs-housing benefits, as compared to the Transit Corridors Plan.

16.2.3 Attainment of Project Objectives

Buildout of the Transit Corridors Area under the existing General Plan and zoning would be less effective in achieving the basic project objectives of stimulating the economic revitalization of the Downtown, and the Caltrain and BART station areas; reinvigorating the community's identity; to capture the potential for transit-oriented development; to strengthening the area's walkability and bikeability; and coherently approaching the enhancement of the Transit Corridors Area.

16.3 ALTERNATIVE 3: TRANSIT CORRIDORS PLAN WITH REDUCED BUILDING HEIGHTS (ORDINANCE 1284 HEIGHT LIMITS)

16.3.1 Principal Characteristics

Implementation of the Transit Corridors Plan would require voter approval by a majority of the electorate in order to permit development of buildings greater than three (3) stories or fifty (50) feet and/or construction of multistory parking structures, as established by Ordinance 1284. Alternative 3 would change the Transit Corridors Plan to maintain the City Ordinance 1284 height limit of three (3) stories or fifty (50) feet. This reduction in Transit Corridors Plan building height limits would reduce the amount of development allowed under the Plan, which would in turn reduce the unavoidable significant traffic and air quality impacts identified for the project. Other aspects of Alternative 3 would be similar to the project.

16.3.2 Alternative 3 Evaluation: Comparative Impacts and Mitigating Effects

(a) Aesthetics. With less development and lower building height limits, Alternative 3 would have less substantial less-than-significant impacts as compared to the Transit Corridors Plan with respect to aesthetics, including potential impacts related to visual character and shadows.

(b) Air Quality. This alternative would result in lower air pollutant emissions, and fewer sensitive receptors exposed to toxic air contaminants, $PM_{2.5}$ and odors.

(c) Climate Change. With fewer housing units and less non-residential development, buildout of the Transit Corridors Area under Ordinance 1284 height limits would result in a reduction in greenhouse gas (GHG) emissions as compared to the Transit Corridors Plan.

(e) Cultural Resources. Buildout under Ordinance 1284 height limits would have similar impacts and mitigation needs as the Transit Corridors Plan with respect to cultural resources.

(h) Hazards and Hazardous Materials. Buildout of the Transit Corridors Area under Ordinance 1284 height limits would have less potential exposure of people or property to hazards or hazardous materials.

(i) Hydrology and Water Quality. Alternative 3 would have similar impacts to the project with respect to impacts on drainage and water quality. Surface runoff is determined by a parcel's impervious surface area and not use or density. With less intensive development, there would be limited change from existing conditions and limited change as compared to development under the Transit Corridors Plan, in terms of impervious surface area, stormwater runoff, and pollutant loading.

(j) Transportation. Trip generation from new development within the Transit Corridors Area would be reduced under the Ordinance 1284 height limits as compared to the Transit Corridors Plan. Due to a reduction in the amount of development and, in turn, trip generation, Alternative 3 may avoid the unavoidable significant impacts of the Transit Corridors Plan on the El Camino Real/San Bruno Avenue intersection and the El Camino Real/Westbound I-380 Ramps intersection. Buildout of the Transit Corridors Area under Ordinance 1284 height limits would have similar substantial benefits as the Transit Corridors Plan with respect to existing transit service, and bicycle and pedestrian circulation.

(k) Public Services and Utilities. This alternative would result in reduced water demand and sewage generation, as compared to the Transit Corridors Plan. Due to the age and condition of existing water and sewer facilities in the Transit Corridors Area, buildout under Ordinance 1284 height limits would still require many of the infrastructure upgrades within existing rights-of-way needed for the project. This alternative would also result in a corresponding reduction in calls for police and fire service, student generation, demand for library space, need for park and recreation facilities, and solid waste generation, relative to the project, as well as a reduction in development impact and connection fees received by the City.

(l) Noise. Buildout under Ordinance 1284 height limits would result in less noise than the Transit Corridors Plan due to a reduction in the number of new vehicle trips added to local roadways, as well as a reduction in the number of sensitive receptors exposed to traffic, Caltrain or airport noise.

(m) Land Use and Planning. This alternative would have similar impacts as the project with respect to community cohesion, changes in land use, and land use compatibility.

(n) Population, Housing, and Employment. This alternative would result in lesser increases in employment and income, and revenue accruing to the City, less new housing to meet the community and regional need for housing and affordable housing, and less jobs-housing benefits, as compared to the Transit Corridors Plan.

16.3.3 Attainment of Project Objectives

Buildout of the Transit Corridors Area under Ordinance 1284 height limits would be less effective in achieving the basic project objectives of stimulating the economic revitalization of the Downtown, and the Caltrain and BART station areas; reinvigorating the community's identity; to capture the potential for transit-oriented development; to strengthening the area's walkability and bikeability; and coherently approaching the enhancement of the Transit Corridors Area.

16.4 ALTERNATIVE 4: TRANSIT CORRIDORS PLAN INCORPORATING A PEDESTRIAN-ORIENTED INTERSECTION OPERATIONAL STANDARD (LOS F)

16.4.1 Principal Characteristics

Alternative 4 would change the City's LOS policy from LOS D to LOS F for intersections and segments of El Camino Real, San Bruno Avenue, San Mateo Avenue, and Huntington Avenue within the Transit Corridors Area. The Transit Corridors Plan recommends that the City either lower its LOS policy from LOS D to LOS F for intersections in the Transit Corridors Area or implement a multi-modal LOS policy that also evaluates bicycle, pedestrian and transit access in conjunction with vehicle LOS. The purpose of this change is to promote a more pedestrian-, bicycle-, and transit-friendly environment in the Transit Corridors Area with wider sidewalks, shorter pedestrian crossing distances and delays, a limited number of travel lanes, and more convenient non-automobile travel. Maintaining the City's current LOS D policy is not conducive to mixed-use, high density, transit-oriented development areas which enhance pedestrian, bicycle and transit use. Under current City policy, intersections that do not meet the City's current LOS standard require additional traffic lanes and street widening to add capacity or signal phasing changes, which worsen conditions for bicycle and pedestrian travel by increasing riders' and walkers' exposure to vehicles, and also detract considerably from a comfortable and vibrant downtown environment. By limiting vehicle congestion, the current City policy reduces the incentive for residents to use non-automobile travel modes such as transit, bicycling, walking and ridesharing. Alternative 4 would change the City's LOS policy from LOS D to LOS F for intersections and segments of El Camino Real, San Bruno Avenue, San Mateo Avenue, and Huntington Avenue within the Transit Corridors Area. This alternative also assumes that this change in LOS policy would be coordinated with and acceptable to Caltrans. The amount of new development and all other aspects of Alternative 4 would be similar to the project.

16.4.2 Alternative 4 Evaluation: Comparative Impacts and Mitigating Effects

(a) Transportation. A change in the City's LOS policy from LOS D to LOS F for intersections and segments of El Camino Real, San Bruno Avenue, San Mateo Avenue, and Huntington Avenue within the Transit Corridors Area would avoid the unavoidable significant traffic impacts of the Transit Corridors Plan at the following locations: El Camino Real/San Bruno Avenue intersection, Southbound US 101 Ramps/San Bruno Avenue intersection, El Camino Real/Westbound I-380 Ramps intersection, and Eastbound I-380 freeway segment between I-280 and US 101. All identified less-than-significant transportation impacts of Alternative 4 would be similar to the proposed project.

(b) All Other Impacts. Alternative 4 would have similar impacts to the Transit Corridors Plan with respect to all other impact categories.

16.4.3 Attainment of Project Objectives

Alternative 4 would be as effective as the project in achieving the basic project objectives of stimulating the economic revitalization of the Downtown, and the Caltrain and BART station areas; reinvigorating the community's identity; to capture the potential for transit-oriented development; to strengthening the area's walkability and bikeability; and coherently approaching the enhancement of the Transit Corridors Area.

16.5 ALTERNATIVE 5: ALTERNATIVE PLAN LOCATION

Section 15126.6(a) of the CEQA Guidelines states, "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic project objectives of the project but would avoid or substantially lessen any of the significant effects of the project[.]" Further, section 15126.6(c) explains, "Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental effects." To help clarify the meaning of "feasibility," CEQA Guidelines section 15126.6(f)(1) (Rule of Reason/Feasibility) states, "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries...and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site….No one of these factors establishes a fixed limit on the scope of reasonable alternatives."

The Transit Corridors Plan would set forth a transformative new vision for the Transit Corridors Area, including Downtown, historically represented by San Mateo Avenue, as well as adjacent streets, including El Camino Real, San Bruno Avenue and Huntington Avenue. The Plan would establish a development framework, development standards and design guidelines for public and private realm improvements, transportation and infrastructure improvements, and implementation strategies to achieve that vision. The purpose of the project is not to create a new Downtown or transit corridors area at a different location in San Bruno. Therefore, an alternative to the project consisting of a different project location in San Bruno would not implement the City's basic objectives for the project.

In addition, the CEQA Guidelines provide that the alternatives evaluated in an EIR should be selected based on their ability to avoid or substantially lessen the significant Impacts of the proposed project. Thus, even if an alternative location for the project could implement the City's basic objectives for the project, only those locations that would avoid or substantially lessen any of the significant impacts of the project need to be considered in the EIR. The EIR identifies the following unavoidable significant impacts which could not be reduced to a less-than-significant level by mitigation measures, as part of the project, or other mitigation measures that could be implemented:

- **Impact 7-2: Plan-Related and Cumulative Impacts on Historic Resources,**
- **Impact 11-6: Plan-Related Cumulative Noise Impacts,**
- **Impact 14-1: El Camino Real/San Bruno Avenue Intersection Impact,**
- **Impact 14-2: Southbound US 101 Ramps/San Bruno Avenue Intersection Impact,**
- **Impact 14-3: El Camino Real/Westbound I-380 Ramps Intersection Impact,** and
- **Impact 14-4: Eastbound I-380 Freeway Segment Impact Between I-280 and US 101.**

These unavoidable significant impacts warrant consideration of alternative locations that may avoid or substantially lessen these impacts. However, the Transit Corridors Plan is a land use plan and not a specific development proposal. The Transit Corridors Plan is not a "ground-up"

development project to be built by the City. The Transit Corridors Plan would establish a development framework, development standards and design guidelines that would be applied to future individual site-specific development proposals within the Transit Corridors Area.

The feasibility of alternative sites for the Transit Corridors Plan has been considered. There are no other sites or areas of adequate size, character, and development/redevelopment potential adjacent to transit facilities and service (BART and Caltrain stations, and SamTrans routes) and with suitable existing infrastructure or potential for feasible infrastructure improvements available within San Bruno (i.e., the limits of the City's jurisdiction), and which would also avoid or lessen the significant impacts of the project, while not resulting in new significant impacts.

Therefore, because an alternative project location would not achieve the basic objectives of the project, would not necessarily avoid or lessen the significant impacts of the project and may result in new significant impacts, and would be infeasible, an alternative that would involve a different project location was eliminated from further detailed consideration. No further evaluation of alternative project locations is required under CEQA.[1]

16.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines (section 15126[e][2]) stipulate, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Other than the No Project Alternative, *Alternative 4: Transit Corridors Plan Incorporating a Pedestrian-Oriented Intersection Operational Standard (Max Acceptable LOS of F),* would result in the least adverse environmental impacts, and would therefore be the "environmentally superior alternative." This conclusion is based on the comparative impact conclusions in Table 16.1 and, in particular, on the elimination of the unavoidable significant impact conclusions of the Transit Corridors Plan related to future traffic operations at various intersections.

[1]CEQA Guidelines section 15126.6(c) explains that alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the basic project objectives, are infeasible, or do not avoid any significant environmental effects. CEQA Guidelines section 15126.6(f) indicates that the Lead Agency should consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitation, jurisdictional boundaries, and the proponents control over alternative sites in determining the range of alternatives to be evaluated in an EIR. With respect to alternative locations, CEQA Guidelines section 15126.6(f) indicates that alternative locations need not be evaluated in every case. The key question in determining whether to evaluate alterative locations is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any significant effects need be evaluated in the EIR. CEQA Guidelines section 15126(f)(2) indicates that alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, need not be considered.

17. MITIGATION MONITORING

17.1 MITIGATION MONITORING REQUIREMENTS

CEQA Section 21081.6 of the Public Resources Code requires a Lead Agency to adopt a mitigation monitoring program when it approves a project for which an EIR or mitigated negative declaration has been prepared. A mitigation monitoring program would therefore be required to verify the implementation of those mitigation measures identified in this EIR that are adopted by the City. Monitoring of the implementation of most of the mitigation measures would occur through the City's development review procedures, including plan check and field inspection procedures. However, to satisfy CEQA statute Section 21081.6 and CEQA Guidelines Section 15097 (Mitigation Monitoring and Reporting), a documented record of implementation will be necessary.

17.2 MITIGATION MONITORING CHECKLIST FORMAT

A Mitigation Monitoring Program will be prepared after the City certifies the Final EIR and adopts the Transit Corridors Plan, and makes findings as to which mitigation measures are feasible and within its jurisdiction, and will be implemented. The following Mitigation Monitoring Checklist (Table 17.1) template contains the following information, pursuant to CEQA Guidelines Section 15097:

- *Impact.* This column identifies each significant impact, as presented in the EIR summary table (Table 2.1 in Chapter 2).

- *Related Mitigation Measure.* This column identifies the corresponding mitigation measures as presented in the EIR summary table, and may be supplemented by the performance criteria by which the success of the mitigation will be gauged.

- *Monitoring.* This column identifies (1) the "implementing entity" responsible for carrying out each mitigation measure (e.g., City, applicant); (2) the "type of monitoring action" (e.g., condition of future project approval, plan check, specialized monitoring study); (3) timing (e.g., upon completion of a particular construction phase, before issuance of an occupancy permit); and (4) the "monitoring and verification entity" responsible for verifying compliance (e.g., City department).

- *Verification.* This column provides a space for the signature and date of the "monitoring and verification" entity when a monitoring milestone is reached.

Table 17.1

MITIGATION MONITORING CHECKLIST--SAN BRUNO TRANSIT CORRIDORS PLAN

The environmental mitigation measures listed in column two below have been incorporated into the conditions of approval for the San Bruno Transit Corridors Plan in order to mitigate identified environmental impacts. A completed and signed chart will indicate that each mitigation requirement has been complied with, and that City and state monitoring requirements have been fulfilled with respect to Public Resources Code section 21081.6.

		MONITORING			VERIFICATION	
IDENTIFIED IMPACT	**RELATED MITIGATION MEASURE (Performance Criteria)**	**Implementation Entity**	**Monitoring and Verification Entity**	**Timing Requirements**	**Signature**	**Date**
AIR QUALITY						
Impact 5-1.						
Impact 5-2.						
Impact 5-3.						
CULTURAL RESOURCES						
Impact 7-1.						
Impact 7-2.						
Impact 7-3.						
Impact 7-4.						
HAZARDS AND HAZARDOUS MATERIALS						
Impact 8-1.						

18. ORGANIZATIONS AND PERSONS CONTACTED

18.1 CITY OF SAN BRUNO

Mark Sullivan, Housing and Redevelopment Manager
Aaron J. Akin, Community Development Director
Klara Fabray, Public Services Director

18.2 OTHERS

John Bergener, San Francisco International Airport
David F. Carbone, C/CAG Airport Land Use Committee (ALUC) staff
Mark Johnson, Ricondo & Associates

19. APPENDICES

19.1 Program EIR Authority
19.2 Notice of Preparation and Initial Study
19.3 Water Supply Assessment
19.4 Supplemental Transportation Analysis Information
19.5 CEQA Standards for EIR Adequacy
19.6 CEQA Definition of "Mitigation"
19.7 EIR Consultant Team

APPENDIX 19.1: PROGRAM EIR AUTHORITY (CEQA GUIDELINES SECTION 15168)

This EIR for the proposed San Bruno Transit Corridors Plan has been prepared as a program EIR under authority of section 15168 of the CEQA Guidelines. Section 15168 explains that a program EIR may be prepared on a series of actions that can be characterized as one large project and are related either (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The proposed Transit Corridors Plan and the series of actions required for its implementation are characterized by all four of these relationships. One, they are geographically related because the project, including all of its implementing actions, would occur in the City of San Bruno. Two, the various local, state, and federal governmental approvals, entitlements, and permits that may be required for development of the project are all logical parts in the chain of actions contemplated by the redevelopment plan amendment program. Three, the redevelopment project would be undertaken in connection with the issuance of rules, regulations, plans, and other general criteria set forth as part of the redevelopment program. Four, activities under the Transit Corridors Plan implementation program would be comprised of various individual activities carried out under the statutory authority of the City of San Bruno which would generally have similar environmental effects that could be mitigated in similar ways.

Subsequent development activities must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared. If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration. If the lead agency finds that, pursuant to CEQA Guidelines section 15162, no new effects could occur or no new mitigation measures would be required, the lead agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required. Under CEQA Guidelines section 15168, a lead agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program. Where the subsequent activities involve site-specific operations, the lead agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

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

A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can (1) provide the basis in an Initial Study for determining whether the later activity may have any significant effects; (2) be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole; and (3) focus an EIR on a subsequent project to permit discussion solely of new effects that had not been considered before.

APPENDIX 19.2

NOTICE OF PREPARATION AND INITIAL STUDY

NOTICE OF EIR PREPARATION
NOTICE OF EIR SCOPING MEETING

To:	Responsible Agencies, Trustee Agencies, and Other Interested Parties
Subject:	**Notice of Preparation of a Draft Environmental Impact Report**
From:	City of San Bruno
Street Address:	567 El Camino Real
City/State/Zip:	San Bruno, California 94066
Contact:	Mark Sullivan, Housing and Redevelopment Manager

The City of San Bruno will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the proposed Transit Corridors Plan identified below. We are interested in comments from your agency as to the appropriate scope and content of the EIR's environmental information pertaining to your agency's statutory responsibilities in connection with the proposed project.

The proposed project, its location, and its potential environmental effects are described in the attached copy of the City-prepared Initial Study.

Due to the time limits mandated by state law, your response to this notice must be sent at the earliest possible date but ***not later than 30 days*** after receipt of this notice.

Please send your response to the City of San Bruno, Attention: Mark Sullivan, Housing and Redevelopment Manager, 567 El Camino Real, San Bruno, California 94066. Please provide a contact name for your agency with your comments.

Project Title: San Bruno Transit Corridors Plan

Project Applicant: City of San Bruno

Project Location: The project is located in the City of San Bruno, San Mateo County, California. The City-designated approximately 160-acre Transit Corridors Area includes portions of San Mateo Avenue, El Camino Real, San Bruno Avenue, and Huntington Avenue, including the city's historic downtown along San Mateo Avenue from San Bruno Avenue to El Camino Real.

Project Background: The Transit Corridors Area has a strong foundation of existing commercial services and major transit connections that provide a physical and social framework to build upon with future developments and improvements. With an existing BART station in place and construction of a Caltrain station underway, the Transit Corridors Area is poised to evolve into a well-connected intermodal transit hub within the Bay Area region, taking advantage of transit-oriented development (TOD) opportunities. Located close to San Francisco, San Francisco International Airport, and Silicon Valley, San Bruno also has the potential to continue to evolve as an increasingly attractive destination for new residents, visitors, and businesses.

Proposed Project:

The City of San Bruno is proposing to adopt the San Bruno Transit Corridors Plan, which would set forth a new vision for the Transit Corridors Area, including downtown San Bruno, historically represented by San Mateo Avenue and adjacent streets, including El Camino Real, San Bruno Avenue, and Huntington Avenue. The proposed plan would establish a development framework, development standards and design guidelines for private and public realm improvements, transportation and infrastructure improvements, as well as implementation strategies to achieve that vision. The proposed Transit Corridors Plan contains seven elements: Vision, Development Framework, Private Realm Development Standards and Design Guidelines, Public Realm Design Guidelines, Transportation, Infrastructure, and Implementation.

The described objectives of the proposed Transit Corridors Plan include: to stimulate the economic revitalization of the Transit Corridors Area including Downtown; to reinvigorate the community's identity; to capture the potential for transit-oriented development (TOD in proximity to the planned Caltrain station); to strengthen the area's walkability and bikeability; and to create a cohesive implementation approach to enhance the character and development of the Transit Corridors Area as an attractive place for people to live, work and shop.

The proposed development framework for the Transit Corridors Plan consists of Character Area Development and Catalytic Opportunity Sites. The following five specific Character Areas are designated within the plan area: (1) San Mateo Avenue: Revitalized Downtown Core; (2) El Camino Real: Mixed-Use Housing and Commercial Corridor; (3) San Bruno Avenue: Mixed-Use TOD Corridor; (4) Huntington Avenue: Streetscape Beautification and Bicycle/Pedestrian Links; and (5) Station Area: High-Intensity TOD. The three Catalytic Opportunity Sites include: (1) a proposed Caltrain station near the corner of San Mateo Avenue and San Bruno Avenue; (2) a proposed mixed-use (housing and retail) building at the southwest corner of San Bruno and Huntington Avenues; and (3) a retail or mixed-use (housing and retail) development with public space at the San Mateo Avenue/El Camino Real triangle.

The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the plan area over approximately 20 years, or by 2030.

Notice of Scoping Meeting:

Pursuant to CEQA Guidelines section 15082 (Notice of Preparation and Determination of Scope of EIR), the City of San Bruno will conduct a scoping meeting for the purpose of soliciting views of San Mateo County, adjacent cities, responsible agencies, agencies with jurisdiction by law, trustee agencies, and interested parties requesting notice, as to the appropriate scope and content of the EIR.

The scoping session will be conducted by the City of San Bruno on Wednesday, **January 12, 2011** at **2:00 PM** in **Conference Room 115** at **San Bruno City Hall**, 567 El Camion Real, San Bruno. Please contact Mark Sullivan, Housing & Redevelopment Manager, for further information.

This Notice of Preparation and additional materials relating to the development of the San Bruno Transit Corridors Plan can be found on the project website at www.planbruno.org

Mark Sullivan

12/8/10

Mark Sullivan, Housing and Redevelopment Manager
Telephone: (650) 616-7053
FAX: (650) 873-6749
E-mail: msullivan@sanbruno.ca.gov

Date

CITY OF SAN BRUNO
INITIAL STUDY AND ENVIRONMENTAL CHECKLIST FORM

1.	**Project Title:**	**San Bruno Transit Corridors Plan**
2.	**Lead Agency Name and Address:**	City of San Bruno 567 El Camino Real San Bruno, California 94066
3.	**Contact Person and Phone Number:**	Mark Sullivan, Housing and Redevelopment Manager Telephone: (650) 616-7053 Fax: (650) 873-6749 Email: msullivan@sanbruno.ca.gov
4.	**Project Location:**	Portions of San Mateo Avenue, El Camino Real, San Bruno Avenue, and Huntington Avenue, within the City of San Bruno, San Mateo County, California. See Figures 1 and 2.
5.	**Project Sponsor's Name and Address:**	City of San Bruno 567 El Camino Real San Bruno, California 94066
6.	**General Plan Designation:**	Central Business District, Transit-Oriented Development, Industrial, Public/Quasi-Public, Low Density Residential, and Parks/Open Space.
7.	**Zoning:**	A-R, Administrative and Research; C, Commercial; C-B-D, Central Business District; C-M, Commercial Combining Industrial; C-N, Neighborhood Commercial; O, Open Space and Conservation; P-D, Planned Development; R-1, Single-Family Residential; R-2, Low-Density Residential; and U, Unclassified.
8.	**Existing Plan Area Land Uses:**	San Mateo Avenue from San Bruno Ave to El Camino Real is the city's historic downtown street, a pedestrian-oriented corridor enclosed by a tight and uniform row of eclectic shops and restaurants. El Camino Real includes auto-oriented and regional retail uses, as well as the city's civic center. San Bruno Avenue includes a mix of automobile-oriented retail, offices, automobile service uses, religious facilities, and single and multiple family homes. Huntington Avenue is lined by housing, and also includes the Shops at Tanforan (a regional retail destination), the San Bruno Bay Area Rapid Transit (BART) station, industrial uses, and, on the east side south of I-380, the Caltrain railroad tracks. The General Plan-designated future San Bruno Caltrain Station Area contains a mixture of vacant land,

industrial uses, automobile service uses and single family homes.

9. Description of Project:

(a) Proposed Transit Corridors Plan. The City of San Bruno (City) is proposing to adopt the San Bruno Transit Corridors Plan which would set forth a transformative new vision for the Transit Corridors Area, including downtown San Bruno, historically represented by San Mateo Avenue and adjacent streets, including El Camino Real, San Bruno Avenue and Huntington Avenue. Figure 1 shows the boundaries of the City-designated approximately 160-acre San Bruno Transit Corridors Plan area (Transit Corridors Area). The proposed Plan would establish a development framework, development standards and design guidelines for public and private realm improvements, transportation and infrastructure improvements, as well as implementation strategies to achieve that vision. The proposed Transit Corridors Plan contains seven elements: Vision, Development Framework, Private Realm Development Standards and Design Guidelines, Public Realm Design Guidelines, Transportation, Infrastructure, and Implementation.

(b) Background. The City-designated Transit Corridors Area has a strong foundation of existing commercial services and major transit connections that provide a physical and social framework to build upon with future developments and improvements. With an existing BART station in place and plans for construction of a Caltrain station underway, the Transit Corridors Area is poised to evolve into a well-connected intermodal transit hub within the Bay Area region, taking advantage of transit-oriented development (TOD) opportunities. Located close to San Francisco, San Francisco International Airport, and Silicon Valley, San Bruno also has the potential to continue to evolve as an increasingly attractive destination for new residents, visitors, and businesses.

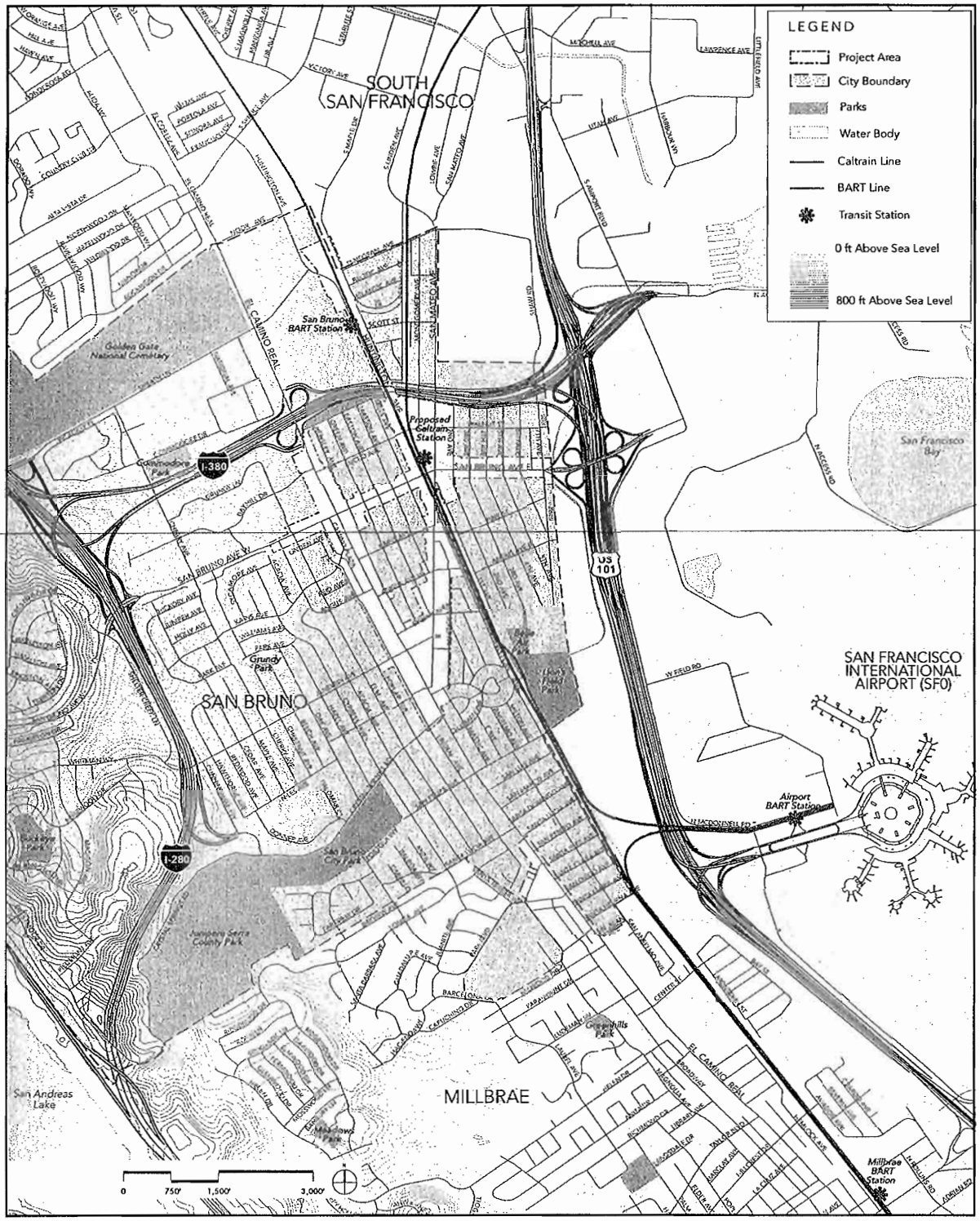
(c) Objectives. The described objectives of the proposed Transit Corridors Plan include: to stimulate the economic revitalization of the Transit Corridors Area including Downtown; to reinvigorate the community's identity; to capture the potential for transit-oriented development (TOD in proximity to the planned Caltrain station); to strengthen the area's walkability and bikeability; and to create a cohesive implementation approach to enhance the character and development of the Transit Corridors Area as an attractive place for people to live, work and shop.

(d) Development Framework. The proposed development framework for the Transit Corridors Plan consists of Character Area Development and Catalytic Opportunity Sites. This development framework concept is illustrated on Figure 2 and described below.

(1) Character Area Development. There are five specific Character Areas designated within the plan area:

- *San Mateo Avenue: Revitalized Downtown Core.* The Plan aims to preserve San Mateo Avenue's "main street" character, while creating a more vibrant Downtown through targeted enhancement of commercial uses, the addition of new housing, and streetscape improvements. The Plan proposes that the City consider a large new plaza area reconfiguration of the of San Mateo Avenue/El Camino Real intersection to allow greater physical and visual connection between El Camino Real and Downtown. A realigned intersection would allow for new, more intensive land uses to activate and anchor the southern end of Downtown, as well as the creation of a great civic plaza or community space to signify the entrance into Downtown. The northern end of Downtown would be anchored with a redesigned Posy Park, the new Caltrain Station, and higher intensity mixed uses. The Plan also recommends consideration of establishing diagonal street parking along San Mateo Avenue and potentially installing a traffic circle at the intersection of San Mateo Avenue and Huntington Avenue.

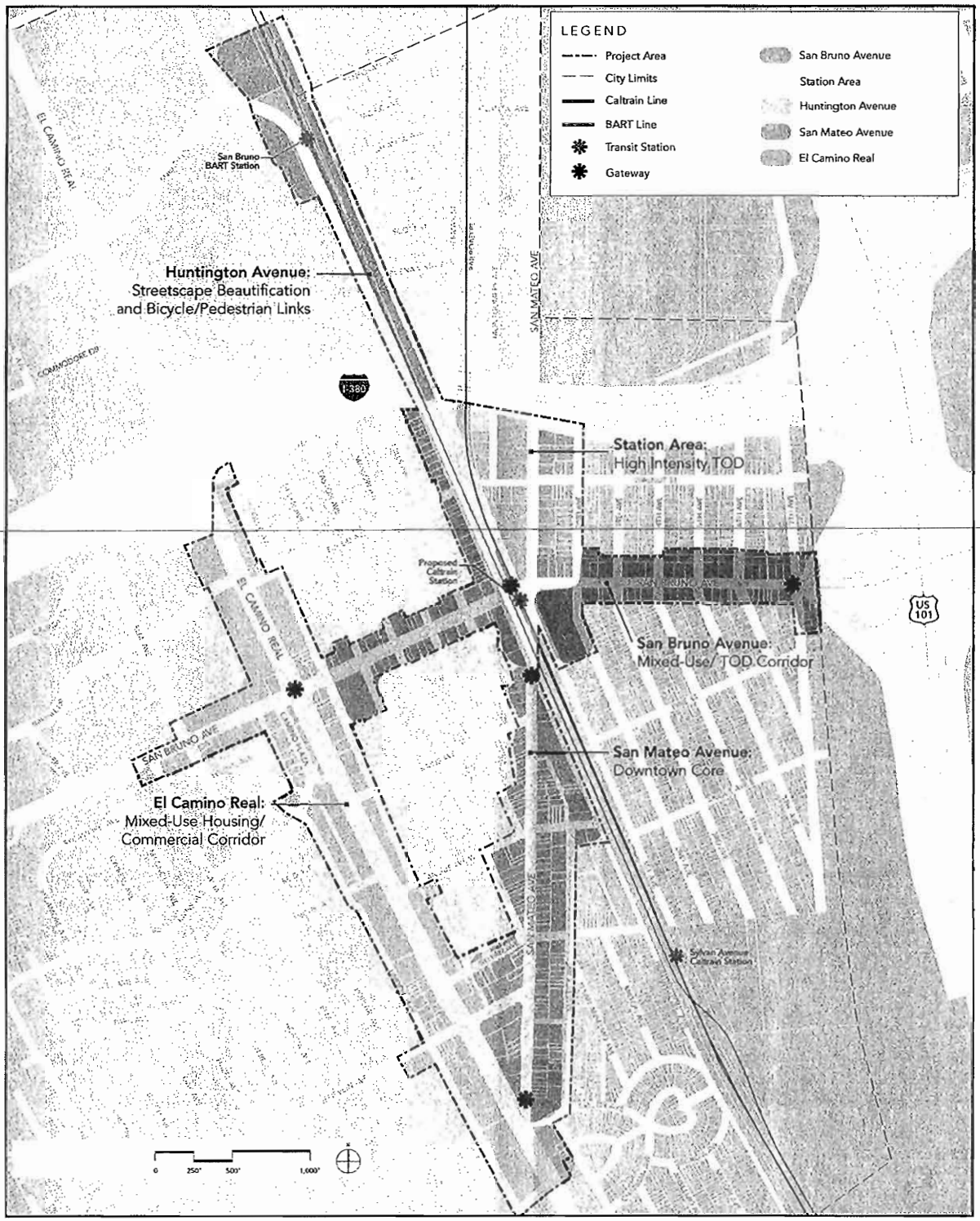
- *El Camino Real: Mixed-Use Housing and Commercial Corridor.* The strategy for El Camino Real is to install pedestrian-oriented streetscape improvements and promote the development of high-density housing to transform the auto-oriented corridor into a vibrant mixed-use residential and commercial corridor, taking advantage of its proximity to the new Caltrain station and neighborhood retail and services available on San Mateo Avenue. New high-density residential development, anchored with ground-floor retail at significant intersections, would create a stronger physical presence and character along this key roadway. The southern end of El Camino Real near San Mateo Avenue would be zoned Central Business District (CBD) to focus retail adjacent to Downtown, as well as encouraging mixed use and community serving uses.



SOURCE: Wagstaff/MIG

Figure 1

PROJECT LOCATION



SOURCE: Wagstaff/MIG

Figure 2

DEVELOPMENT FRAMEWORK

- *San Bruno Avenue: Mixed-Use TOD Corridor.* The plan aims to transform San Bruno Avenue into a mixed-use TOD corridor with a higher intensity of uses to foster a pedestrian environment, encourages multi-modal connections, and creates a sense of entry and identity to the community. The Plan encourages upgrades of existing storefronts and landscaping to improve the appearance of the street. New bicycle lanes, building setbacks, higher density housing, streetscape improvements, traffic circles (roundabouts) and a potential "road diet" action (reduction of vehicle travel lanes) are potential components of the future San Bruno Avenue; the road diet action is considered a long-term option if it is determined that adequate traffic flow would be maintained and pedestrian, bicycle, and transit access in the Transit Corridors Area would be enhanced. The Plan focuses on two distinct sections of San Bruno Avenue-- west of Huntington Avenue, and east of Huntington Avenue. New housing is prohibited on most of San Bruno Avenue east of San Mateo Avenue due to the 70 decibel noise contour from planes taking off and landing at San Francisco International Airport.

- *Huntington Avenue: Streetscape Beautification and Bicycle/Pedestrian Links.* The strategy for Huntington Avenue is to preserve the existing residential character while taking advantage of development opportunities around the Caltrain and BART stations, where a TOD zone would allow increased intensity of uses and building heights to accommodate retail, office and higher density housing. The northern half of Huntington Avenue, where residential uses are not permitted due to the 70 decibels airport noise contour, is planned for a mix of commercial and office uses. The southern half of the Huntington Avenue is designated for a mix of uses including medium-density housing. A key development site across the street from the BART parking garage is potentially a suitable location for a new hotel. Design guidelines for Huntington Avenue would encourage streetscape improvements and traffic calming measures, including a study and consideration of roundabouts, to create a pedestrian- and bicycle-friendly corridor to the Caltrain station.

- *Station Area: High-Intensity TOD.* The development strategy for the new Caltrain Station Area is to create a dynamic, active, high-intensity TOD development, leveraging its proximity to San Francisco International Airport and the southern Bay Area region. The Plan encourages an intensified mix of uses, including office, and retail, and high-density residential uses that support and synergize with the new Caltrain station. Uses are limited to non-residential uses in areas located within the 70 decibels airport noise contour. The Station Area will be designed to be a highly desirable place to work, as well as to encourage Caltrain ridership with an attractive station surrounded by active uses and easy access. An approximately two-acre vacant development site directly adjacent to the Caltrain station platform is envisioned as the focal point of a major mixed-use office/retail center. New gateway elements would frame and enhance the area around the elevated railway crossing, emphasizing the significance of the station and the entrance to Downtown. The development strategy for the Station Area seeks to create a well connected node of activity that encourages Caltrain ridership and is surrounded by active uses.

(2) Catalytic Opportunity Sites. The Plan highlights three catalytic opportunity sites, identified in partnership with the private sector, that have the potential to significantly influence and transform the Transit Corridors Area and should be considered a top priority. The sites are considered catalytic due to their prime location at key gateways and their ability to provide needed uses or services currently lacking within the Transit Corridors Area. A financial feasibility analysis confirmed the viability of each site from land use, design and development perspectives. The three catalytic sites include:

- *Catalytic Opportunity Site #1: Caltrain Station.* The Plan envisions buildings up to seven stories high containing a mix of approximately 350,000 square feet of office and ground floor retail uses. Centrally located between the railroad tracks and San Mateo Avenue at the corner of San Bruno Avenue, this prominent gateway site should include iconic architectural elements. To balance the high intensity of uses, the site has the potential to provide a public gathering space in the form of a park, plaza, or other open space amenity. The site would need to accommodate parking for the Caltrain station, as well as office and retail uses, potentially in a below-grade parking structure

- *Catalytic Opportunity Site #2: Southwest Corner of San Bruno and Huntington Avenues.* The Plan envisions a five-story mixed-use building with approximately 9,000 square feet of ground floor retail with housing above. Strategically located at the corner of Huntington Avenue and San Bruno Avenue, just west and south of the future Caltrain station, this site provides an opportunity to develop a gateway connection from the Station Area to Downtown. The site is a prime location for a prominent

building with active storefronts and uses, and distinctive architectural elements that announce entry into Downtown.

- *Catalytic Opportunity Site #3: San Mateo Avenue and El Camino Real Gateway*. The Plan envisions a four-story development with a 50,000 square-foot facility at the terminus of the triangular parcel and active storefronts along San Mateo Avenue. The location of this site lends itself to a retail or mixed use that can draw visitors from El Camino Real into Downtown. The site also has potential for a mixed-use medium- to high-density residential building with retail space on the ground floor to activate the street edge along San Mateo Avenue. The site would also benefit from a public plaza, park or open space element that would connect San Mateo Avenue to El Camino Real, balance the density on the site, and create a welcoming entrance to Downtown.

(3) Private Realm Development Standards and Design Guidelines. The Plan contains a set of mandatory development standards and non-mandatory design guidelines to guide the development of the private realm in the Transit Corridors Area. The Plan would establish uses, height, stepback, and setback standards within specific zoning designations which generally correspond to each of the five Character Areas. The five zoning designations for the Transit Corridors Area and the corresponding Character Area, as applicable, are as follows:

- TOD-SO (TOD-Station Office)--Station Area: High Intensity TOD
- TOD-MXD1 (Medium-Higher Density Mixed-Use)--San Bruno Avenue: Mixed-Use TOD Corridor
- ~~TOD-MXD2 (Higher-Density Mixed-Use)--El Camino Real Area: Mixed-Use Housing and Commercial~~ Corridor
- CBD (Central Business District)--San Mateo Avenue Area: Revitalized Downtown Core
- P/QP (Public/Quasi-Public)--Civic Center portion of El Camino Real Area

The Plan would also establish private realm design guidelines, including Overarching Design Guidelines (site layout and building design, parking and circulation design, sustainability design) which pertain throughout the Transit Corridors Area, as well as Character Area Design Guidelines specific to each of the five Character Areas.

(4) Public Realm Design Guidelines. The Plan contains a set of non-mandatory design guidelines to guide the improvements to the public realm within the Transit Corridors Area, including: Overarching Guidelines that direct streetscape design throughout the Transit Corridors Area; Character Area Guidelines that provide specific design guidance for the five Character Areas; and Open Space Guidelines that outline design parameters for creating active, vital open spaces.

(d) Transportation Improvements. The Plan includes the following proposed transportation improvements:

Vehicle

- Evaluate opportunities for "road diets" on Huntington Avenue and San Bruno Avenue
- Evaluate opportunities to improve the San Mateo Avenue/El Camino Real intersection
- Evaluation opportunities for roundabouts at four (4) key locations to enhance the streetscape as a gateway feature, improve safety and reduce greenhouse gas emissions
- Reevaluate level of service policy for the Transit Corridors Area

Transit

- Implement a transit circulator shuttle route
- Enhance bus shelters and waiting areas
- Promote opportunities to grow transit ridership

Bicycle

- Develop network of bicycle priority streets, including bicycle boulevards
- Add bicycle lanes on streets with available right of way and higher traffic volumes
- Evaluate/develop a trail connection across US-101 to the San Francisco Bay Trail
- Implement bicycle parking requirements

Walking

- Promote a "complete streets" strategy for San Bruno's Transit Corridors
- Increase pedestrian comfort by adding bulbouts (also known as curb extensions) and refuge islands
- Improve street crossings by adding new crosswalks and enhancing existing crossings
- Promote walking connections from surrounding neighborhoods to the Downtown core

Parking and Transportation Demand Management (TDM)

- Develop a strategy for a Parking Management Program
- Promote a "Park Once and Walk" parking strategy
- Develop a Parking Implementation Plan
- Evaluate Metered Parking/Parking Pricing
- Create a Parking Benefits District
- Encourage unbundled parking
- Develop New Parking Standards for the Transit Corridors Area
- Consider a Transit Corridors Area TDM program

(e) Buildout Assumptions. Table 1 identifies the buildout assumptions that will be used in the EIR. The Transit Corridors Plan would provide for the development of up to an additional 1,610 dwelling units, 147,700 square feet of retail uses, 988,100 square feet of office uses, and 190 hotel rooms within the Transit Corridors Area within approximately 20 years, or by 2030. This amount of additional development includes development of the three catalytic opportunity sites described above as well as infill development and redevelopment throughout the Transit Corridors Area.

10. Required Approvals:

Implementation of the Transit Corridors Plan would require the following City actions: (1) adoption of the Transit Corridors Plan itself; (2) adoption of General Plan amendments to achieve consistency between the General Plan and the Transit Corridors Plan provisions for land uses and other proposals within the Transit Corridors Area; (3) approval of zoning amendments to reflect and implement the land uses, development standards, and design guidelines specified by the Transit Corridors Plan; and (4) voter approval by a majority of the electorate in order to permit development of buildings greater than there (3) stories or fifty (50) feet and/or construction of multistory parking structures, as established by Ordinance 1284.

This Initial Study and additional materials relating to the development of the San Bruno Transit Corridors Plan can be found on the project website at www.planbruno.org

Table 1
TRANSIT CORRIDORS PLAN BUILDOUT ASSUMPTIONS

Land Use	Existing	New Development Current General Plan Buildout	New Development with Transit Corridors Plan Buildout	Net New Development over General Plan
Residential (dwelling units)	Not estimated	720	1,610	890
Retail (square feet)	900,000	128,600	147,700	19,100
Office (square feet)	100,000	321,500	988,100	666,600
Hotel (rooms)	340	0	190	190

SOURCE: Wagstaff/MIG and the City of San Bruno, September 2010

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☒ Greenhouse Gas Emissions	☒ Public Services
☐ Agricultural and Forestry Resources	☒ Hazards & Hazardous Materials	☒ Recreation
☒ Air Quality	☒ Hydrology/Water Quality	☒ Transportation/Traffic
☐ Biological Resources	☒ Land Use/Planning	☒ Utilities/Service Systems
☒ Cultural Resources	☐ Mineral Resources	☒ Mandatory Findings of Significance
☒ Geology/Soils	☒ Noise	
	☒ Population/Housing	

DETERMINATION:

On the basis of this initial evaluation:

☐ I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☐ I find that although the proposed project **COULD** have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☒ I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐ I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated impact." An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project **COULD** have a significant effect on the environment, because all potentially significant effects (1) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (2) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, **nothing further** is required.

Prepared by:

Signature: _____ Date: 10/28/10

John Wagstaff, Principal
Wagstaff/MIG

Reviewed by:

Signature: _____ Date: 12/7/10

Mark Sullivan
Housing and Redevelopment Manager
City of San Bruno

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

ENVIRONMENTAL IMPACTS:

I. **AESTHETICS.** *Would the project:*

a) *Have a substantial adverse effect on a scenic vista?* ☒ ☐ ☐ ☐

Hills to the north and west provide a prominent visual backdrop to the Downtown and the city. Various vantage points throughout the Transit Corridors Area and surrounding neighborhoods have views of the western and northern ridgelines, including San Bruno Mountain and Sweeney Ridge. The city's western neighborhoods have views over Downtown of San Francisco Bay. City Ordinance 1284 limits the height of new buildings to three stories or 50 feet, without voter approval. Future development under the Transit Corridors Plan may have an adverse effect on scenic vistas of the surrounding hills and San Francisco Bay from within and outside the Transit Corridors Area. The EIR will evaluate potential impacts on scenic vistas.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?* ☒ ☐ ☐ ☐

Within San Bruno, Skyline Boulevard (State Route 35) and Interstate 280 are designated by the California Department of Transportation (Caltrans) as State Scenic Highways. El Camino Real south of Crystal Springs Road, Crystal Springs Road, and Sharp Park Road are designated by San Mateo County as County Scenic Roads. Sneath Lane is designated by the City of San Bruno as a scenic corridor.[1] Although none of these scenic corridors traverse the Transit Corridors Area, development within the Transit Corridors Area may be visible from portions of these scenic corridors. The EIR will evaluate the potential impact of the project on these scenic corridors.

c) *Substantially degrade the existing visual character or quality of the site and its surroundings?* ☒ ☐ ☐ ☐

Key objectives of the Transit Corridors Plan are to enhance the visual quality and distinct character of the Transit Corridors Area and

[1]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, p. 3-20.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

the five Character Areas, and to establish the Transit Corridors Area as a vibrant and memorable community focal point and gathering place. The Plan's public realm and private realm development standards and design guidelines seek to improve existing streetscapes and upgrade the quality of development. The Plan's transportation and infrastructure proposals support its transformative vision. Changes under the Plan could affect the visual character of specific locations and adjacent neighborhoods at the edges of the Plan area, including the potential for shadow impacts. The EIR will evaluate the impacts of the Plan on the visual character and quality of the Transit Corridors Area and its surroundings.

d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*	☒	☐	☐	☐

Existing sources of nighttime light within and around the Transit Corridors Area include those common to urban areas, including street and freeway lights, parking lot lighting, building lighting, signs, vehicle headlamps and interior lighting visible through windows. Glare is created by the reflection of sunlight and artificial light off of windows, buildings and other surfaces in the day, and from inadequately shielded and improperly directed light sources at night. Development in accordance with the Transit Corridors Plan could cause substantial spill light, glare and sky glow that may create a nuisance for adjacent sensitive residential uses or adversely affect community character. The EIR will evaluate potential light and glare impacts.

II. **AGRICULTURAL AND FORESTRY RESOURCES.** *(In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
methodology provided in Forest Protocols adopted by the California Air Resources Board.) Would the project:				
a) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?* The California Department of Conservation Farmland Mapping and Monitoring Program monitors the conversion of agricultural land to urban uses throughout the state, using classifications of important farmlands. Lands designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance are considered important farmlands for purposes of the California Environmental Quality Act (CEQA). The Transit Corridors Area is designated Urban and Built Up Land. The project would have no impact on important farmlands. This issue will not be evaluated in the EIR.	☐	☐	☐	☒
b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?* The Transit Corridors Area and the surrounding area are urbanized and not zoned for agricultural use and do not contain any lands under Williamson Act contracts. The project would have no impact on agricultural zoning or Williamson Act contracts. This issue will not be evaluated in the EIR.	☐	☐	☐	☒
c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?* The Transit Corridors Area and the surrounding area are urbanized and not zoned for forest land or timberland. There are no lands in the vicinity of the Transit Corridors Area that are planned, used or managed for forest land or timber production. The project would have no impact on timberland or forest resources. This issue will not be evaluated in the EIR.	☐	☐	☐	☒
d) *Result in the loss of forest land or conversion of forest land to non-forest use?*	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
There is no forest land within or near the Transit Corridors Area. The project would have no impact on timberland or forest resources. This issue will not be evaluated in the EIR.				
e) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*	☐	☐	☐	☒
There is no farmland or forest land within or near the Transit Corridors Area. The project does not involve any changes which could directly or indirectly result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. This issue will not be evaluated in the EIR.				
III. **AIR QUALITY.** *(Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.) Would the project*				
a) *Conflict with or obstruct implementation of the applicable air quality plan?*	☒	☐	☐	☐
According to the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines, in order to meet the threshold of significance for operational-related criteria air pollutant and precursor emissions impacts for plans, a proposed plan must: (1) be consistent with current air quality plan control measures; and (2) result in a projected rate of increase in vehicle use less than or equal to its projected rate of increase in population.				
The consistency of the Transit Corridors Plan with the BAAQMD 2010 Clean Air Plan (CAP) and its transportation control measures, and the increase in vehicle trips or vehicle miles traveled relative to population growth under the Plan, will be evaluated in the EIR.				
b) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*	☒	☐	☐	☐
Future development under the Transit Corridors Plan could generate emissions of criteria air pollutants from mobile sources (increases in motor vehicle trips and changes				

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	in traffic congestion), area sources (water heaters, architectural coatings, landscaping maintenance equipment) and stationary sources (boilers, fueling stations) that exceed BAAQMD significance thresholds. The regulated regional air pollutants of greatest concern and potential impacts are fugitive dust or particulate matter 10 microns or smaller in diameter (PM_{10}) and 2.5 microns or smaller in diameter ($PM_{2.5}$), and the precursors to ozone, which are reactive organic gases (ROG) and nitrogen oxides (NO_X). Construction activities generate dust, exhaust emissions, and certain construction materials can evaporate and contribute to urban ozone. This issue will be evaluated in the EIR.				
c)	*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)?*	☒	☐	☐	☐
	See item III.b above.				
d)	*Expose sensitive receptors to substantial pollutant concentrations?*	☒	☐	☐	☐
	Construction vehicle and equipment exhaust and construction dust could cause short-term temporary localized health and nuisance impacts on adjacent residential and other sensitive receptors. Additionally, according to the BAAQMD, a project could have a significant impact related to localized carbon monoxide concentrations near congested intersections if it would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. Development under the Transit Corridors Plan could also expose sensitive receptors to toxic air contaminants (TACs) and superfine inhalable particulate matter (PM2.5) from U.S. 101, Interstate 380 and El Camino Real, industrial uses, and the diesel-fueled Caltrain line. Residential uses and other sensitive receptors could be at an elevated health risk from these sources. Potential impacts and mitigation needs related to exposure of sensitive receptors to construction-period dust and exhaust, localized carbon monoxide concentrations, and elevated health risks due to toxic air contaminants will be evaluated in the EIR.				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) *Create objectionable odors affecting a substantial number of people?*	☒	☐	☐	☐

Huntington Avenue is located within the BAAQMD-recommended one mile buffer area for odor-generating uses from the San Bruno Transfer Station located at 101 Tanforan Avenue. Development under the Transit Corridors Plan could also result in food service uses, or other odor-generating uses, close to residential and other odor-sensitive uses. Potential odor-related impacts will be evaluated in the EIR.

IV. **BIOLOGICAL RESOURCES.** *Would the project:*				
a) *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?*	☐	☐	☒	☐

Special-status species are plants and animals that are legally protected under the State and/or federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration. Species with legal protection under the Endangered Species Acts may represent constraints to development, particularly when they are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take" of these species. Bird nests in active use are protected under the federal Migratory Bird Treaty Act, and raptor nests are further protected under Section 3503.5 of the California Fish and Game Code when in active use.

Two endangered or threatened animal species have been reported from Lion's Field within approximately 1,000 feet to the southeast of the Transit Corridors Area: 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). A third sensitive species, the western pond turtle (*Clemmys marmorata*, a state species of special concern) might be

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
found at Lion's Field and other wetland areas within San Bruno.[1] Large Monterey pine, Monterey cypress, blue gum eucalyptus and oak trees could provide nesting habitat for raptor species and habitat for sensitive bat species. Some raptor species, like Cooper's hawk (*Accipiter cooperii*, a state species of special concern on its nesting sites) are specifically listed as sensitive, and all raptor species are protected while nesting by Fish and Game Code Section 3503.5. Sensitive bat species with potential for occurrence in large trees and groves include 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 Section 15380 of the CEQA Guidelines. Two special status plants have been reported at Lion's Field: Dudley's louse wort, a federal species of concern and state rare species, and stink bells, a California Native Plant Society List 4 species.[2] Suitable habitat for all of these special-status species is absent within the project site and the surrounding residential neighborhoods. Development under the proposed Transit Corridors Plan would have a less-than-significant impact on special-status species. This issue will not be evaluated in the EIR.				
b) *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 U.S. Fish and Wildlife Service?* The State of California recognizes some plant communities as sensitive natural communities	☐	☐	☐	☒

[1]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, p. 3-138.

[2]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, p. 3-138.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
if they are uncommon, regionally declining, or vulnerable. Among these communities are riparian habitat, coast live oak forest, freshwater seeps, freshwater marshes, and coastal salt marsh. There is no riparian habitat or other sensitive natural community within or adjacent to the Transit Corridors Area.[1] The project would have no impact on riparian habitat or other sensitive natural community. This issue will not be evaluated in the EIR.				
c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.)?*	☐	☐	☐	☒
Although definitions vary, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or groundwater, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their inherent value to fish and wildlife; use as storage areas for stormwater and floodwaters; and water recharge, filtration and purification functions.				
The U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG) have jurisdiction over modifications to wetlands and other "waters of the United States." Corps jurisdiction is established through provisions of Section 404 of the Clean Water Act, which prohibits the discharge of dredged or fill material into "waters of the United States" without a permit. RWQCB jurisdiction is established through Section 401 of the Clean Water Act, which requires certification or waiver for water quality whenever a Corps permit is required under Section 404 of the Clean Water Act. CDFG jurisdiction is established under Sections 1600-1607 of the State Fish and Game Code, which pertains to activities that would disrupt				
There are no known wetlands within the Transit Corridors Area. Maps from the U.S. Fish and Wildlife Service Wetlands Online Mapper indicate that there are small areas of freshwater emergent wetland near the southwest quadrant of the U.S. 101/Interstate 380 interchange near 7th and Walnut Park,				

[1]City of San Bruno General Plan, Figure 6-1: Vegetative Communities and Special Species Habitat.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
and small areas of freshwater emergent wetland and freshwater forested/shrub wetland along the western side of US 101, adjacent to Lion's Field.[1] These features are potentially subject to Corps, RWQCB and CDFG jurisdiction. These potential jurisdictional wetlands are outside and not adjacent to the Transit Corridors Area and the project would not involve the direct removal or fill of wetlands or indirectly affect the hydrology, soil, vegetation or wildlife of wetlands. This issue will not be evaluated in the EIR.				
d) *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?*	☐	☐	☒	☐
Wildlife use within the Transit Corridors Area is expected to be relatively low due to the absence of natural habitat, the proximity to the freeways, streets and development, and the lack of protective cover. Birds (e.g., house sparrow, starling, crow, etc.) and wildlife such as opossums and small rodents typically associated with developed commercial properties would be expected to occur. Due to the developed nature of the area, the proximity to freeways and roadways, and the nearby availability of Lion's Field as a potential wildlife movement corridor, the Transit Corridors Area is limited in its function as a wildlife movement corridor. Trees within the Transit Corridors Area could potentially provide nesting habitat for small songbirds; nesting birds are protected by the Migratory Bird Treaty Act and the California Fish and Game Code. The Project would have a less-than-significant impact on wildlife movement or native wildlife nursery sites. This issue will not be evaluated in the EIR.				
e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*	☐	☐	☒	☐
No portion of the Transit Corridors Area is located in an area identified as a Vegetative Community or Special Species Habitat (San Bruno General Plan, Figure 6-1). In addition, the project will be subject to the City's Heritage Tree Ordinance. This issue will not				

[1]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, p. 3-143.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	be evaluated in the EIR.				
f)	*Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved, local, regional, or state habitat conservation plan?* There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other adopted habitat conservation plan applicable to the Transit Corridors Area. This issue will not be evaluated in the EIR.	☐	☐	☐	☒
V.	**CULTURAL RESOURCES.** *Would the project:*				
a)	*Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5?* The State Office of Historic Preservation has determined that buildings, structures and objects 45 years or older may be of historical value. Development of San Bruno's Central Business District began in the late 1880s. The San Mateo Avenue/El Camino Real intersection is identified by the California Register of Historical Resources as a California Point of Historical Interest as the historic beginning of the California State Highway System. The site of the former Tanforan Racetrack, now The Shops at Tanforan, is a California Historical Landmark (No. 934) and is also listed on the California Register of Historical Resources. A March 2003 Historic Resources Inventory of the Redevelopment Project Area, which encompasses all of the Transit Corridors Area, identified 52 properties designated as historical resources. Six of these properties were contributing resources to the Cupid's Row Historic District, which is located outside but adjacent to the Transit Corridors Area, near the key San Mateo Avenue/El Camino Real intersection and Catalytic Opportunity Site #3.[1] Development under the Transit Corridors Plan could result in a potentially significant impact on these or other as-yet unidentified historic resources. The potential impact of the project on historic resources within and adjacent to the Transit Corridors Area will be evaluated in the EIR.	☒	☐	☐	☐
b)	*Cause a substantial adverse change in the significance of an archaeological resource*	☒	☐	☐	☐

[1]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, pp. 3-149 through 3-151.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
pursuant to CEQA Guidelines section 15064.5? At the time of Euro-American contact, Native Americans in the Bay Area typically lived along alluvial terraces and the historic margins of San Francisco Bay. Three creeks historically traversed the Transit Corridors Area and the area was historically along the Bay margin, and is therefore an area of high archaeological sensitivity.[1] Ground-disturbing activities during previous development of the area would likely have disturbed archaeological resources that may have existed within the area. Despite the history of disturbance, the project could potentially disrupt, alter or eliminate as-yet undiscovered archaeological sites, potentially including Native American remains. This issue will be evaluated in the EIR.				
c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?* The Colma Formation, the geologic formation which underlies the Transit Corridors Area, is Quaternary-aged (about 1 million years old). The Colma Formation is likely to contain only occasional small marine and non-marine invertebrate fossils.[2] Ground-disturbing activities during previous development of the area would likely have disturbed, altered or eliminated paleontological resources that may have existed within the area. Despite the history of disturbance, the project could potentially disrupt, alter or eliminate as-yet undiscovered paleontological resources. This issue will be evaluated in the EIR.	☒	☐	☐	☐
d) *Disturb any human remains, including those interred outside of formal cemeteries?* There are no formal cemeteries located within the Transit Corridors Area. However, three creeks historically traversed the Transit Corridors Area and the area was historically along the Bay margin, and is therefore an area of high archaeological sensitivity. Despite the history of disturbance within the	☒	☐	☐	☐

[1]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, p. 3-149.

[2]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, p. 3-150.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

area, the project could potentially disrupt, alter or eliminate as-yet undiscovered archaeological sites, potentially including Native American remains. This issue will be evaluated in the EIR.

VI. **GEOLOGY AND SOILS.** *Would the project:*

a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i) *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.)* ☐ ☐ ☒ ☐

San Bruno encompasses a portion of the San Andreas Fault Zone and is located approximately 18 miles southwest of the Hayward fault. Ground rupture is the actual breaking apart of the ground during an earthquake and generally occurs in the area directly above a fault. The Alquist-Priolo Earthquake Fault Zoning Act addresses the hazard of surface fault rupture by preventing the construction of buildings used for human occupancy over active faults. The only Alquist-Priolo Earthquake Fault Zone in San Bruno extends approximately 800 feet on either side of the San Andreas Fault, northeast of Skyline Boulevard, approximately three miles outside the Transit Corridors Area.

The potential San Bruno Fault traverses the center of the Transit Corridors Area in a north-south alignment. Existence of the San Bruno fault was first proposed in the early 1900s. However, there is evidence to suggest that the San Bruno fault may not exist, or at least that it is not as significant as initially proposed. 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. 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

[1]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, pp. 3-162 through 3-170.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Hillside fault.[1] The potential impact to future development within the Transit Corridors Area would be less than significant. This potential impact will not be evaluated in the EIR.				
ii) Strong seismic ground shaking? Ground shaking is the most widespread cause of earthquake damage. Most loss of life and injuries during an earthquake are related to the collapse of buildings and structures. The intensity of the ground shaking at a particular site depends on characteristics of the earthquake source (magnitude, location and area of causative fault surface), distance from the fault, and amplification effects of local geologic deposits. Project improvements could be exposed to strong seismic ground shaking and related risk of loss or injury in the event of an earthquake on one of the active or potentially active faults in the region. Potential risks to life and property from these seismic hazards would be adequately mitigated by existing laws, regulations and polices, including the California Building Codes and the City's development review procedures, which require a site-specific geotechnical investigation be prepared by a licensed professional for proposed developments for seismic design categories C, D, E and F. The geotechnical investigation would be reviewed by City staff prior to issuance of building permits to ensure compliance. This issue will not be evaluated in the EIR.	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction? Soil liquefaction is a process that occurs in water-saturated, unconsolidated sediment due to ground shaking. During liquefaction, soils lose strength and ground failure may occur, affecting structures and improvements. Soils most susceptible to liquefaction are loose to medium dense, saturated granular soils with poor drainage, including Bay mud and artificial fill. The portion of the Transit Corridors Area east of the Caltrain tracks is underlain by artificial fill material used to reclaim Bay tidelands.[1] Future	☐	☐	☒	☐

[1] City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, pp. 3-170

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
development under the Transit Corridors Plan could be exposed to risk of loss or injury related to liquefaction. Potential risks to life and property from these seismic hazards would be adequately mitigated by existing laws, regulations and polices, including the California Building Codes and the City's development review procedures, which require a site-specific geotechnical investigation be prepared by a licensed professional for proposed developments for seismic design categories C, D, E and F. The geotechnical investigation would be reviewed by City staff prior to issuance of building permits to ensure compliance. This potential impact will not be evaluated in the EIR.				
iv) Landslides?	☐	☐	☐	☒
The project area is flat and is not subject to landslides. The highest susceptibility to landsliding in San Bruno exists in the upland area east of Skyline Boulevard and west of Interstate 280, far from the Transit Corridors Area. This issue will not be evaluated in the EIR.				
b) *Result in substantial soil erosion or the loss of topsoil?*	☐	☐	☒	☐
The potential for erosion during construction would be limited by the current substantially impervious conditions in the already developed Transit Corridors Area, the flat terrain, and the best management practices routinely implemented by the City and required as a condition of approval for new development. Nonetheless, construction could involve grading, excavation or other activities that could temporarily expose disturbed soils to erosion. Construction erosion and water quality impacts are addressed in item IX.a below. This potential impact will not be evaluated in the EIR.				
c) *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?*	☐	☐	☒	☐
The Transit Corridors Area is generally underlain by the Colma Formation, a geologic unit of Pleistocene age. The southern portion				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

of the area, near Crystal Springs Road, is underlain by Quaternary-age alluvial deposits, sand and gravel. Soils underlying the Transit Corridors Area are from the Sunnyvale-Castro soils association, which developed from fine-textured alluvium, have dark clay surface layers with calcareous or lime-cemented subsoils, and drain slowly due to clay content. Expansive soils are likely to be encountered within the Transit Corridors Area given the underlying Colma Formation. Differential settlement could also occur in areas underlain by the Colma Formation or less consolidated alluvial material and artificial fill.[1] However, review and permitting of specific development projects would involve characterization and consideration of site-specific geologic and soils conditions, and implementation of individual project mitigations, where needed. State and local planning, building and engineering regulations address structures, excavation, foundations, retaining walls and grading activities. With these existing State and local laws, regulations, standards and practices, the potential impact to life and property from local soil conditions within the Transit Corridors Area would be less-than-significant. This issue will not be evaluated in the EIR.

d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*	☐	☐	☒	☐

Expansive soils possess a "shrink-swell" characteristic, the cyclic 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. Expansive soils are likely to be encountered within the Transit Corridors Area given the underlying Colma Formation and the Sunnyvale-Castro soils association. However, review and permitting of specific development projects would involve characterization and consideration of site-specific geologic and soils conditions, and implementation of individual project mitigations, where needed. State and local planning, building and engineering regulations

[1]City of San Bruno, San Bruno General Plan 2025 Draft EIR, December 2008, pp. 3-158 through 3-161.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
address structures, excavation, foundations, retaining walls and grading activities. With these existing State and local laws, regulations, standards and practices, the potential impact to life and property from local soil conditions within the Transit Corridors Area would be less-than-significant. This issue will not be evaluated in the EIR.				
e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?* No use of septic tanks or alternative wastewater disposal systems is proposed within the Transit Corridors Area. Therefore, the project would have no impact related to the capacity of local soils to effectively accommodate septic systems. This issue will not be evaluated in the EIR.	☐	☐	☐	☒
VII. **GREENHOUSE GAS EMISSIONS.** *Would the project:*				
a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?* Future development under the Transit Corridors Plan could result in an increase in greenhouse gas emissions due primarily to potential increases in vehicle miles traveled, energy use, consumer products and solid waste. The greenhouse gas emissions increase may exceed the BAAQMD significance threshold for plans other than general plans of 4.6 metric tons per year per service population. The EIR will evaluate greenhouse gas emissions impacts.	☒	☐	☐	☐
b) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?* Future development under the Transit Corridors Plan could result in an increase in greenhouse gas emissions that would conflict with or impede the achievement of California Global Warming Solutions Act of 2006 (AB 32) greenhouse gas reduction goals. The EIR will evaluate greenhouse gas emissions impacts.	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. **HAZARDS AND HAZARDOUS MATERIALS.** *Would the project:*				
a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*	☒	☐	☐	☐
Hazardous substances may be generated, stored, transported, used or disposed of in association with future development and activities allowed under the Transit Corridors Plan. The Plan use regulations do not allow new industrial or heavy commercial uses. In addition, existing industrial and heavy commercial uses would, over time as properties redevelop, be expected to be replaced with new uses that involve less potential hazardous materials transport, use or disposal. Also, development under the Transit Corridors Plan could involve the demolition or alteration of structures that may contain hazardous building materials (e.g., friable asbestos, lead paint). The EIR will evaluate this potential impact.				
b) *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?*	☒	☐	☐	☐
See item VIII.a above.				
c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*	☒	☐	☐	☐
There are no schools within the Transit Corridors Area. Two schools are located within approximately one-quarter mile of Transit Corridors Area: Decima M. Allen Elementary School (875 Angus Avenue) and Belle Air Elementary School (450 3rd Avenue). Development within the Transit Corridors Area could involve the transport, storage and use of common hazardous materials within ¼-mile of these schools. The EIR will evaluate this potential impact.				
d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a*	☒	☐	☐	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	significant hazard to the public or the environment? Given the long history of development within the Transit Corridors Area and the existence of various industrial or heavy commercial uses that potentially store and use hazardous materials, there may be sites within or adjacent to the area that are included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5. The 2008 San Bruno General Plan Draft EIR identifies a number of potential contamination sites along San Mateo Avenue, El Camino Real and San Bruno Avenue within the Transit Corridors Area.[1] Existing hazardous materials contamination sites could pose a risk to human health or the environment. The EIR will evaluate this potential impact.				
e)	*For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?* Portions of the Transit Corridors Area are located within two miles of San Francisco International Airport and land uses are constrained by the provisions of the San Mateo County Comprehensive Airport Land Use Plan. The EIR will evaluate potential airport-related safety hazards.	☒	☐	☐	☐
f)	*For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?* No private airstrip exists within or near the Transit Corridors Area. This issue will not be evaluated in the EIR.	☐	☐	☐	☒
g)	*Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?* Traffic from future development under the Transit Corridors Plan could create additional traffic congestion and thereby potentially interfere with an existing emergency response plan or emergency evacuation plan. Transportation improvements provided for in	☒	☐	☐	☐

[1]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-193.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
the Plan may have a beneficial impact on emergency response plans or emergency evacuation plans. This issue will be evaluated in the EIR.				
h) *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?* Wildland fire hazard areas in San Bruno are located in the western portion of the city. The Transit Corridors Area is not subject to wildland fire hazard.[1] This issue will not be evaluated in the EIR.	☐	☐	☒	☐
IX. **HYDROLOGY AND WATER QUALITY.** *Would the project:*				
a) *Violate any water quality standards or waste discharge requirements?* Stormwater runoff from impervious surfaces within the Transit Corridors Area could substantially degrade water quality in downstream receiving waters and San Francisco Bay. The San Francisco Bay Regional Water Quality Control Board (RWQCB) Municipal Regional Permit Provision C.3 requirements apply to projects that create or replace more than 10,000 square feet of impervious area (5,000 square feet for certain types of projects). Project applicants must prepare and implement a Stormwater Control Plan containing treatment and source control measures that meet the "maximum extent practicable" standard as specified in the NPDES permit and the C.3 Guidebook. Project applicants must also prepare a Stormwater Facility Operation and Maintenance Plan and execute agreements to ensure the stormwater treatment and flow-control facilities are maintained in perpetuity. Construction activities disturbing more than one acre would be required to submit a Notice of Intent (NOI) to the RWQCB to be covered by the State's General Construction Permit before beginning construction, which would require the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) containing Best Management Practices (BMPs) that would be implemented	☒	☐	☐	☐

[1]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-113.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
during construction. The EIR will evaluate potential construction and operational water quality impacts.				
b) *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)?* The City of San Bruno derives approximately half of its water supply from groundwater wells within the city. The source aquifer for these supply wells is the deep San Mateo Aquifer within the Westside Basin. The aquifer receives recharge from areas west of Interstate 280; the Transit Corridors Area is not a groundwater recharge area. Beneath the Transit Corridors Area, the aquifer is capped by a 100- to 150-foot clay layer that acts as a barrier to saltwater intrusion from San Francisco Bay and vertical flows from an upper shallow aquifer, as well as contamination from surface sources.[1] The EIR will evaluate potential impacts on groundwater supply and water quality.	☒	☐	☐	☐
c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?* The Transit Corridors Plan does not propose changes to existing drainage patterns. Based on expected changes in land use, development under the Plan would generate an estimated increase in stormwater runoff of 8.76 cubic feet per second (cfs); however, actual anticipated runoff could go down with mitigation requirements placed on individual future developments. Construction activities disturbing more than one acre would be required to submit a Notice of Intent (NOI) to the RWQCB to be covered by the State's General Construction Permit before beginning construction, which would require the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP)	☐	☐	☒	☐

[1]City of San Bruno, San Bruno General Plan Draft EIR, December 2008, p. 3-181.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	containing Best Management Practices (BMPs) that would be implemented during construction. The EIR will evaluate the potential impacts of needed drainage improvements as well as the potential construction and operational water quality impacts.				
d)	*Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?* See item VIII.c above.	☐	☐	☒	☐
e)	*Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?* Development under the Transit Corridors Plan would generate an estimated increase in stormwater runoff of 8.76 cubic feet per second (cfs), which exceeds the capacity of portions of the existing drainage system, and would require minor improvements, which have been identified in the City's Drainage Master Plan. The EIR will evaluate the potential impacts of needed drainage improvements.	☒	☐	☐	☐
f)	*Otherwise substantially degrade water quality?* See item VIII.a above.	☒	☐	☐	☐
g)	*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?* Although San Bruno contains no areas within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, portions of the Transit Corridor Area occasionally flood during combined high tides and heavy rain, due to inadequate storm drains, low elevation, and silt and debris obstruction of the storm drain system. Additionally, regional sea level rise predictions for the San Francisco Bay region predict a 16-inch rise in sea level by mid-century and a 55-	☒	☐	☐	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	inch rise by the end of the century. Portions of the Transit Corridor Area are subject to flooding due to sea level rise associated with global climate change. However, in order for sea level rise to impact the Transit Corridors Area, it would have to first inundate most of San Francisco International Airport, and regional mitigation strategies directed at the airport may also protect San Bruno. The EIR will evaluate potential flood hazard impacts.				
h)	*Place within a 100-year flood hazard area structures which would impede or redirect flood flows?* See item IX.g above.	☐	☐	☒	☐
i)	*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?* The Association of Bay Area Governments (ABAG) Dam Failure Inundation Hazard Map for South San Francisco/Brisbane/San Bruno (www.abag.ca.gov/cgi-bin/pickdamx.pl) concludes that San Bruno (including the Transit Corridors Area) is not subject to flooding resulting from dam failure.	☐	☐	☐	☒
j)	*Result in inundation by seiche, tsunami, or mudflow?* A seiche is a tidal change in an enclosed or semi-enclosed water body caused by sustained high winds or an earthquake. The Transit Corridors Area is not located close enough to San Francisco Bay to be affected by a seiche. A tsunami is a series of waves created when a body of water such as an ocean is rapidly displaced on a massive scale, most commonly as the result of an earthquake. The Transit Corridors Area is not subject to tsunami inundation.[1] The Transit Corridors Area is flat and far from hillsides, and is not subject to risk from mudflow. The project would have no impact related to seiche, tsunami, or mudflow. The EIR will not address this issue.	☐	☐	☐	☒

[1]ABAG Geographic Information Systems, Tsunami Inundation Emergency Planning Map for the San Francisco Bay Region, gis.abag.ca.gov/Website/Tsunami-Maps/Mapframe.htm.

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
X.	**LAND USE AND PLANNING.** *Would the project:*				
	a) Physically divide an established community?	☒	☐	☐	☐
	Development under the Transit Corridors Plan is intended to physically unify the Transit Corridors Area and surrounding areas through reducing or eliminating physical and perceptible barriers; pedestrian-friendly streetscapes, frontages and transportation improvements; a vibrant mix and intensity of activities; creating a strong Downtown focal point for community life; providing community gathering places; and enhanced transit accessibility. The EIR will evaluate potential impacts on the physical arrangement of the community.				
	b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance), adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
	The San Bruno General Plan provides a strong policy basis for the Transit Corridors Plan. The amount of development provided for in the Transit Corridors Plan exceeds the amount provided for in the City's General Plan. Implementation of the Transit Corridors Plan would require adoption of General Plan amendments to achieve consistency between the General Plan and the Transit Corridors Plan provisions for land uses and other proposals for the Downtown. The Transit Corridors Plan is intended to further the principles of the Grand Boulevard Initiative, a collaborative effort between 19 cities, counties, and regional agencies to improve the "performance, safety and aesthetics" of El Camino Real. The EIR will evaluate consistency with the General Plan, the Grand Boulevard Initiative, and other applicable plans.				
	c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
	No habitat conservation plan or natural community conservation plan is applicable to the Transit Corridors Area. The project would				

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	have no impact related to conflicts with any applicable habitat conservation plan or natural community conservation plan. The EIR will not address this issue.				
XI.	**MINERAL RESOURCES.** *Would the project:*				
	a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?* The California Geological Survey (CGS) 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. 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. San Bruno west of U.S. 101 and east of Interstate 280, including the Transit Corridors Area, is classified as MRZ-1. 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. There are no locally important mineral resource recovery sites delineated in the San Bruno General Plan. The project would have no impact related to the availability of mineral resources. This issue will not be discussed in the EIR.[1]	☐	☐	☐	☒
	b) *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?* See item XI.a above.	☐	☐	☐	☒
XII.	**NOISE.** *Would the project result in:*				
	a) *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standard of other agencies?* Occupants of the Transit Corridors Area could be exposed to noise levels that exceed the City's General Plan land use/noise compatibility guidelines and State Title 24	☒	☐	☐	☐

[1]City of San Bruno, San Bruno General Plan 2025 Draft EIR, November 2008, p. 3-157.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
noise standards due to traffic noise levels along U.S. 101, Interstate 380 and El Camino Real, the Caltrain railway, the future California High Speed Rail and airport noise from the San Francisco International Airport. The EIR will evaluate these potential noise impacts.				
b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?* Demolition and construction activities associated with future development under the Transit Corridors Plan could generate excessive groundborne vibration. Occupants of the Transit Corridors Area could be exposed to excessive ground borne vibration exceeding Federal Transit Administration thresholds of significance for frequent events due to Caltrain and future California High Speed Rail operations. The EIR will evaluate these potential groundborne vibration impacts.	☒	☐	☐	☐
c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?* Traffic generated by development in accordance with the Transit Corridors Plan could increase traffic noise levels along certain streets and thereby affect residential, school or other noise-sensitive uses. The EIR will evaluate this potential impact. New commercial uses next to or below residential uses in mixed-use development could cause noise impacts. The EIR will evaluate these potential noise impacts.	☒	☐	☐	☐
d) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?* The Project would generate short-term temporary construction noise. The effects of noise resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors. The EIR will evaluate construction noise impacts.	☒	☐	☐	☐
e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Portions of the Transit Corridors Area are located within two miles of San Francisco International Airport and land uses are constrained by the provisions of the San Mateo County Comprehensive Airport Land Use Plan. The EIR will evaluate potential airport-related noise impacts.				
f) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*	☐	☐	☐	☒
No private airstrip is located in the Precise Plan area or surrounding vicinity.				
XIII. **POPULATION AND HOUSING.** *Would the project:*				
a) *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)?*	☒	☐	☐	☐
The Transit Corridors Plan would result in up to 1,610 additional dwelling units, 147,700 additional square feet of retail uses, 988,100 additional square feet of office uses, and 190 additional hotel rooms within the Transit Corridors Area by 2030. This amount of development exceeds the amount provided for in the City's General Plan. Future development under the Transit Corridors Plan may in turn induce additional growth due to enhanced development potential of adjacent land and increased economic activity. This growth would not in itself constitute a significant adverse environmental impact. New economic activity and growth outside the Transit Corridors Area may in turn increase traffic, air quality and noise impacts, and generate demand for housing, public services and utilities, the expansion or new construction of which could cause environmental impacts. The EIR will evaluate potential growth inducement impacts.				
b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*	☒	☐	☐	☐
The Transit Corridors Plan does not propose the displacement of existing housing or people. However, redevelopment of properties within the Transit Corridors Area under the Plan over time could result in the				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
demolition and loss of housing and the associated displacement of people. The EIR will evaluate potential displacement impacts.				
c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*	☒	☐	☐	☐
See item XIII.b above.				

XIV. **PUBLIC SERVICES.**

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

a) *Fire protection?*	☒	☐	☐	☐
Future development under the Transit Corridors Plan would increase demand for fire and emergency medical service, police protection, parks or other public services. The increased demand may require new or expanded facilities in order to maintain acceptable service ratios or response times, the construction of which could cause significant environmental impacts. This potential impact will be evaluated in the EIR.				
b) *Police protection?*	☒	☐	☐	☐
See item XIV.a above.				
c) *Schools?*	☒	☐	☐	☐
Future development under the Transit Corridors Plan would increase demand for local public school services. Under current statutes and case law, payment of the required school impact fees would address the impact of the plan on school facilities to the furthest extent permitted by law. The duty of a lead agency to mitigate school impacts beyond the state-mandated fees arises only where there is a physical environmental impact involved beyond the mere addition of students to a school. This potential impact will be evaluated in the EIR.				
d) *Parks?*	☒	☐	☐	☐
See item XIV.a above.				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) *Other public facilities?*	☒	☐	☐	☐
See item XIV.a above.				
XV. **RECREATION.**				
a) *Would the project 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?*	☒	☐	☐	☐
Residents and occupants of future development under the Transit Corridors Plan would generate an additional demand for parks and recreational facilities. This additional demand may cause or accelerate a substantial physical deterioration of parks and recreational facilities. The Plan proposes a number of open space improvements which may make a unique and substantial contribution to the city's inventory of developed parkland. The EIR will evaluate potential impacts on parks and recreational facilities.				
b) *Does the project include recreational facilities, or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*	☒	☐	☐	☐
The Transit Corridors Plan proposes a number of open space improvements, the construction of which could cause significant environmental impacts. Future development under the Transit Corridors Plan would increase demand for recreation facilities. The increased demand may require additional facilities in order to maintain acceptable parkland ratios, the construction of which could cause significant environmental impacts. The EIR will evaluate potential impacts related to parks and recreational facilities.				
XVI. **TRANSPORTATION/TRAFFIC.** *Would the project:*				
a) *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass*	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

transit?

The Transit Corridors Plan is intended to encourage pedestrian activity, public transit use, and trip internalization. The Plan proposes a number of vehicle, transit, bicycle, pedestrian and parking improvements and changes, which are identified in Section 9 (Project Description) above.

Development under the Plan could increase traffic congestion. The EIR will evaluate potential traffic impacts following guidelines of the City and the City/County Association of Governments of San Mateo County (C/CAG). Specifically, the EIR will analyze AM and PM peak hour traffic conditions under existing conditions and 2030 General Plan buildout conditions with and without the project at the following seven intersections and four freeway segments:

- El Camino Real/San Mateo Avenue/Taylor Avenue
- El Camino Real/San Bruno Avenue
- Huntington Avenue/San Bruno Avenue
- San Mateo Avenue/San Bruno Avenue
- San Mateo Avenue/Huntington Avenue
- El Camino Real/Eastbound I-380 Ramps
- El Camino Real/Westbound I-380 Ramps
- San Bruno Avenue/Southbound U.S. 101 ramps
- U.S. 101 north of San Bruno Avenue
- U.S. 101 south of San Bruno Avenue
- I-380 east of El Camino Real
- I-380 west of El Camino Real

The Transit Corridors Plan is proposing to realign the El Camino Real/San Mateo Avenue/Taylor Avenue intersection as two separate intersections (El Camino Real/San Mateo Avenue and El Camino Real/Taylor Avenue). The EIR will analyze both the proposed configuration and an alternative configuration where the El Camino Real/Taylor Avenue intersection has full access.

The Transit Corridors Plan is considering a reduction in the number of travel lanes on San Bruno Avenue from four travel lanes to two in order to provide bicycle and other pedestrian amenities. Roadway narrowing, commonly called a "road diet," has the benefit of providing enhanced access and mobility for pedestrians, bicyclists, and transit users, as well as motorists. The EIR will analyze conditions with and without the road diet.

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
	The EIR will also analyze four intersections preliminarily considered for roundabouts in the Transit Corridors Plan: 1. San Bruno Avenue/Elm Avenue 2. San Bruno Avenue/Huntington Avenue 3. San Bruno Avenue/San Mateo Avenue 4. Huntington Avenue/San Mateo Avenue The EIR will also analyze the effect of the project on transit, bicycle and pedestrian facilities in terms of conflicts with existing or planned facilities or creation of hazardous conditions.				
b)	*Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?* See item XVI.a above.	☒	☐	☐	☐
c)	*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?* The Transit Corridors Area is located within approximately two miles of the San Francisco International Airport. The Transit Corridors Plan would not result in any change in air traffic patterns. The project would have no impact on air traffic patterns. This issue will not be discussed further in the EIR.	☐	☐	☐	☒
d)	*Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?* See item XVI.a above.	☒	☐	☐	☐
e)	*Result in inadequate emergency access?* Traffic from future development under the Transit Corridors Plan could create additional traffic congestion and thereby potentially interfere with an existing emergency response plan or emergency evacuation plan. Transportation improvements provided for in the Plan may have a beneficial impact on emergency response plans or emergency evacuation plans. This issue will be evaluated in the EIR.	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) *Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?*	☒	☐	☐	☐

See item XVI.a above.

XVII. **UTILITIES AND SERVICE SYSTEMS.** *Would the project:*

a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*	☒	☐	☐	☐

San Bruno's wastewater is treated at the South San Francisco-San Bruno Water Quality Control Plant located in South San Francisco. The 2008 San Bruno General Plan Draft EIR found that the city's total wastewater treatment demand under General Plan buildout would amount to approximately 3.1 million gallons per day (mgd), or one-third of its available dry weather capacity and that wet weather flows may exceed its unofficial wet weather capacity. Planned upgrades to the City's older sewer system are anticipated to reduce wet weather flows. The Transit Corridors Plan would result in up to 1,610 additional dwelling units, 147,700 additional square feet of retail uses, 988,100 additional square feet of office uses, and 190 additional hotel rooms within the Transit Corridors Area by 2030, which exceeds the amount of development provided for in the City's General Plan. The EIR will evaluate potential wastewater treatment capacity impacts.

b) *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?*	☒	☐	☐	☐

The Transit Corridors Plan would result in up to 1,610 additional dwelling units, 147,700 additional square feet of retail uses, 988,100 additional square feet of office uses, and 190 additional hotel rooms within the Transit Corridors Area by 2030. As shown in Table 1 in Section 9 (Project Description) above, this amount of development exceeds the amount provided for in the City's General Plan. Future development under the Transit Corridors Plan would generate an estimated additional water supply demand of 80,330 gallons per day (gpd), an estimated additional wastewater

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

generation 144,170 gpd, and an estimated increase in stormwater runoff of 8.76 cubic feet per second (cfs).

The City's Water, Wastewater, and Drainage Master Plans identified deficiencies in the existing water distribution facilities, and wastewater and drainage collection and transmission facilities, within the Transit Corridors Area. Future development within the Transit Corridors Area under the Plan would require substantial upgrades to the existing water and wastewater facilities in the area, as well as less substantial drainage improvements. The needed improvements have been identified in the City's existing Water, Wastewater, and Drainage Master Plans. The construction of these facilities would generally occur within existing developed areas and street rights-of-way, but could nonetheless potentially result in significant environmental effects. The EIR will evaluate the potential impacts on water supply, storage and distribution facilities; wastewater collection, transmission and treatment facilities; and stormwater drainage facilities.

c) *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?*	☒	☐	☐	☐

See item XVII.b above.

d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*	☒	☐	☐	☐

The City of San Bruno derives approximately half of its water supply from groundwater wells within the city. The source aquifer for these supply wells is the deep San Mateo Aquifer within the Westside Basin. Future development within the Transit Corridors Area, and throughout San Bruno and surrounding communities that rely on Westside Basin groundwater supplies, has the potential to lower groundwater levels in the aquifer. The City and the San Francisco Public Utilities Commission are investigating the possibility of a conjunctive use program. The amount of development within the Transit Corridors Area under the Plan exceeds the amount provided for in the City's General Plan. The EIR will evaluate potential water supply impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*	☒	☐	☐	☐
See item XVII.a above.				
f) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*	☒	☐	☐	☐
Future development under the Transit Corridors Plan would generate additional solid waste. San Bruno's solid waste is disposed of at the Ox Mountain Landfill located in unincorporated San Mateo County near Half Moon Bay. The landfill is predicted to reach its existing permitted capacity by 2017. The landfill is currently undergoing an expansion that would extend capacity through 2025. The EIR will evaluate potential impacts related to solid waste disposal capacity.				
g) *Comply with federal, state, and local statutes and regulations related to solid waste?*	☐	☐	☒	☐
Future development in accordance with the Transit Corridors Plan would need to comply with and participate in the City's demolition and construction, household and commercial solid waste recycling regulations and programs. The EIR will evaluate this issue.				
XVIII. **MANDATORY FINDINGS OF SIGNIFICANCE.**				
a) *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?*	☒	☐	☐	☐
Pertaining to the quality of the environment, biological resources, and California history/ prehistory, this Initial Study has determined that impacts in the following environmental areas could be significant: aesthetics, air quality, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population/housing, public services,				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
recreation, transportation/traffic, and utilities/service systems.				
b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?* This Initial Study has determined that some project impacts (e.g., air quality, traffic) could be cumulatively considerable. The EIR will evaluate the potential cumulative impacts of the proposed project in conjunction with other pending and anticipated development in San Bruno.	☒	☐	☐	☐
c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?* Project effects identified in this Initial Study as having possible substantial adverse impacts on human beings, either directly or indirectly, include aesthetics, air quality, cultural resources, geology/soils, greenhouse gas emissions, hazards/hazardous materials, hydrology/water quality, land use/planning, noise, population/housing, public services, recreation, transportation/traffic, and utilities/service systems, as described under items I, III, V, VI, VII, VIII, IX, X, XII, XIII, XIV, XV, XVI, and XVII respectively.	☒	☐	☐	☐

NOP Distribution List
San Bruno Transit Corridors Plan

AGENCY

1 Airport Land Use Commission
2 City of Millbrae
3 City of Pacifica
4 City of South San Francisco
5 San Bruno Park School District
6 San Mateo Union High School District
7 San Mateo Community College District
8 Bay Area Air Quality Management District
9 Mosquito Abatement District
10 San Francisco Public Utilities Commission
11 AT&T California
12 California Water Quality Control Board - San Francisco Bay Region
13 San Mateo County Health Services Agency
14 San Mateo County Planning Department
15 San Bruno Chamber of Commerce
16 Housing Leadership Council
17 C/CAG
18 State Clearinghouse
19 San Mateo County Clerk
20 California Department of Transportation
21 ABAG
22 California Department of Fish and Game
23 California Department of HCD
24 Pacific Gas and Electric
25 San Mateo County Parks and Recreation Division
26 San Mateo County Transportation Authority
27 Metropolitan Transportation Commission
28 San Mateo County Flood Control District
29 BART
30 Peninsula Health Care District

APPENDIX 19.3

WATER SUPPLY ASSESSMENT

RESOLUTION NO. 2011 - 80

CERTIFIED COPY

RESOLUTION APPROVING THE WATER SUPPLY ASSESSMENT REPORT FOR THE PROPOSED TRANSIT CORRIDORS PLAN

WHEREAS, SB 610 requires that a water supply and demand analysis (Water Supply Assessment, "WSA") be prepared for a project that is subject to the Environmental Quality Act (CEQA) and that includes more than 500 dwelling units or more than 250,000 square feet of office square feet; and

WHEREAS, adoption of the Transit Corridors Plan Specific Plan is a project subject to the Environmental Quality Act (CEQA), and requires the preparation and consideration of an environmental impact report (EIR) disclosing the potential significant environmental effects of the plan, plan alternatives, and the means by which possible environmental damage may be reduced or avoided; and

WHEREAS, the Project includes more than 500 dwelling units and more than 250,000 square feet of office square feet, which exceeds the development estimates analyzed in the 2009 General Plan Environmental Impact Report and the thresholds for preparation of a WSA. Therefore, pursuant to SB 610, a WSA is required for the Project; and

WHEREAS, the purpose of the Water Supply Assessment is to determine if there is sufficient water to meet the current and planned water demand within the water supplier's service area for the next 20 years, including the water demand associated with the proposed project, during normal and dry years; and

WHEREAS, based on information presented in the June 2011 Water Supply Assessment for the Transit Corridors Plan Specific Plan, and consistent with the 2011 Urban Water Master Plan, it is concluded that the City of San Bruno municipal water system has sufficient water supplies to meet future demand within its service area, including that associated with the Transit Corridors Plan, during normal and dry water years for a 20-year time horizon.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of San Bruno that, based on facts in the staff report and information related to water supply and demand for the City of San Bruno and the Project included in the WSA, the City Council hereby approves Water Supply Assessment for the San Bruno Transit Corridors Specific Plan.

---oOo---

I hereby certify that foregoing **Resolution No. 2011 - 80** was introduced and adopted by the San Bruno City Council at a regular meeting on July 12, 2011, by the following vote following vote:

AYES: Councilmembers: Ibarra, O'Connell, Mayor Ruane

NOES: Councilmembers: None

ABSENT: Councilmembers: None

RECUSED: Councilmembers: Medina, Salazar

CITY OF SAN BRUNO INCORPORATED DEC. 23RD 1914 SAN MATEO CO CAL

Carol Bonner, City Clerk

I hereby certify this to be a full, true and correct copy of the document it puports to be, the original of which is on file in my office.

Dated: 9-13-11

Vicky S Hastia Deputy City Clerk

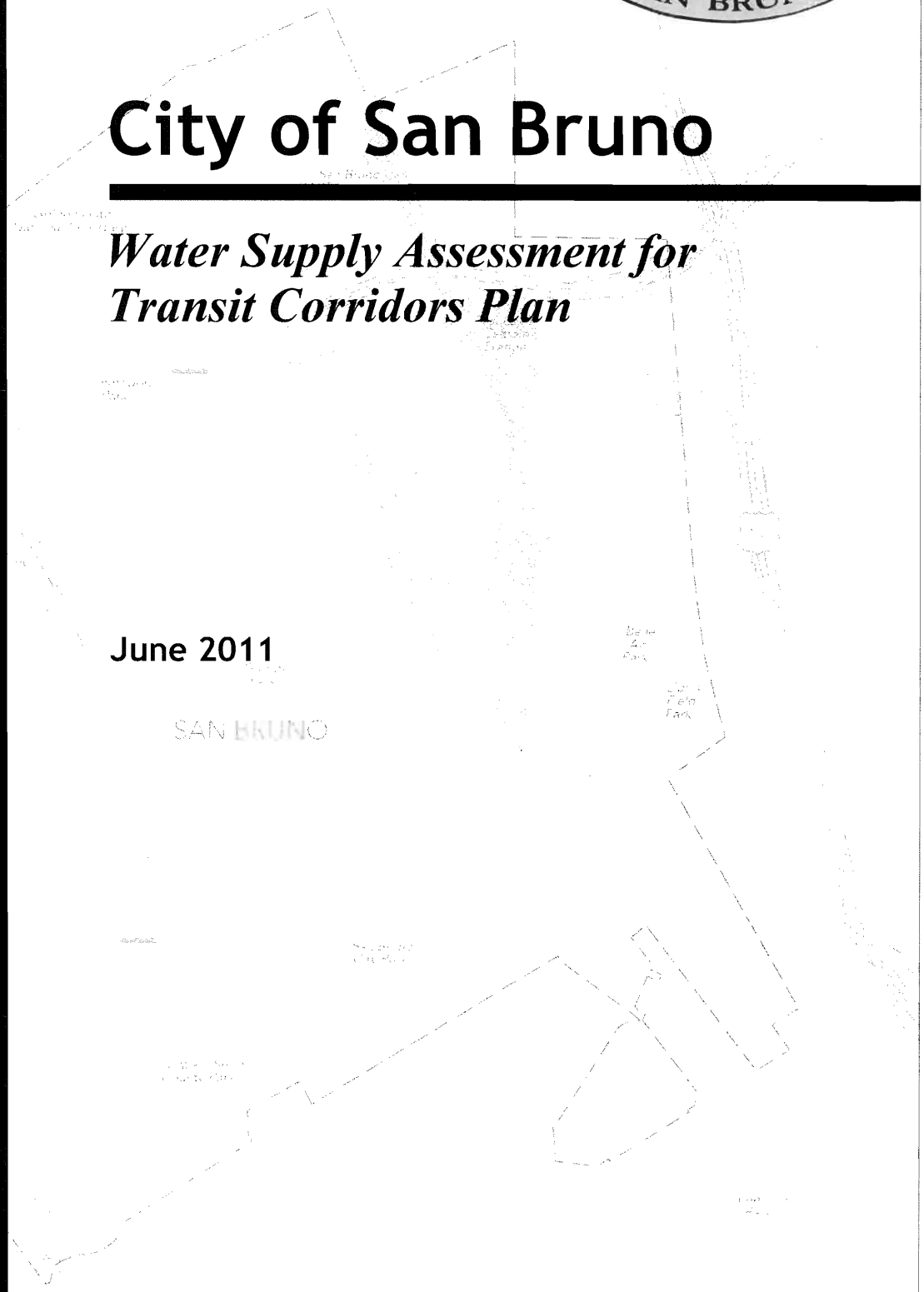
City Clerk of the City of San Bruno

Erler & Kalinowski, Inc.

City of San Bruno

Water Supply Assessment for Transit Corridors Plan

June 2011



Consulting engineers and scientists

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Attachment A – California Water Code Sections 10910-10915

Attachment B – Land Use Based Demand Estimate Methodology Worksheets

1. INTRODUCTION

Erler and Kalinowski, Inc. ("EKI") is pleased to present this water supply assessment ("WSA") for the Transit Corridors Plan ("Project"). The Project will include development of up to 1,610 dwellings units; 147,700 square feet of retail space; 988,100 square feet of office space; 190 hotel rooms and associated landscaping within the Transit Corridor Plan Area (Transit Corridors Area or Project Area). The Transit Corridors Area is shown on Figure 1, and encompasses

- a segment of El Camino Real between Interstate 380 and Crystal Springs Road,
- the Downtown core along San Mateo Avenue between Interstate 380 and El Camino Real,
- a segment of San Bruno Avenue between Highway 101 and Acacia Avenue, and
- a segment of Huntington Avenue between San Bruno Avenue and the San Bruno BART station.

The Transit Corridors Area encompasses parcels fronting onto the identified streets and generally does not include the residential neighborhoods between the corridors. A subset of the proposed Project was included in the City's 2009 General Plan ("General Plan"), which projected development of 720 dwelling units; 321,500 square feet of office space; and 128,600 square feet of retail space within the Transit Corridors Area (City of San Bruno, 2010). The following table shows a breakdown of the Project and the incremental increase in development over the General Plan.

Proposed Development	Total Project	Incremental Increase Over General Plan
Dwelling Unit	1,610	890
Office square footage	988,100	666,600
Retail square footage	147,700	19,100
Hotel Rooms	190	190

Water service within the Project Area is provided by the City of San Bruno (also referred to as the "City", herein).

This WSA outlines the requirements of a WSA pursuant to California Senate Bill 610 and summarizes associated information for the Project. The purpose of a WSA is to determine if there is sufficient water to meet the current and planned water demand within the water supplier's service area for the next twenty years, including the water demand associated with the proposed Project, during normal and dry water years.

The following information related to water supply and water demand for the City of San Bruno and the Project is included in this WSA. This information is based primarily on the California Water Code, ("Water Code") Sections 10910-10915, data from the City, and information specific to the Project (i.e., building size and area of landscaping):

- A summary of the requirements of Senate Bill 610 (as defined in Water Code §10910-10915) and a description of how it applies to the Project;
- A description and analysis of the projected future water demand for the Project out to the year 2035;
- A description and analysis of the historical, current, and projected future water demand for the City of San Bruno out to the year 2035;
- A description and analysis of the current and projected future water supply for the City of San Bruno out to the year 2035; and
- A comparison of the water supply and demand for the City of San Bruno's water service area, including the projected water demand associated with the Project.

The information provided in this WSA, is consistent with the information requested within the California Department of Water Resource's ("DWR's") *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001: To Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, dated 8 October 2003. The text of specific sub-sections of the Water Code has been included in indented and italicized font at the beginning of specific sections of this WSA. The information presented in that section of the WSA and associated tables provide information related to that sub-section of the Water Code. The complete text of Water Code §10910-10915 is included as Attachment A.

2. APPLICABILITY AND PREPARATION OF A WATER SUPPLY ASSESSMENT

2.1. APPLICABILITY OF SENATE BILL 610 TO THE PROJECT

Water Code Section 10910

(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

Water Code Section 10912

For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:
- *(1) A proposed residential development of more than 500 dwelling units.*
- *(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.*
- *(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.*
- *(4) A proposed hotel or motel, or both, having more than 500 rooms.*
- *(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.*
- *(6) A mixed-use project that includes one or more of the projects specified in this subdivision.*
- *(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.*

The Project includes more than 500 dwelling units and more than 250,000 square feet of office square feet. Therefore, pursuant to Water Code §10910(a)(1) and 10912(a)(3), a WSA is required for Project.

2.2. RESPONSIBILITY FOR PREPARATION OF THE WSA

Water Code Section 10910

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

Water for the Project will be supplied by the City of San Bruno municipal water system. As the water supplier for the Project, in accordance with Water Code §10910(b), the City of San Bruno is the entity responsible for the WSA for the Project. However, according to the DWR, a

consultant can prepare and submit material to be used in the WSA for the Project. The water supplier is however ultimately responsible for the WSA and must exercise its independent judgment as it considers whether or not to adopt the WSA.[1]

2.3. RELIANCE ON THE UWMP FOR FUTURE SUPPLY AND DEMAND PROJECTIONS

Water Code Section 10910

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(c) (2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(c) (3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

The City of San Bruno has prepared its 2010 Urban Water Management Plan ("UWMP") and provided a draft for public review (EKI, 2011) ("2010 UWMP"). It is anticipated that this plan will be adopted in June of 2011. In its 2010 UWMP, the City of San Bruno projects future water demand for its water system service area. Water demand projections presented in the 2010 UWMP are estimated on the basis of 2009 Association of Bay Area Governments ("ABAG") population and employment projections for the City of San Bruno. The projections do not specifically quantify water demands associated with the Project and other anticipated development that is contemplated under the existing 2009 General Plan. Pursuant to the requirements of Water Code § 10910(b), this WSA estimates the Project water demand and the water demand associated with existing and planned future uses identified under the City's 2009 General Plan. The projected water demands are compared to those presented in the 2010 UWMP and to the City's total projected water supplies, as identified in the 2010 UWMP.

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[1] From DWR's website, http://www.water.ca.gov/urbanwatermanagement/SB610_SB221, accessed on 23 August 2010:

"Question: Can a consultant/developer prepare the water supply assessment?
Answer: A consultant/developer can prepare and submit material to be used in the water supply assessment, but the water supplier is ultimately responsible for the water supply assessment and must exercise its independent judgment as it considers adoption of the water supply assessment."

3. COMPONENTS OF A WATER SUPPLY ASSESSMENT

Water Code Section 10910

(c) (4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

As listed above in Water Code §10910(c)(4), the primary purpose of a WSA is to demonstrate that a sufficient water supply is available to meet all future demand within the water supplier's service area, including that associated with the Project, during normal and dry hydrologic years for a 20-year time horizon. To complete this assessment, the following information must be included in the WSA:

- The projected water demand associated with the Project at project completion,
- The total water demand projected for the City of San Bruno's service area over the next 20 years, and
- The total projected water supply available to the City of San Bruno over the next 20 years.

4. PROJECT WATER DEMAND

Future water demand associated with the Project will include demands from retail, office, hotel rooms, and residential units. As discussed in Section 1, a subset of the Project was accounted for within the 2009 General Plan, which projected additional development within the Transit Corridors Area. Water demands have been estimated for both the total Project and the incremental development associated with the Project that was not accounted for within the 2009 General Plan ("Project Increment beyond General Plan").

The Project water demand was estimated using two independent methods. These methods are described in detail below and include a (1) land-use based method, and (2) population and employment based method. Both methods were used to project water demand associated with the total Project and the Project Increment beyond the General Plan.

4.1. LAND USE BASED METHOD FOR WATER DEMAND ESTIMATION

Future water demand for the Project was estimated using a land use based demand estimation method. This method utilizes water demand factors for each of the identified land uses included in the Project to estimate future water demand. A description of the methodology is provided below.

4.1.1 Project Description

As discussed in Section 1, the Project will include development of residential dwelling units, retail space, office space, hotel rooms, and associated landscaping within the Project Area. The Project represents an incremental increase over development included within the General Plan. A summary of the Project and the incremental increase in development over the General Plan is summarized below.

Proposed Development	Total Project	Incremental Increase Over General Plan
Dwelling Unit	1,610	890
Office square footage	988,100	666,600
Retail square footage	147,700	19,100
Hotel Rooms	190	190

Development associated with the Project is anticipated to be completed by 2030 Mark Thomas & Co., 2010.

In order to estimate water demands associated with the Project, project specific parameters were obtained from City representatives and from information included within General Plan. Such parameters include:

- anticipated number of people per dwelling unit,
- average housing size,
- average household income,

- extent of use of low –water use fixtures and plantings,
- vacancy rate,
- square feet per office and retail employees.

A summary of these Project parameters is presented in Table 1. As shown on this table, it is anticipated that the Project will utilize water efficient residential and commercial fixtures that are consistent with industry practice and City regulations, including the Green Building Code. Given that Project parameters may change somewhat during the course of the planning process with the City and public, generally conservative assumptions have been made in establishing these parameters relative to projecting Project water demands.

4.1.2 Land Use Demand Factors

EKI developed water demand factors for different land uses included in the Project. These water demand factors are based on separate water demand models for residential indoor water demand, commercial water demand, and landscaping water demand, and are described below.

Residential Indoor Water Demand

Residential indoor water demand factors for the Project were estimated on a "per dwelling unit basis" using the American Water Works Association Research Foundation ("AWWARF") inferential model of residential end use of water (AWWARF, 1999). This model is based on residential housing, demographic, and measured water demand data collected from approximately 1,200 households from twelve cities throughout the United States and Canada. Four of these cities are located within California. AWWARF conducted a statistical analysis of these data and identified housing and demographic data that correlated to indoor water demand. This statistical analysis resulted in a set of mathematical equations to predict residential water demand from housing and demographic inputs.

Project specific inputs to the model and estimated water demand for a typical Project dwelling unit are shown in Table B-1a and B-1b for the total Project and the Project Increment over the 2009 General Plan. As shown on these tables, the estimated water demand factor for a typical Project dwelling unit was estimated to be approximately 108 gallons per day or 0.12 acre-feet per year ("AFY") utilizing this methodology. This estimated water demand factor results in a total Project-wide residential indoor water demand of 194 AFY for the 1,610 proposed Project dwellings units. It results in an incremental increase of 107 AFY for the 890 proposed project dwellings units that represent the Project Increment over the 2009 General Plan.

Indoor Residential Per Capita Water Demand

The average indoor residential per captia water demand for the Project is projected to be 41.9 gallons per capita per day ("gpcd"). The *Handbook of Water Use and Conservation*, ("Handbook") (Vickers, 2001), estimates average indoor single family residential water use at approximately 69 gpcd without water conservation and 45 gpcd with water conservation. However, these estimates represent an average indoor family use for both single family and multi-family units. The Project only includes multifamily units which, on average, use significantly less water (Vickers, 2001).

Commercial Water Demand

Water demand by commercial water customers can consist of a wide variety of end uses, such as restaurant dish washing, water fountains, and mopping large retail floors. Currently, no standard water demand models allow development of Project specific commercial water demand factors. However, general water demand factors are available for various types of commercial accounts based on the square footage of commercial floor space. The Pacific Institute's *Waste Not Want Not: The Potential for Urban Water Conservation in California* (2003) is the primary reference used to estimate Project specific commercial water demand factors.

Based upon the Pacific Institutes' study, indoor commercial water demand factors were developed for office, retail, and restaurant land uses based on Project specific information and assumptions regarding:

- Employee water demand factors – the average amount of water used by an employee during a workday,
- Number of employees per floor area – the density of workers in the commercial area, and
- Conservation savings – reduced water demand from conservation measures not incorporated into employee water demand factors.

Project specific indoor commercial water demand factors are presented in Tables B-2a and B-2b for the total Project and the incremental increase. These factors and projected commercial land uses within the Project (i.e., 147,700 square feet of retail, 988,100 square feet of office, and 190 hotel rooms, result in a total estimated Project commercial demand of 181 AFY and an incremental increase in commercial demand over the 2009 General Plan of 114 AFY.

Landscaping Water Demand

Landscaping water demand factors for both residential and commercial land use within the Project were estimated using an irrigation model developed by the University of California Cooperative Extension and the California Department of Water Resources ("UCCE/DWR"; 2000). The model uses local climate data and information regarding plant evapotranspiration rates and anticipated irrigation efficiencies to estimate water use factors for landscaping on a "per acre basis" by "plant type". The landscaping at the Project site will comply with the City's regulations regarding water conservation in landscaping.

It is anticipated that two general types of plantings will be utilized within landscaped areas of the Project, these include: (1) low-water use plantings that consist of shrubs and native vegetation,

and (2) high-water use plantings that consist of turf grasses and trees. As shown in Table B-3, estimated Project water use factors for low-water use plantings are approximately 1.9 AFY per acre, and estimated Project water use factors for high-water use plantings are approximately 4.1 AFY per acre. These water use factors reflect landscaping conditions for established vegetation. Additional water use will be necessary during for the first two to three years to establish vegetation at the Project site.

Based on these water demand factors and anticipated irrigated landscaping acreage, total landscaping water demand for the Project is estimated to be approximately 12 AFY. The estimated incremental increase in outdoor demand over the 2009 General Plan is approximately 7 AFY. The data and basis for these estimates are provided in Tables B-4a and B-4 b, respectively.

4.1.3 Summary of Land Use Based Water Demand Estimate

As shown in Table 2, the total Project water demand is estimated to be 423 AFY (0.38 million gallons a day "MGD") based upon the land use methodology described above. The water demand associated with the incremental increase in development over the General Plan is estimated to be 249 AFY (0.22 MGD) based on this methodology. The estimates incorporate anticipated water losses (i.e., unaccounted for water), which are assumed to equal 8.5% of the projected water use. This percentage is consistent with the City's system wide average unaccounted water use rate, as reported in the 2010 UWMP.

4.2. Population and Employment Based Method for Water Demand Estimation

Project water demands were also estimated utilizing the Demand Management Decision Support System Model ("DSS Model") that was developed by the Bay Area Water Supply Conservation Agency ("BAWSCA"), for its member agencies. San Bruno it one of BAWSCA's 26 member agencies[2]. The DSS Model utilizes population and employment projections to estimate future water demands and was used to estimate future water demands for each of the BAWSCA member agencies as part of the Water Conservation Implementation Plan ("WCIP") (BAWSCA, 2009). The DSS Model estimates both total water demands, before and after plumbing code savings (i.e., water savings associated with the change out of old plumbing fixtures with new, more water efficient fixtures) and uses the year 2001 as the "base year" from which to project future demands.[3] It also incorporates estimates of water lost from system leaks (i.e., unaccounted for water) in its water demand projections (i.e., assumed to equal 8.5% of total water use in San Bruno). It continues to be utilized by many of the member agencies to estimate future water demands and was utilized by the City of San Bruno in its 2010 UWMP to estimate

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[2] BAWSCA is the agency that, among other responsibilities, represents San Bruno and the 25 other cities, water districts, and utilities in negotiations with SFPUC.

[3] Developers of the DSS Model developers considered 2001 as representative of a normal year, where precipitation is approximately average, and not significantly above or below.

the City's future water demands based upon ABAG (2009) population and employment projections[4].

In order to utilize the DSS model, increases in population and employment projections associated with the Project were estimated based upon anticipated development parameters identified in the General Plan, which are presented in Table 3. Based upon these population and employment projections, the DSS model projected (a) total water demand for the Project at 470 AFY (0.42 MGD) and (b) water demand associated with the incremental increase in development over the General Plan at 270 AFY (0.24 MGD) (see Table 4). These values are approximately 10% higher than those estimated on the basis of land-use based methodology (see Table 5).

4.3. ESTIMATED PROJECT WATER DEMAND

Project water demands estimated on the basis of the land-use based and population and employment based methods are summarized in Table 5. As shown on this table, the values are similar (i.e., vary by less than 10%). Although it is believed that the land-use based methodology is likely more accurate, as it takes into account more Project specific parameters, the higher values developed utilizing the DSS model have been used in this WSA to represent Project water demands. As such, the total Project water demand is estimated to be 0.42 MGD (470 AFY) and the water demand associated incremental increase in development beyond General Plan is 0.24 for MGD (270 AFY). These values incorporate anticipated water losses (i.e., unaccounted for water), which is assumed to equal 8.5% of total projected water use. This percentage is consistent with the City's system wide average unaccounted water use rate, as reported in the 2010 UWMP. The values are considered to be conservative and represent the upper end of the range of potential future water demand for the Project.

[4] The original DSS Model developed for the WCIP had assumed 85% of the total water demand from single family residential ("SFR") accounts within San Bruno was associated with indoor water use. The City believes that this estimate of indoor water use is too high for SFR and utilized instead a value of 75% for the total indoor water consumption for SFR. The same assumption was made when utilizing the DSS model for projecting demands as part of this WSA.

5. CITY OF SAN BRUNO WATER DEMAND

5.1. EXISTING CITY WATER DEMAND

Water demand for the City of San Bruno is reported as the sum of the measured water demand within the City ("water demand"), and "unaccounted for water." "Unaccounted for water" is defined herein as the difference between the City's customers' metered use and the City's metered supply. Thus, unaccounted for water includes apparent losses such as customer metering inaccuracies, real losses such as distribution main leakage, and authorized unmetered uses such as fire hydrant flow testing.

Water demand within the City of San Bruno is measured using water meters that are installed at each customer account. Records of current and historical water demand at each account are maintained by the City Public Works Department. Based on City water demand records from 2005-06 through 2009-10, unaccounted for water within the City's service area ranged between approximately 7 percent and 11 percent of the City's total water demand. Unaccounted for water data from 2006-07 appears to be erroneous and were ignored. A summary of the City's annual metered water demand and "unaccounted for water" use between 2005-06 and 2009-10 is presented in Table 6. Current baseline water demand in the City of San Bruno is estimated to be approximately 3.79 MGD. This estimate is based on an average of data collected during the years 2005-06 through 2009-10, which the City of San Bruno believes to be most representative of current City-wide water demands, as water demand during other more recent years (e.g., 2009-10) has been artificially depressed due to unfavorable macroeconomic conditions.

5.2. FUTURE PROJECTED CITY WATER DEMAND

5.2.1 Projected City Water Demand based on General Plan

Future water demand in the City of San Bruno's service area, in the absence of the Project, was estimated on the basis of population and employment projections identified within the 2009 General Plan. These projections indicate that the City's population may grow up to 47,374 by 2025 and that employment (i.e., jobs) within the City may grow to 22,392 by 2025 under the General Plan. When averaged over the buildout period assumed with the General Plan (i.e., 2010 to 2025) these projections represent a population growth of 2.3 percent per year and employment growth of 19.5 % every 5 years. Given that no City planning documents exist that predict growth beyond 2025, these growth rates have conservatively been assumed to continue into the future (i.e., through 2035) for the purposes of projecting the City's water demand in 2035. These assumed growth rates result in a total projected City population of 51,840 and employment of 33,372 by 2035. Projected water demands associated with these projected population and employment increases, which are based on the General Plan, were estimated utilizing the DSS model and are presented in 5 year increments in Table 7. Based on these projections, the estimated water demand in the City in 2035 will be 4.89 MGD.

5.2.2 Projected City Water Demand including the Project

As discussed in Section 4 and presented in Table 3, the Project is anticipated to increase the City's population and employment (i.e., beyond that projected in the General Plan) by up to

2,287 people and 2,249 jobs respectively. In order to project the City's total future water demand including the Project, the General Plan population and employment growth projections discussed above (i.e., included in Table 7) were augmented to include the incremental values associated with the Project. The incremental population and employment increases associated with the Project were assumed to occur between 2015 and 2030, and were linearly distributed over this time period. Based upon these estimates, the City's water demand including the Project is estimated to be 5.13 MGD by 2035.

5.2.3 Comparison to Water Demand Projections included in 2010 UWMP

As shown on Table 7, projected City water demands that incorporate the Project are very similar to those projected in the UWMP, which were based on 2009 ABAG population and employment projections. The detailed breakdown in water demands provided in this WSA demonstrates that more generalized demand projections included within the 2010 UWMP effectively incorporate the Project. Therefore, conclusions presented in the 2010 UWMP regarding the sufficiency of the City's water supplies to meet future demands during normal and dry years can be relied upon to demonstrate that the City's water supplies are sufficient to meet the demands of the Project and other projected City water demands over the next 20 years. Further information regarding the nature and sufficiency of the City's water supplies to meet the City's projected water demands are presented in Sections 6 and 7 below.

6. CITY OF SAN BRUNO WATER SUPPLY

San Bruno receives water from three supply sources: wholesale surface water from the SFPUC Regional Water System ("Regional System"), retail surface water purchased from NCCWD, and local groundwater from the Westside Basin. The City's wholesale water supply is delivered through the Regional System, originating from the Tuolumne River and the Alameda County and Peninsula watersheds. Water from SFPUC is purchased in accordance with the 2009 Water Supply Agreement ("Water Supply Agreement").[5] Water purchased from the NCCWD is also from the Regional System, but is served directly from NCCWD, and is used exclusively to meet the demands of the Treetop Apartments, located in Pressure Zone 13. Local groundwater is from the southern Westside Basin, which is used by the cities of San Bruno, Daly City, South San Francisco.[6]

The following sections describe each of these sources and quantify the historical, current, and projected availability of water from each source. The information presented is based in its entirety on information presented in the 2010 UWMP. A summary of the City's projected future supplies during normal and wet years is presented in Table 8. A discussion regarding the reliability of these supplies and projected reductions during single and dry years is presented in Section 7 of the 2010 UWMP.

6.1. SFPUC WHOLESALE WATER

Water Code Section 10910

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

Consistent with Water Code Section 10910 (d) (1) This section describes the sources of wholesale water provided by SFPUC, the process for sharing water between SFPUC, BAWSCA, and wholesale customers.

6.1.1 Description of Wholesale Water Supply System

Approximately 85% of the SFPUC water supply originates in the Hetch Hetchy watershed, located in Yosemite National Park, and runs down the Tuolumne River into the Hetch Hetchy Reservoir. The remaining 15% of SFPUC's water is produced in the Alameda and Peninsula watersheds and stored in six different reservoirs in Alameda and San Mateo Counties. Details of the various components of the Regional System are provided below. Information on the Hetch Hetchy, Alameda, and Peninsula water systems is from SFPUC and BAWSCA websites. The

[5] "Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County", July 2009.
[6] The northern portion of the Westside Basin is managed by SFPUC.

following language was provided by BAWSCA. Other text provided by BAWSCA is also shaded in grey:

> San Bruno receives water from the City and County of San Francisco's Regional Water System (RWS), operated by the San Francisco Public Utilities Commission (SFPUC). This supply is predominantly from the Sierra Nevada, delivered through the Hetch Hetchy aqueducts, but also includes treated water produced by the SFPUC from its local watersheds and facilities in Alameda and San Mateo Counties.
>
> The amount of imported water available to the SFPUC's retail and wholesale customers is constrained by hydrology, physical facilities, and the institutional parameters that allocate the water supply of the Tuolumne River. Due to these constraints, the SFPUC is very dependent on reservoir storage to firm-up its water supplies.
>
> The SFPUC serves its retail and wholesale water demands with an integrated operation of local Bay Area water production and imported water from Hetch Hetchy. In practice, the local watershed facilities are operated to capture local runoff

Hetch Hetchy Watershed & System

The Hetch Hetchy system is supplied by runoff from the upper Tuolumne River watershed on the western slope of the central Sierra Nevada. Three major reservoirs collect runoff: Hetch Hetchy Reservoir; Lake Lloyd; and Lake Eleanor. Storage space in New Don Pedro Reservoir is integrated into system operations. New Don Pedro Reservoir is owned by the Modesto and Turlock Irrigation Districts and is located on the Tuolumne River downstream of the Hetch Hetchy System. Water is diverted from Hetch Hetchy Reservoir into a series of tunnels and aqueducts from the Sierra Nevada to the San Joaquin Pipelines that cross the San Joaquin Valley to the Coast Range Tunnel which connects to the Alameda system at the Alameda East Portal. Water stored in Hetch Hetchy reservoirs is also used for hydroelectric generation and released downstream to satisfy instream flow requirements.

Normally only Hetch Hetchy reservoir supplies water for municipal and industrial uses. Releases from Lake Eleanor and Lake Lloyd are used to satisfy instream flow requirements, satisfy downstream obligations, and produce hydroelectric power. Water stored in New Don Pedro Reservoir is credited to San Francisco's water bank account to allow diversions upstream and is also used to meet fishery water requirements on the lower Tuolumne River under the Federal Energy Regulatory Commission license held by the Modesto and Turlock Irrigation Districts.

Runoff from the protected, high altitude, granitic watershed upstream of Hetch Hetchy is of relatively high water quality. The quality of water provided from Hetch Hetchy Reservoir has been sufficient to support an exemption from filtration requirements from the United States Environmental Protection Agency. Consequently, Hetch Hetchy water normally is not filtered prior to delivery.

Alameda System

The Alameda System includes conveyance facilities connecting the Hetch Hetchy system and Alameda water sources to the Peninsula System. These conveyance facilities include pipelines known as the Alameda Creek Siphons that connect the Coast Range Tunnel to the Irvington

Tunnel. The Irvington Tunnel supplies the four Bay Division Pipelines that cross the South Bay Area to the Peninsula System. Bay Division Pipelines 1 and 2 cross the Bay near the Dumbarton Bridge. Bay Division Pipelines 3 and 4 traverse the southerly edge of the Bay delivering water to SFPUC customers along the way. All four pipelines reconnect near the inlet to the Pulgas Tunnel on the Peninsula. The Alameda System includes two reservoirs, San Antonio Reservoir and Calaveras Reservoir, which collect water from the upper Alameda Creek watershed in Alameda County. The Sunol Valley Water Treatment Plant filters and disinfects water supplied from San Antonio and Calaveras Reservoirs in the Alameda watershed. Water from the Sunol Water Treatment Plant comprises approximately 15 percent of total water delivered to the Bay Area.

A turnout from the South Bay Aqueduct of the California State Water Project can supply limited supplemental water to San Antonio Reservoir. However, SFPUC possesses no entitlements to water to be delivered from the State Water Project.

Peninsula System

The Peninsula System includes conveyance facilities connecting the Bay Division Pipelines to San Francisco's in-City distribution system and to other SFPUC customers on the Peninsula. Two reservoirs, Crystal Springs and San Andreas, collect runoff from the San Mateo Creek watershed. Water from Pilarcitos Reservoir, on Pilarcitos Creek, serves the Coastside County Water District (which includes Half Moon Bay) directly and can also deliver water to Crystal Springs and San Andreas Reservoirs. Water delivered from the Bay Division Pipelines in excess of Peninsula System and San Francisco in-City demands spills into Crystal Springs and San Andreas Reservoirs.

The Harry Tracy Water Treatment Plant ("HTWTP") filters and disinfects water supplied from Crystal Springs and San Andreas Reservoirs before it is delivered to Peninsula customers and San Francisco's in-City distribution system. Under normal conditions, the City receives its water supply via the San Andreas Pipeline from the HTWTP, located in the adjacent City of Millbrae. SFPUC provides water from the HTWTP through three pressure reducing valves within the San Andreas Pipeline that open during high use periods (i.e., lower pressure) allowing water from HTWTP to flow into the City. San Bruno also has a turnout from SFPUC's Sunset Supply pipeline, which carries water directly from Hetch Hetchy, that is used only for emergency purposes.

6.1.2 Water Conservation Implementation Plan[7]

In September 2009, BAWSCA completed the Water Conservation Implementation Plan (WCIP). The goal of the WCIP is to develop an implementation plan for BAWSCA and its member agencies to attain the water efficiency goals that the agencies committed to in 2004 as part of the Program Environmental Impact Report (PEIR) for the Water System Improvement Program (WSIP) which is further described in Section 6.1.5. The WCIP's goal was expanded to include identification of how BAWSCA member agencies could use water conservation as a way to continue to provide reliable water supplies to their

[7] Grey text provided by BAWSCA

customers through 2018 given the SFPUC's 265 million gallons per day (MGD) Interim Supply Limitation. The SFPUC imposed the Interim Supply Limitation on October 31, 2008, to limit the volume of water that the BAWSCA member agencies and San Francisco can collectively purchase from the RWS to 265 MGD until at least 2018.

Based on the WCIP development and analysis process, BAWSCA and its member agencies identified five new water conservation measures, which, if implemented fully throughout the BAWSCA service area, could potentially save an additional 8.4 MGD by 2018 and 12.5 MGD by 2030. The demand projections for the BAWSCA member agencies, as transmitted to the SFPUC on June 30, 2010, indicate that collective purchases from the SFPUC will stay below 184 MGD through 2018 as a result of revised water demand projections, the identified water conservation savings, and other actions.

Several member agencies have elected to participate in the BAWSCA regional water conservation programs and BAWSCA continues to work with individual member agencies to incorporate the savings identified in the WCIP into their future water supply portfolios with the goal of maintaining collective SFPUC purchases below 184 MGD through 2018.

6.1.3 2009 Water Supply Agreement[8]

The business relationship between San Francisco and its wholesale customers is largely defined by the "Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County" entered into in July 2009 (Water Supply Agreement). The new Water Supply Agreement replaced the Settlement Agreement and Master Water Sales Contract that expired June 2009. The Water Supply Agreement addresses the rate-making methodology used by the City in setting wholesale water rates for its wholesale customers in addition to addressing water supply and water shortages for the RWS. The Water Supply Agreement has a 25 year term.

In terms of water supply, the Water Supply Agreement provides for a 184 million gallon per day (MGD, expressed on an annual average basis) "Supply Assurance" to the SFPUC's wholesale customers, subject to reduction, to the extent and for the period made necessary by reason of water shortage, due to drought, emergencies, or by malfunctioning or rehabilitation of the regional water system. The Water Supply Agreement does not guarantee that San Francisco will meet peak daily or hourly customer demands when their annual usage exceeds the Supply Assurance. The SFPUC's wholesale customers have agreed to the allocation of the 184 MGD Supply Assurance among themselves, with each entity's share of the Supply Assurance set forth on Attachment C to the Water Supply Agreement. The Supply Assurance survives termination or expiration of the Water Supply Agreement and this agency's Individual Water Sales Contract with San Francisco.

The Water Shortage Allocation Plan between the SFPUC and its wholesale customers, adopted as part of the Water Supply Agreement in July 2009, addresses shortages of up to 20% of system-wide use. The Tier 1 Shortage Plan allocates water from the RWS between San Francisco Retail and the wholesale customers during system-wide shortages of 20% or less. The Water Supply Agreement also anticipated a Tier 2

[8] Grey text provided by BAWSCA

Shortage Plan adopted by the wholesale customers which would allocate the available water from the RWS among the wholesale customers.

6.1.4 Individual Supply Guarantees[9]

In 2009, San Bruno, along with 25 other Bay Area water suppliers signed a Water Supply Agreement with San Francisco, supplemented by an individual Water Supply Contract. These contracts, which expire in 25 years, provide for a 184 million gallon a day (MGD, expressed on an annual average basis) Supply Assurance to the SFPUC's wholesale customers collectively. San Bruno's Individual Supply Guarantee (ISG) is 3.25 MGD (or approximately 2,900 acre feet per year). Although the Water Supply Agreement and accompanying Water Supply Contract expire in 2034, the Supply Assurance (which quantifies San Francisco's obligation to supply water to its individual wholesale customers) survives their expiration and continues indefinitely, as noted above in Section 6.1.3.

6.1.5 Water System Improvement Program

In order to enhance the ability of the SFPUC water supply system to meet identified service goals for water quality, seismic reliability, delivery reliability, and water supply, the SFPUC has undertaken the Water System Improvement Program (WSIP), approved October 31, 2008. The WSIP will deliver capital improvements aimed at enhancing the SFPUC's ability to meet its water service mission of providing high quality water to customers in a reliable, affordable and environmentally sustainable manner. Many of the water supply and reliability projects evaluated in the WSIP were originally put forth in the SFPUC's Water Supply Master Plan (2000).

A Program Environmental Impact Report (PEIR) was prepared in accordance with the California Environmental Quality Act for the WSIP. The PEIR, certified in 2008, analyzed the broad environmental effects of the projects in the WSIP at a program level and the water supply impacts of various alternative supplies at a project level. Individual WSIP projects are also undergoing individual project specific environmental review as required.

In approving the WSIP, the Commission adopted a Phased WSIP Variant for water supply that was analyzed in the PEIR. This Phased WSIP Variant established a mid-term water supply planning milestone in 2018 when the Commission would reevaluate water demands through 2030. At the same meeting, the Commission also imposed the Interim Supply Limitation which limits the volume of water that the member agencies and San Francisco can collectively purchase from RWS to 265 MGD until at least 2018. Although the Phased WSIP Variant included a mid-term water supply planning milestone, it did include full implementation of all proposed WSIP facility improvement projects to insure that the public health, seismic safety, and delivery reliability goals were achieved as soon as possible.

As of July 1, 2010, the WSIP was 27% complete overall with the planning and design work over 90% complete. The WSIP is scheduled to be completed in December 2015.

Locations of the various capital improvement projects which comprise the WSIP are presented in the 2011 UWMP.

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[9] Grey text provided by BAWSCA

6.1.6 2018 Interim Supply Limitation[10]

As part of its adoption of the Water System Improvement Program (WSIP) in October 2008, discussed separately herein, the Commission adopted a water supply element, the Interim Supply Limitation (ISL), to limit sales from San Francisco Regional Water System (RWS) watersheds to an average annual of 265 million gallons per day (MGD) through 2018. The wholesale customers' collective allocation under the ISL is 184 MGD and San Francisco's is 81 MGD. Although the wholesale customers did not agree to the ISL, the Water Supply Agreement provides a framework for administering the ISL.

BAWSCA has developed a strategy to address each of its member agencies' unmet needs flowing from the ISL through its Water Conservation Implementation Plan and the Long-term Reliable Water Supply Strategy, separately addressed herein.

6.1.7 Interim Supply Allocations

The Interim Supply Allocations (ISAs) refers to each individual wholesale customer's share of the ISL. On December 14, 2010, the Commission established each agency's ISA through 2018. In general, the Commission based the allocations on the lesser of the projected fiscal year 2017-18 purchase projections or Individual Supply Guarantees. The ISAs are effective only until December 31, 2018 and do not affect the Supply Assurance or the Individual Supply Guarantees, both discussed separately herein. San Francisco's Interim Supply Allocation is 81 million gallons per day (MGD)

San Bruno's ISA is 2.65 MGD.

As stated in the Water Supply Agreement, the wholesale customers do not concede the legality of the Commission's establishment of the ISAs and Environmental Enhancement Surcharge, discussed below, and expressly retain the right to challenge either or both, if and when imposed, in a court of competent jurisdiction.

6.1.8 Environmental Enhancement Surcharge[11]

The Commission plans to establish the Environmental Enhancement Surcharge concurrently with the budget-coordinated rate process. This surcharge will be unilaterally imposed by SFPUC on individual wholesale customers, and SFPUC retail customers, when each agency's use exceeds their Interim Supply Allocation and when sales of water to the wholesale customers and San Francisco retail customers, collectively, exceeds the Interim Supply Limitation of 265 MGD.

The SFPUC is in the process of developing the methodology and amount of this volume-based charge. The Environmental Enhancement Surcharge will become effective beginning fiscal year 2011-12.

6.1.9 Historical Wholesale Water Supply

San Bruno has historically used SFPUC regional water to meet demands that could not otherwise be met through local groundwater production. Between FY 2005-06 and 2009-10, an average of 1.85 MGD, or 50% of the City's total supply, was purchased as part San Bruno's SFPUC

[10] Grey text provided by BAWSCA
[11] Grey text provided by BAWSCA

purchases. San Bruno's historical wholesale water purchases for the FY 2005-06 through FY 2009-10 are listed in Table 9.

6.1.10 Projected Wholesale Water Supply

As described previously, San Bruno has an ISG of 3.25 MGD of water during normal or wet years. The quantity of water that San Bruno purchases from SFPUC in the future, however, depends on the City's future water use and the availability and reliability of groundwater supplies (see Section 5.2 and Section 6.3). While the City is taking measures to protect the quality of the Westside Basin Aquifer, in the event that groundwater supplies are not available in the future, San Bruno plans to shift its supply from groundwater to wholesale water purchased through the SFPUC regional system. The supplies that SFPUC has estimated to be available for 2014-15, 2019-20, 2024-25, 2029-30, and 2034-35 are listed in Table 8.

6.2. NORTH COAST COUNTY WATER DISTRICT WATER WHOLESALE WATER

San Bruno purchases approximately 0.05 MGD of water from the NCCWD (Table 9). This water is served from the Crystal Springs turnout in Pressure Zone 13. San Bruno does not anticipate any changes to its NCCWD water supply in the near future.

6.3. GROUNDWATER

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed

project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

San Bruno operates multiple productions wells that extract groundwater from the central portion of the 40 square mile Westside Groundwater Basin (Westside Basin) (i.e., Basin 2-35, as defined by the California Department of Water Resources (DWR)). The City has used groundwater as a source of supply since the early 1900's (Bartell, 1914). On average, from FY 2005-06 through FY 2009-10 groundwater has comprised 50% of San Bruno's total water supply San Bruno.

The following sections provide a description of current management efforts within the Westside Basin, hydrogeology and conditions within the Westside Basin, and San Bruno's historical and projected use of groundwater.

6.3.1 Groundwater Management

In 1996, San Bruno, Daly City, SFPUC, and other stakeholders ("the Westside Partners") received an Assembly Bill 3030 ("AB3030") grant to develop a Groundwater Management Plan ("GWMP") to aid in managing groundwater use within the Westside Basin.[12] A draft of the GWMP for the Westside Basin was completed in 1999 as a series of Technical Memoranda. Although not adopted by the cities due to data gaps and other concerns at the time, the cities and water purveyors that overly the Westside Basin have voluntarily implemented much of the recommendations and other aspects of the 1999 plan including (a) a basin-wide monitoring program, (b) saline water intrusion monitoring, (c) a conjunctive use program, (d) a recycled water program for non-potable uses, and (e) source water and wellhead protection program.

In April 2005, SFPUC completed a GWMP for the North Westside Basin (SFPUC, 2005b). This GWMP covers the northern portion of the Westside Basin that is overlain by the City and County of San Francisco, where groundwater generally moves from east to west and most of the water added to the basin discharges to the Pacific Ocean.

In 2006, the City of San Bruno received a grant from DWR's local groundwater assistance fund to develop a GWMP for the southern portion of the Westside Basin, which extends from Daly City to Burlingame (South Westside Basin). Municipalities that overly the South Westside Basin include Daly City, Colma, South San Francisco, San Bruno, Millbrae, and Burlingame.

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[12] The intent of the AB3030 Grant Program (Section 10750 et seq. of the California Water Code) was to encourage local water service agencies to cooperatively manage groundwater resources within their jurisdictions. As such, AB3030 provides a systematic procedure for development of a GWMP, which is intended to include guidelines for groundwater basin extraction, recharge, conveyance, and quality.

Groundwater within this portion of the basin generally flows toward pumping centers within Daly City, San Bruno and South San Francisco. The diversion of groundwater flow toward these pumping centers effectively creates a groundwater divide between the northern and southern portions of the DWR-defined Westside Basin.

Although the South Westside Basin GWMP is largely being funded by the DWR grant, additional funding is being provided by the California Water Service Company, City of Daly City, City of San Bruno, and the San Francisco Public Utilities Commission ("SFPUC"). It is being developed to provide a framework for regional groundwater management in the South Westside Basin that sustains the beneficial use of the groundwater resource. This includes informing the public of the importance of groundwater to the South Westside Basin and the challenges and opportunities it presents; developing consensus among stakeholders on issues and solutions related to groundwater; building relationships among stakeholders within the basin and between state and federal agencies; and defining actions for developing programs to ensure the long-term sustainability of groundwater resources in the South Westside Basin. The Plan will also provide recommendations that are intended to manage groundwater levels and quality as well as land subsidence. The goal of the GWMP is to ensure a sustainable, high-quality reliable water supply at a fair price for beneficial uses achieved through local groundwater management.

Numerous public hearings addressing the plan have occurred and an advisory committee consisting of agencies and key stakeholders has been formed. Meetings with advisory committee members have been held from mid 2009 through early 2011 to coordinate stakeholder input and incrementally build the GWMP. Entities represented on the advisory committee include BAWSCA, City of Brisbane, City of Burlingame, CWSC DWR, Cemeteries, Town of Colma, City of Daly City, RWQCB, City of San Bruno, SFPUC, City of South San Francisco, and other interested citizens. The South Westside GWMP is scheduled to be completed in 2011. A March 2011 draft of the South Westside GWMP has been circulated to the advisory committee members for review. Information presented in the March 2011 draft GWMP has been used herein to characterize and provide the most current understanding of the South Westside Basin (RMC, 2011).

6.3.2 Groundwater Basin Description

San Bruno overlies the central portion of the 40 square mile Westside Groundwater Basin (Westside Basin), Basin 2-35, as defined by the California Department of Water Resources (DWR)[13]. The Westside Basin consists of unconsolidated colluvium that was deposited in a northwest trending trough in the underlying impervious bedrock. The Westside Basin is bounded by bedrock highs in Golden Gate Park to the north and at Coyote Point to the south (Rogge, 2003; Yates, 2003a; DWR, 2003). San Bruno Mountain and San Francisco Bay form the eastern boundary of the Basin while the Serra Fault[14] and the Pacific Ocean form the western

[13] A description the Westside Basin provided in California's Bulletin 118 was updated in 2006. In this update, DWR states that not enough data exists presently to provide either an estimate of the Westside Basin's groundwater budget or the groundwater extraction from the basin. Additional references, as identified herein, have been reviewed and used to evaluate the conditions within the basin.

[14] The Serra Fault is a series of thrust faults parallel to the San Andreas Fault in the Coast Ranges (Rogge, 2003).

boundary (Rogge, 2003; Yates, 2003a; DWR, 2003). Adjoining groundwater basins are the Lobos Basin to the North and the San Mateo Plain Aquifer to the South.

As discussed above, the Westside Groundwater Basin has been separated into two distinct areas for management purposes. These two areas have been defined as the North Westside Basin Area and the South Westside Basin Area. San Bruno is located within the South Westside Basin Area. Further discussion regarding aquifer conditions in the South Westside Basin are provided below.

Aquifer Conditions and Properties of the South Westside Basin

The Merced Formation and Colma Formation are the major unconsolidated units in the South Westside Basin and are the primary sources of groundwater. These formations were deposited on top of the Franciscan Formation, which forms the basement underlying these unconsolidated sediments. The deepest portions of the basin are in the northwest. Water bearing formations thin in the areas of Millbrae and Burlingame. Water bearing formations are also thin near San Francisco Bay due to a bedrock ridge that extends in a north-south orientation near San Francisco International Airport. This ridge along with surficial deposits of Bay Muds in these areas reduces the potential for sea water intrusion (RMC, 2011).

Within the two major water bearing zones in the Basin, there are multiple smaller aquifer zones that are delineated vertically by different sand and clay layers within the Merced and Colma formations. As discussed above, the thickness and extent of these interbedded sand and clay layers vary spatially throughout the South Westside Basin.

All of the municipal groundwater extraction wells in San Bruno, South San Francisco, and Daly City are screened in the deeper, confined Merced aquifer where the water quality is better. Shallow wells have been installed within the Colma, typically to monitor groundwater in the vicinity of chemical release sites. Steep downward vertical gradients exist between the unconfined (upper) and confined (deeper) aquifers, but the hydraulic connection between the two aquifers is thought to be limited (Yates, 2003a; Luhdorff & Scalmanini, 2002).

Groundwater within the South Westside Basin generally flows toward pumping centers within Daly City, San Bruno and South San Francisco. Groundwater extraction has created significant depressions in the water table and water levels are more than 100 feet below sea level in many areas of the South Westside Basin. Concerns regarding the potential for salt water intrusion have been raised and are further discussed below. San Bruno has instituted a program to monitor the potential effects of groundwater extraction on saltwater intrusion.

Water levels within the drinking water aquifers of the South Westside basin are depressed well below sea level in many areas. Relatively thick Bay mud deposits and a buried bedrock ridge within 500 to 300 feet of the ground surface provide protection from seawater intrusion from San Francisco Bay. To date, San Bruno drinking water wells have not shown any impacts from seawater intrusion (RMC, 2011). San Bruno was, however, awarded approximately $250,000 from the DWR's Local Groundwater Assistance Program (AB303) to institute a saltwater intrusion monitoring program for portions of the Westside Basin near the City. San Bruno's program coordinates with efforts by the City of Daly City to monitor saltwater intrusion in the Westside Basin. Both programs are aimed at protecting groundwater quality in the Basin to

assure the reliability of future supplies. Monitoring well clusters have been installed in areas near the bay where the depth to the bedrock ridge is the deepest. These wells provide water level and water quality data.

While the barrier has historically been effective in protecting the South Westside Basin from seawater intrusion from San Francisco Bay, water levels in wells located close to be Bay have been shown to respond to groundwater extraction from San Bruno groundwater production wells (ERM, (2010)) . While the extent and nature of potential connections between the drinking water aquifer within the Westside basin and San Francisco Bay are not well understood, available data indicate that such connections could exist. Therefore seawater intrusion could occur in the future, particularly if groundwater levels in the drinking water aquifer are further depressed. Continued monitoring of water levels and groundwater quality are planned pursuant to the GWMP (RMC, 2011).

Basin Inflows and Outflows

A groundwater model was developed and used to assess existing inflows and outflows from the South Westside Basin and assess the sustainable yield of the basin (RMC, 2011). The results of this water budget analysis show that basin inflows are estimated to be within 1% of basin outflows under the 2008 No-Project scenario. The 2008 No Project Scenario simulates a 47-year continuation of anticipated land and water use conditions within the South Westside Basin area as of May 2008. It assumes no new projects are implemented, but includes new supply wells, planned operational changes to the magnitude and spatial distribution of pumpage, and existing recycled water projects in place as of May 2008. The modeling is based upon historical hydrology that was recorded between 1959 to 2009 (i.e., assumed to repeat itself in the future) and continued groundwater extraction by private and existing municipal users, including Daly City, San Bruno, and Cal Water as projected in 2008. Assumed municipal rates of extraction in the model are as follows: San Bruno 2,350 AFY (2.10 MGD); South San Francisco (Cal Water), 1,534 AFY (1.37 MGD); and Daly City 3,840 AFY (3.43 MGD). Total rates of groundwater extraction, including private water users are assumed to equal 8,755 AFY (7.82 MGD). These modeling results indicate that under the simulated conditions, the South Westside Basin will generally stay in balance [15](i.e., can sustain these rates of groundwater extraction without going into overdraft)[16].

Information presented in the draft March 2011 GWMP indicates that rates of groundwater extraction by several of the existing municipal users, including San Bruno, are projected to increase beyond those identified in the 2008 No Project Scenario. The GWMP states that without additional management efforts, such increases in groundwater extraction will move the basin further from balance and result in long-term decline in groundwater levels. The GWMP identifies Basin management objectives along with actions to be taken if defined triggers occur. These triggers relate to declines in water levels below historical minimums. Potential actions identified in the GWMP in the event that these triggers occur include:

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[15] Basin inflows are estimated to be approximately 1% below basin outflows under the 2008 No-Project scenario

[16] The modeling conducted does indicate that groundwater storage in the southern portion of the basin in the vicinity of San Bruno may decline under the 2008 No Project Scenario, and that that the safe yield of the basin, estimated at 8,600 AFY will depend, in part, upon the locations and rates of extraction within the basin.

- Continued operation,
- Conservation measures,
- Increased monitoring,
- Decreased production, potentially including assignment of pumping thresholds for individual entities,
- Accelerated development of recharge projects,
- Substitution of alternate supplies, and
- Reoperation of existing wells or construction of new wells to move production to other parts of the Basin.

6.3.3 Historical Groundwater Use

The City has used groundwater as a source of supply since the early 1900's (Bartell, 1914) and rates of groundwater extraction by the City of San Bruno were over 2,000 AFY or 1.79 MGD by 1960. The City currently operates four water supply wells, Wells 16, 17, 18, and 20. San Bruno's annual groundwater production for FY 2005-2006 through FY 2009-2010 has averaged 3.79 MGD or 4,240 AFY. Annual rates of production for this period are listed in Table 9.

Regional Conjunctive Use

As discussed in Sections 6.1.9 and 6.3.3, San Bruno's water supply is met by a combination of groundwater from the South Westside Basin and surface water supplied from SFPUC's Regional System. In 2002, SFPUC instituted a pilot project to evaluate the effects of in-lieu recharge on groundwater levels within the Basin.[17] As part of the Conjunctive Use Pilot Project, SFPUC provided the cities of Daly City, South San Francisco (served by California Water Service Company, or "Cal Water"), and San Bruno with additional surface water to supplement water that otherwise would have been pumped from their respective municipal water supply wells.

Between January 2003 and March 2005, San Bruno received an average of 1.2 MGD of surface water from SFPUC as part of the Conjunctive Use Pilot Project. During this time, San Bruno ceased production in water supply wells 15, 16, 17, and 18, with the exception of November 2003 through January 2004, when the Conjunctive Use Pilot Project was interrupted because surplus SFPUC system water was not available to offset groundwater use.

Results from the 2002 through 2005 Conjunctive Use Pilot Project showed that water can be successfully stored in the aquifer system through in-lieu recharge. Since the end of the Conjunctive Use Pilot Project in 2005, Daly City has instituted a long-term conjunctive use program with SFPUC. The potential for success of an in-lieu project in San Bruno continues to be studied, focusing on the impact of the extraction portion of the project. To date, South San Francisco and San Bruno have not negotiated final agreements with SFPUC regarding a long-term conjunctive use program, though discussions are ongoing.

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[17] "In lieu" recharge refers to the act of using surface water supplies to meet demands such that groundwater that would have been extracted is allowed to remain in the basin, thus increasing the quantity of groundwater in storage. This water is then available for subsequent use during drought years.

Individual Conjunctive Use

San Bruno is also considering instituting an independent conjunctive use program at a citywide level. As part of such a program, the City would increase its use of SFPUC water during normal and wet years and minimize groundwater extraction, thereby banking groundwater that could be extracted during drought periods. Table 10 contains an example of what an individual conjunctive use program might involve during normal and dry year scenarios. As can be seen from Table 10, if a single dry year were to occur every 5 years, San Bruno would be capable of storing sufficient groundwater to avoid having to impose reductions in demand and still have available groundwater in storage. In such a scenario, if San Bruno were to also implement drought water demand reduction measures, the stored groundwater supply could conceivably last for multiple years.

6.3.4 Projected Future Groundwater Use

Unless it elects to implement an individual conjunctive use program, San Bruno intends to utilize its water supply wells to meet as much of the City's future demands as possible without negatively impacting groundwater quality or health of the aquifer. The quantity of groundwater available to San Bruno will depend on multiple factors, including groundwater quality, potential effects of sea water intrusion, and future agreements that San Bruno may enter into with other basin users as part of groundwater management or conjunctive use programs.

Currently, groundwater continues to remain a reliable source as the basin does not appear to be in overdraft based on the latest modeling efforts (RMC, 2011). Therefore, for the purposes of this WSA it has been assumed that existing rates of groundwater extraction of 2.1 MGD[18] can, on average, continue to be sustained by the City of San Bruno into the future.

As part of the GWMP process, San Bruno will assess the potential of increasing its groundwater supplies and production rates. As discussed in Section 6.3.3 above, San Bruno is also considering implementing an individual conjunctive use program. Under such a scenario, San Bruno projects that it may increase is production up to 2.7 MGD during dry years, which is consistent with its maximum annual historical production rate. If San Bruno elects to participate in the multi-agency Conjunctive Use Program being conducted by SFPUC, rates of groundwater extraction will be controlled pursuant to agreements that are developed as part of such a program.

San Bruno's estimated groundwater production during normal and wet years from 2014-15 to 2034-35 in five year increments is listed in Table 8.

6.4. TOTAL WATER SUPPLIES IN NORMAL, SINGLE DRY, AND MULTIPLE DRY YEARS

The following sections describe San Bruno's total projected future water supply reliability during normal or wet years, single dry years, or multiple dry year periods. For the purposes of this

[18] This groundwater production rate is consistent with San Bruno's current rate of groundwater extraction (i.e., in 2010) and consistent with the groundwater extraction rate utilized in the 2008 No-Project Scenario, under which the basin was shown to generally stay in balance.

WSA, a normal or wet year is defined as a year in which precipitation is equal to or above average precipitation. Years in which precipitation is below average are referred to as "single dry year", or as a "multiple dry year period" if the duration of below average precipitation exceeds a single year. As described in the 2010 UWMP, to project deliveries of wholesale water during dry years, SFPUC modeled its total system water supply based on a repeat of the historical hydrologic record, from 1920 to 2002. This WSA presents San Bruno's dry year wholesale water supplies as the quantity of water projected to be available if the precipitation of any given year, or sequence of years, were equal to the precipitation during the years 1988 through 1990.[19]

6.4.1 Water Supplies in Normal Years

As discussed in Sections 6.1 through 6.3 above, San Bruno receives water from three supply sources: wholesale surface water from the SFPUC Regional Water System ("Regional System"), retail surface water purchased from NCCWD, and local groundwater from the Westside Basin. A summary of the City's projected future supplies during normal and wet years based upon the information provided in Section 6.1 through 6.3 is presented in Table 8.

6.4.2 Water Shortages

San Bruno's water supply availability during a water shortage is dependent upon the available water supply from SFPUC's and San Bruno's groundwater sources. The following sections discuss the allocation of water during dry periods.

Tier One and Tier 2 Drought Allocations[20]

In July 2009, in connection with the Water Supply Agreement, the wholesale customers and San Francisco adopted a Water Shortage Allocation Plan (WSAP) to allocate water from the regional water system to retail and wholesale customers during system-wide shortages of 20% or less (the "Tier One Plan"). The Tier One Plan replaced the prior Interim Water Shortage Allocation Plan, adopted in 2000, which also allocated water for shortages up to 20%. The Tier One Plan also allows for voluntary transfers of shortage allocations between the SFPUC and any wholesale customer and between wholesale customers themselves. In addition, water "banked" by a wholesale customer, through reductions in usage greater than required, may also be transferred.

The Tier One Plan, which allocates water between San Francisco and the wholesale customers collectively, distributes water based on the level of shortage:

Level of System Wide Reduction in Water Use Required	Share of Available Water	
	SFPUC Share	Wholesale Customers Share

[19] The years 1988 through 1990 were chosen to represent a multiple dry year period based on the results of SFPUC's Water System Reliability Model.
[20] Grey text provided by BAWSCA

5% or less	35.5%	64.5%
6% through 10%	36.0%	64.0%
11% through 15%	37.0%	63.0%
16% through 20%	37.5%	62.5%

The Tier One Plan will expire at the end of the term of the Water Supply Agreement, unless extended by San Francisco and the wholesale customers.

The wholesale customers have negotiated and adopted the "Tier Two Plan," the second component of the WSAP which allocates the collective wholesale customer share among each of the 26 wholesale customers. This Tier Two allocation is based on a formula that takes multiple factors for each wholesale customer into account, including:

- Individual Supply Guarantee;
- Seasonal use of all available water supplies; and
- Residential per capita use.

The water made available to the wholesale customers collectively will be allocated among them in proportion to each wholesale customer's Allocation Basis, expressed in millions of gallons per day (MGD), which in turn is the weighted average of two components. The first component is the wholesale customer's Individual Supply Guarantee, as stated in the Water Supply Agreement, and is fixed. The second component, the Base/Seasonal Component, is variable and is calculated using the monthly water use for three consecutive years prior to the onset of the drought for each of the wholesale customers for all available water supplies. The second component is accorded twice the weight of the first, fixed component in calculating the Allocation Basis. Minor adjustments to the Allocation Basis are then made to ensure a minimum cutback level, a maximum cutback level, and a sufficient supply for certain wholesale customers.

The Allocation Basis is used in a fraction, as numerator, over the sum of all wholesale customers' Allocation Bases to determine each wholesale customer's Allocation Factor. The final shortage allocation for each wholesale customer is determined by multiplying the amount of water available to the wholesale customers' collectively under the Tier One Plan, by the wholesale customer's Allocation Factor.

The Tier Two Plan requires that the Allocation Factors be calculated by BAWSCA each year in preparation for a potential water shortage emergency. As the wholesale customers change their water use characteristics (e.g., increases or decreases in SFPUC purchases and use of other water sources, changes in monthly water use patterns, or changes in residential per capita water use), the Allocation Factor for each wholesale customer will also change. However, for long-term planning purposes, each wholesale customer shall use as its Allocation Factor, the value identified in the Tier Two Plan when adopted.

The Tier Two Plan will expire in 2018 unless extended by the wholesale customers.

6.4.3 Projected Single Dry Year Supply

San Bruno's single-dry year water supply reliability is based upon the individual reliabilities of both its wholesale and groundwater supplies.

Single Dry Year Wholesale Water Supply

San Bruno's single dry year wholesale water supply will be based upon:

(a) the Water Supply Agreement, which allocates available water supplies between SFPUC and BAWSCA, and

(b) the Tier 2 Implementation Plan, which allocates water available to BAWSCA among the BAWSCA agencies.

Based upon the methodologies established in the Tier 1 and Tier 2 plans and described in the 2010 UWMP, San Bruno's allocation of wholesale water from SFPUC during a single dry year is estimated to be approximately 10% of San Bruno's SFPUC purchase during the prior three years. This value was estimated on the basis of current conditions. Future percent cutbacks in wholesale supplies during single dry years will depend upon the then-current water purchases of all of the BAWSCA member agencies and overall projected single dry year supply established under the Tier 1 Plan.

NCCWD Reliability

Water received within the San Bruno service area from NCCWD originates from the SFPUC Regional System and is thus subject to the same reliability issues described above. Current information regarding potential cut backs in wholesale supplies to NCCWD were unavailable at the time of preparation of this WSA. Projected dry-year supply cut backs presented in the NCCWD's 2005 UWMP indicate multiple dry year supply cutbacks of 6.6% to 18.8% (NCCWD, 2005). These supplies are not utilized within the Project Area and make up less than 1% of the Cities total supplies. Therefore the specific magnitude of the cutback associated with this supply source is not significant to this WSA.

Single Dry Year Groundwater Supply

The availability of groundwater to San Bruno is not anticipated to be significantly affected by short-term droughts. Only limited reductions in rates of groundwater extraction were assumed during drought periods in the groundwater modeling of the 2008 No Project Scenario (HydroFocus, 2010) conducted in support of the GWMP. As discussed in Section 6 herein, under this scenario, modeling results indicate that the South Westside Basin will generally stay in balance. Therefore, it has been assumed that City could maintain an average annual rate of extraction of 2.06 MGD during drought periods (i.e., which represents a 2% reduction from its current and 2008 No Project Scenario rate of extraction of 2.1 MGD). If a conjunctive use program were implemented, rates of groundwater extraction during dry periods could be increased beyond these levels.

Based upon this information, the City's single dry year supply should not result in a cutback of more than 10% from the prior normal year supply and single dry year cutbacks could be significantly lower, particularly if a conjunctive use program is implemented. However, it should be recognized that the actual extent of future cutbacks during dry periods will depend upon many factors that cannot be predicted at this time.

6.4.4 Projected Multiple Dry Year Supply

A multiple dry year period is considered to be any number of consecutive years in which precipitation is below average. Consistent with the 2010 UWMP, a multiple dry year period was assumed to be a repeat of the hydrologic record from 1988 through 1990.

In their future wholesale water reliability projections, SFPUC estimated between 10% and 20% reduction in the total available water supplies in the Regional System during a multiple dry year period. The severity of the cutback in any given year is contingent upon the estimated future use on the Regional System and on completion of the WSIP projects as scheduled. According to SFPUC's Water System Reliability Model, if precipitation were equal to what it was from 1988 through 1990 in the years leading up to 2009-10, then the Regional System would experience a 20% reduction in supply in years two and three of the drought. The same precipitation patterns between 2009-10 and 2014-15; however, would yield a 10% supply reduction in the second and third year. This increased reliability is due to the scheduling of new projects, which are expected to come online and provide added supplies by 2014-15.

In the event of a multi-year drought, San Bruno's portion of the BAWSCA allocation, as described in the 2010 UWMP, would be approximately 1.46% from 2014-15 to 2034-35 assuming:

- The City's wholesale water purchases during the three normal years preceding the multiple dry year period were equivalent the City's actual purchase of 1.94 MGD in 2008-09,
- The actual future growth in wholesale water use experienced by the other BAWSCA agencies in 2008-09,
- The actual water supply availability in any given dry year.

This BAWSCA allocation results a wholesale water allocation of 1.75 MGD during the multiple-year drought, which represents a 10% cutback from assumed wholesale purchases during the three normal years preceding the multiple dry period (i.e., assumed to be 1.94 MGD in this instance).

If the City were to purchase a larger quantity of water in the three years preceding a drought than it did in 2007-08, 2008-09, and 2009-10, then its allocation may exceed 1.46%. Similarly, as the actual quantity of wholesale water purchased from SFPUC from all other Suburban Purchases varies from their projected purchases, San Bruno's allocation may increase or decrease accordingly.

Multiple Dry Year Groundwater Supply

As discussed above, the availability of groundwater to San Bruno is not anticipated to be significantly affected by short-term droughts. Therefore, it has been assumed that City could maintain an average annual rate of extraction of 2.06 MGD during drought periods (i.e., which represents a 2% reduction from its current and 2008 No Project Scenario rate of extraction of 2.1

MGD). If a conjunctive use program were implemented, rates of groundwater extraction during multiple dry year periods could be increased beyond these levels.

Based upon this information, the City's total multiple dry year supply should not result in a cutback of more than 10% from the prior normal year supply, based upon current conditions. Further such cutbacks could be significantly lower, particularly if a conjunctive use program is implemented. However, it should be recognized that the actual extent of future cutbacks during dry periods will depend upon many factors that cannot be predicted at this time.

7. COMPARISON OF SUPPLY AND DEMAND

For normal and dry hydrologic years, San Bruno's total projected potable water demands (including those generated by the Project) were compared to projected potable water supplies. This comparison is listed in Table 11. As shown on this table, San Bruno's projected water demands are not expected to exceed its available water supply during normal years over the next 20 years.

Tier 1 and Tier 2 allocation models, which have been used to estimate the quantity of wholesale water that will be allocated to San Bruno during single and multiple dry year periods, indicate that the City's single dry year and multiple dry year supply would not result in a cutback of more than 10% from the prior normal year supply under current conditions. The extent of future cutbacks in wholesale supplies is not possible to estimate at this time, therefore , consistent with guidance provided by BAWSCA, currently estimated cutbacks have been assumed for future planning purposes.

As discussed in Section 6, groundwater supplies represent approximately 40% of the City's total normal year supply and are not anticipated to be significantly affected by short-term droughts. Therefore, even if the City's wholesale supplies are cutback by10% from the prior normal year supply the City's total water supply during a single year or multiple year drought should not result in a cutback of more than 10% from the prior normal year supply. Further such cutbacks could be significantly decreased through increased use of groundwater during dry periods, particularly if a conjunctive use program is implemented.

Therefore, although it anticipated that some cutback in demands will be required during single and multiple dry years, such cutbacks can be mitigated through groundwater management. Further, the City's water demand is expected to decrease during drought periods, due to the implementation of drought year water conservation measures that are identified in the City's Water Shortage Contingency Plan (City of San Bruno, 2011). Similarly, it is anticipated that Project water demands will also be reduced during such drought periods based on mandated cutbacks or other prohibitions that are implemented on a City wide basis.

Based on the information summarized above, it appears that sufficient water supply exists to meet current and future water demands for planned growth within the City of San Bruno's service area, including Project Water Demands, during current and future normal and dry hydrologic years.

8. CONCLUSIONS

As listed in Water Code §10910(c)(4), the primary purpose of a WSA is to demonstrate that sufficient water supply is available to meet all future demand within the water supplier's service area, including that associated with the Project, during normal and dry hydrologic years for a 20-year time horizon. Based on information presented herein, it is concluded that the City of San Bruno has sufficient supplies to meet all future demand within its service area, including that associated with the Project, during normal and dry hydrologic years for a 20-year time horizon.

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Table 1
Assumed Project Parameters for Land Use Based Demand Estimate
Transit Corridors Plan Redevelopment, San Bruno, California

Water Demand Estimation Input Parameter	Unit	Total Project	Incremental Increase over General Plan
Residential			
Number of dwelling units (a)	dwelling units	1,610	890
Average number of people per dwelling unit (b)	persons	2.57	2.57
Average housing unit square footage (c)	square feet	750	750
Average household income (c)	dollars	99,400	99,400
Proportion of households anticipated to be occupied by renters (c)	-	0.55	0.55
Extent of use of low-water fixtures (c)	-	1.0	1.0
Commercial			
Office square footage (a)	square feet	988,100	666,600
Retail square footage (a)	square feet	147,700	19,100
Hotel rooms (a)	rooms	190	190
Square feet per office employee (d)	square feet	333	333
Square feet per retail employee (e)	square feet	333	333
Irrigation			
Landscaped shrub area (low water use plantings) (f)	acres	3.3	1.9
Landscaped turf area (high water use plantings) (f)	acres	1.4	0.8

Abbreviations:
DEIR = Draft Environmental Impact Report
du = dwelling units
sq ft = square foot

Notes:
(a) Input parameter from City of San Bruno Transit Corridor Plan Public Review Draft June 2010.
(b) People per dwelling unit based on the December 2008 General Plan DEIR Table 3.1-2, which assumes a 5% vacancy rate and 2.71 persons per dwelling unit (i.e. 2.57 people per dwelling unit). This value is considered conservative as the people per dwelling unit in the Transit Corridors area is expected to lower.
(c) Values for water demand estimation input parameters were developed from discussions between representatives of San Bruno and Erler & Kalinowski, Inc.
(d) Square feet based on Regional Office value (300 sf per employee and 10% vacancy rate) presented in the December 2008 General Plan DEIR Table 3.1-2.
(e) Square feet based on Neighborhood Commercial value (300 sf per employee and 10% vacancy rate) presented in the December 2008 General Plan DEIR Table 3.1-2.
(f) Project landscaped area provided by San Bruno representatives. Incremental increase in landscaping acres over the General Plan was based on the average incremental increase percentage for residential units, commercial square footage and retail square footage.

Table 2
Projected Water Demand Based on Land Use Methodology
Transit Corridors Plan Redevelopment, San Bruno, California

	Total Project Water Demand (AFY)	Total Project Water Demand (MGD)	Incremental Increase in Water Demand over General Plan (AFY)	Incremental Increase in Water Demand over General Plan (MGD)
Estimated Future Water Demand				
Residential (Tables B-1a and B-1b)	194	0.17	107	0.10
Commercial (Tables B-2a and B-2b)	181	0.16	114	0.10
Irrigation (Tables B-4a and B-4b)	12	0.01	7	0.01
Subtotal	387	0.35	228	0.20
Unaccounted for water at 8.5 % (a)	36	0.03	21	0.02
Total	423	0.38	249	0.22

Abbreviations:
AFY = acre feet per year
MGD = Millions of gallons per day

Notes:
(a) Unaccounted for water was assumed at 8.5% of total water use based on the 2010 UWMP.

Table 3
Assumed Project Parameters for Population and Employment Based Demand Estimate

Transit Corridors Plan Redevelopment, San Bruno, California

	Units	Total Project	Incremental Increase over General Plan	In General Plan within Transit Corridor Area
Population				
Number of dwelling units (a)	dwelling units	1,610	890	720
Average number of people per dwelling unit (b)	persons	2.57	2.57	2.57
Total Population	persons	**4,138**	**2,287**	**1,850**
Employment				
Office square footage (a)	square feet	988,100	666,600	321,500
Retail square footage (a)	square feet	147,700	19,100	128,600
Hotel rooms (a)	rooms	190	190	0
Square feet per office employee (c)	square feet	333	333	333
Square feet per retail employee (d)	square feet	333	333	333
Employee per hotel room (e)	employees	1	1	1
Office Employees (f)	employees	2,967	2,002	965
Retail Employees (g)	employees	444	57	386
Hotel employees (h)	employees	190	190	0
Total Employees	**employees**	**3,601**	**2,249**	**1,351**

Notes:

(a) Parameter from City of San Bruno Transit Corridor Plan Public Review Draft June 2010.

(b) People per dwelling unit based on the December 2008 General Plan DEIR Table 3.1-2, which assumes a 5% vacancy rate and 2.71 persons per dwelling unit (i.e. 2.57 people per dwelling unit). This value is considered conservative as the people per dwelling unit in the Transit Corridors area is expected to lower.

(c) Square feet based on Regional Office value (300 sf per employee and 10% vacancy rate) presented in December 2008 General Plan DEIR Table 3.1-2.

(d) Square feet based on Neighborhood Commercial value (300 sf per employee and 10% vacancy rate) presented in December 2008 General Plan DEIR Table 3.1-2.

(e) Employees per room assumed from Transit Corridor DEIR dated 25 March 2011.

(f) Office employees calculated by dividing the square feet per office employee into the total office square footage.

(g) Retail employees calculated by dividing the square feet per retail employee into the total retail square footage.

(h) Hotel employees calculated by dividing the number of rooms per hotel employee into the total number of rooms.

Table 4
Projected Water Demand Based on Population and Employment Methodology
Transit Corridors Plan Redevelopment, San Bruno, California

Water Demand Projection Method	Total Project Water Demand (AFY)	Total Project Water Demand (MGD)	Incremental Increase in Water Demand over General Plan (AFY)	Incremental Increase in Water Demand over General Plan (MGD)
Population and Employment Based Demand Estimate (a)	470	0.42	269	0.24

Abbreviations:
AFY = acre feet per year
MGD = Millions of gallons per day

Notes:
(a) Projected water demands were estimated using the Decision Support System Model ("DSS Model") dated 31 December 2009 that was modified to incorporate Project population and employee values from Table 3. The DSS model assumes indoor water demand makes up 75 percent of total water demand. Values presented assume only passive conservation occurs. This assumption is conservative to the extent that additional active conservation measures are implemented. The DSS model projections incorporates unaccounted for water at

Table 5
Comparison of Project Water Demand Projection Methodologies
Transit Corridors Plan Redevelopment, San Bruno, California

Water Demand Projection Method	Total Project Water Demand (MGD)	Incremental Increase in Water Demand over General Plan (MGD)
Population and Employment Based Demand Estimate (a)	0.42	0.24
Land Use Based Demand Estimate (b)	0.38	0.22

Abbreviations:
MGD = Millions of gallons per day

Notes:
(a) Water demand estimates from Table 4.
(b) Water demand estimates from Table 2.

Table 6
San Bruno Historical Water Demand
Transit Corridors Plan Redevelopment, San Bruno, California

Customer Sector		Water Demand (MGD) (a) (b)				
		2005-06	2006-07	2007-08	2008-09	2009-10
Residential	Residential Single Family	1.83	1.94	1.86	1.77	1.70
	Residential Multifamily	0.84	0.89	0.85	0.82	0.78
	Total Residential	2.67	2.84	2.71	2.59	2.48
CII	Commercial	0.62	0.56	0.56	0.53	0.45
	Industrial	0.00	0.00	0.00	0.00	0.00
	Institutional	0.19	0.17	0.17	0.16	0.14
	Total CII	0.82	0.73	0.73	0.70	0.59
Other	Irrigation	0.05	0.19	0.19	0.16	0.17
	Other (c)	0.00	0.01	0.01	0.01	0.01
	Total Other	0.05	0.20	0.20	0.17	0.18
Subtotal		3.54	3.77	3.64	3.46	3.24
Unaccounted for water (d)		7.5%	-2.1%	6.9%	10.1%	11.2%
Total Gross Water Demand (e)		3.83	3.69	3.91	3.85	3.65

Abbreviations:
FY = Fiscal year
CII = Commercial, Industrial, and Institutional
MGD = Million gallons per day

Notes:
(a) No water is used for agriculture, saline water intrusion barriers, groundwater recharge, conjunctive use, or sold to other agencies.
(b) Water use is recorded on a fiscal year basis by the City's Finance Department. The City's billing system was modified starting in FY 2005-06 to better characterize demands with modifications completed FY 2009-10. Distribution of water use between different sub-sectors (e.g., commercial, industrial, and institutional) for FY 2005-06 through 2008-09 are estimated using the same distribution as FY 2009-10.
(c) Accounts grouped into the "Other" sector include temporary meters and unbilled water due to billing system modification.
(d) Unaccounted for water is the quantity of water purchased less the known quantity of water used. Reported as a percent of the total water purchased.
(e) Total Gross Water Demand is the sum of water consumed by customer accounts and the City's unaccounted for water. Total gross water use is equal to the quantity of water purchased from San Francisco Public Utilities Commission and the North Coast County Water District, plus the quantity of groundwater extracted from City wells.

Table 7
San Bruno Water Demand Projections
Transit Corridors Plan Redevelopment, San Bruno, California

Water Demand Projections	Projected Annual Water Demand (MGD)				
	2014-15	2019-20	2024-25	2029-30	2034-35
General Plan (a)	4.43	4.48	4.53	4.67	4.89
General Plan plus Incremental Project Demands (b)	4.51	4.63	4.76	4.91	5.13
Urban Water Management Plan ("UWMP") (c)	*4.40*	*4.57*	*4.73*	*4.88*	*5.13*

Abbreviations:
MGD = Millions of gallons per day

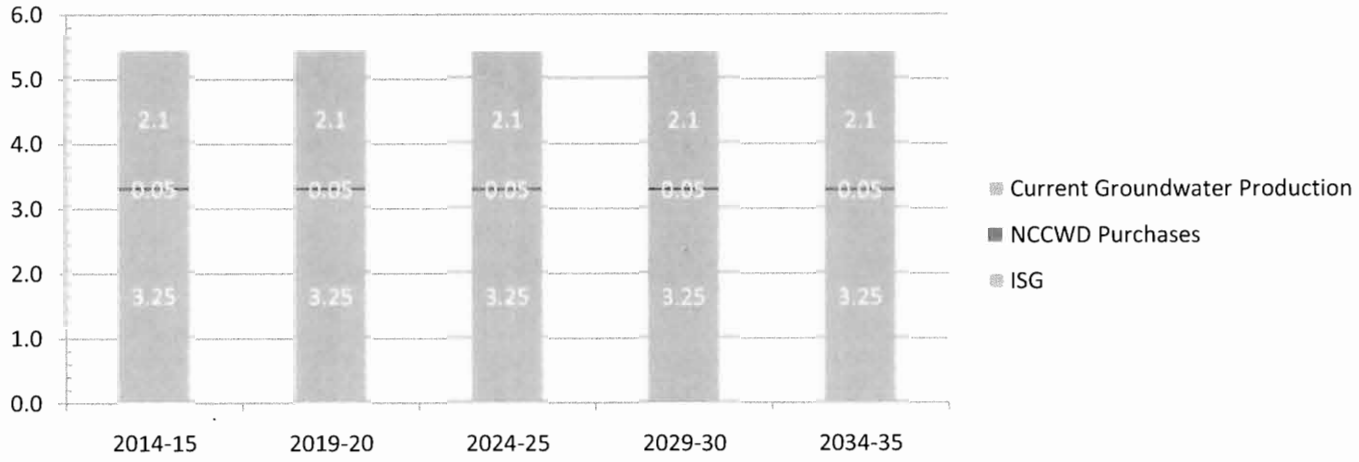
Notes:
(a) Projected water demands were estimated using the Decision Support System Model dated 31 December 2009 that was modified by using population and employment values from the 2009 General Plan for 2025, assuming 75 percent indoor water demand, and assuming passive conservation occurs. Beyond 2025 a 2.3 percent population growth rate and 19.5 percent employment growth rate over a 50 year period was assumed. These percentages are based on the growth rates projected in the General Plan from 2010 through 2025.

(b) The transit corridor water demand was added linearly from 2014-15 through 2034-35.
The Project population and employment values used in the DSS model for the Transit Corridor are from Table 3.

(c) Projected water demands from the 2010 UWMP are based on the DSS model using 2009 Association of Bay Area Governments ("ABAG") population and employment values.

Table 8
Projected Future Water Supply
Transit Corridors Plan Redevelopment, San Bruno, California

Supply Source	Projected Annual Water Supply (MGD)				
	2014-15	2019-20	2024-25	2029-30	2034-35
ISG (a)	3.25	3.25	3.25	3.25	3.25
NCCWD Purchases (b)	0.05	0.05	0.05	0.05	0.05
Groundwater Production (c)	2.1	2.1	2.1	2.1	2.1
Total Water Supply	**5.4**	**5.4**	**5.4**	**5.4**	**5.4**



Abbreviations:
ISG = Individual Supply Guarantee
MGD = Millions of gallons per day
NCCWD = North Coast County Water District
SFPUC = San Francisco Public Utilities Commission

Table 8
Projected Future Water Supply
Transit Corridors Plan Redevelopment, San Bruno, California

Notes:

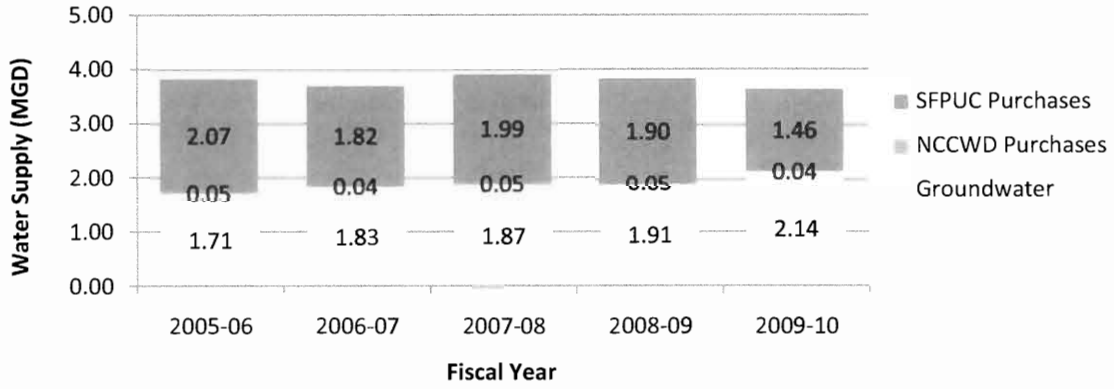
(a) SFPUC purchases are shown equal to the ISG for the remainder of the years. The City does not anticipate purchasing all of its water from SFPUC in the future, however since SFPUC has indicated that these supplies will be available, they are shown here for planning purposes.

(b) NCCWD purchases assume that the City will purchase the same amount of water in the future.

(c) San Bruno has assumed that it can continue to extract its current rate of production based upon information contained in the draft Groundwater Management Plan. San Bruno will be evaluating its ability to increase its production of groundwater in the future. The City's ability to produce groundwater will be based upon the basin condition and production by other basin users.

Table 9
Current and Historical Sources of Water Supply
Transit Corridors Plan Redevelopment, San Bruno, California

Measured Annual Water Supply (MGD) (a)						
Supply Source		**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
SFPUC	Tanforan (#010024-01-6)	0.02	0.00	0.00	0.00	0.02
	Rollingwood (#010026-01-1)	0.70	0.68	0.51	0.52	0.52
	Bayhill (#010025-01-3)	0.69	0.70	0.70	0.68	0.54
	Whitman (#010023-01-8)	0.65	0.44	0.78	0.69	0.39
	Subtotal SFPUC Supply	*2.07*	*1.82*	*1.99*	*1.90*	*1.46*
Groundwater	Well #15	0.00	0.04	0.24	0.21	0.12
	Well #16	0.62	0.64	0.30	0.69	0.63
	Well #17	0.30	0.28	0.27	0.21	0.37
	Well #18	0.00	0.07	0.33	0.31	0.25
	Well #20	0.79	0.81	0.73	0.49	0.78
	Subtotal Groundwater	*1.71*	*1.83*	*1.87*	*1.91*	*2.14*
NCCWD (Crystal Terrace)		0.05	0.04	0.05	0.05	0.04
Total Water Supply		3.83	3.69	3.91	3.85	3.65

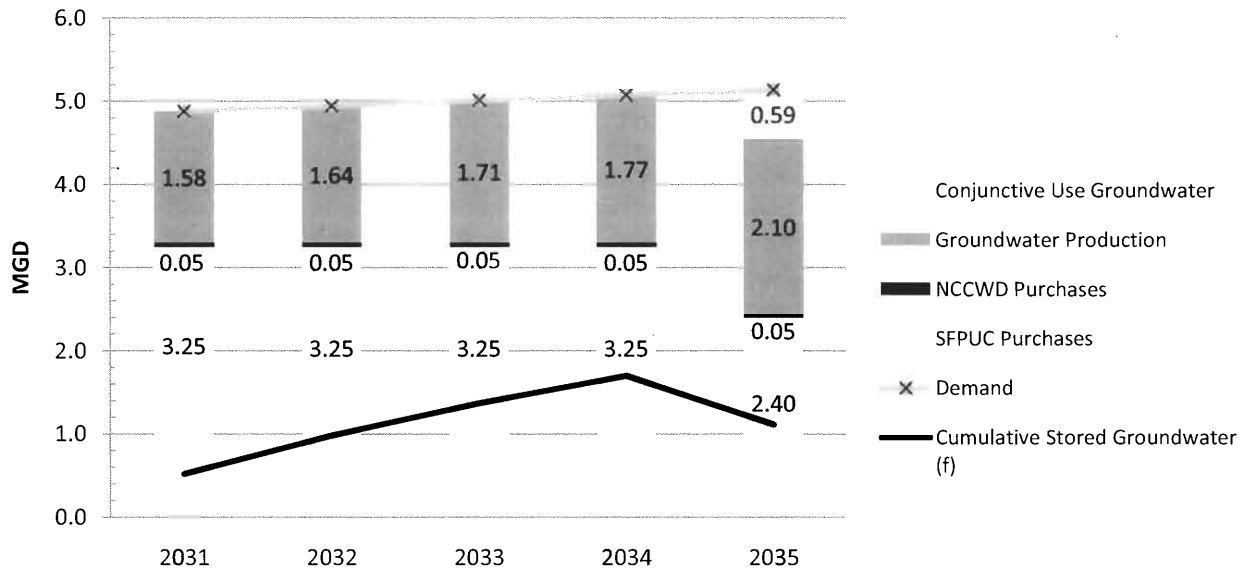


Abbreviations:
MGD = Millions of gallons per day
NCCWD = North Coast County Water District
SFPUC = San Francisco Public Utilities Commission

Notes:
(a) Water supply data were provided by Mark Reinhardt from the City of San Bruno Public Works Department, September 2010.

Table 10
Example of Potential Implementation of Individual Conjunctive Use Program
Transit Corridors Plan Redevelopment, San Bruno, California

	Water Supply and Demand (MGD)				
Year	**2031**	**2032**	**2033**	**2034**	**2035**
Demand (a)	4.88	4.94	5.01	5.07	5.13
SFPUC (b)	3.25	3.25	3.25	3.25	2.40
NCCWD (c)	0.05	0.05	0.05	0.05	0.05
Groundwater Production (d)	1.58	1.64	1.71	1.77	2.10
Conjunctive Use Groundwater Production (e)	0	0	0	0	0.59
Cumulative Stored Groundwater (f)	0.52	0.98	1.37	1.70	1.12
Conservation Required in 2035					0%



Abbreviations:
MGD = Millions of gallons per day
NCCWD = North Coast County Water District
SFPUC = San Francisco Public Utilities Commission

Notes:
(a) See Table 7 for projected water demands for the City of San Bruno from the Urban Water Management Plan.
(b) It is assumed that San Bruno would purchase its full ISG during normal years and reduce its purchases during dry years to its then-current Tier 2 Implementation Plan water supply allocation. However, because the actual Tier 2 Implementation Plan water supply allocation in future years is unforeseeable, this table assumes that, under the Tier 2 Implementation Plan, San Bruno would be allocated 1.98% of the BAWSCA Wholesale Allocation, which would be the current allocation if San Bruno were using its entire ISG.
(c) Conservation amounts are related only to incremental, drought-related conservation and exclude any reductions in water demand associated with either plumbing code or other, regular conservation programs.

Table 10
Example of Potential Implementation of Individual Conjunctive Use Program
Transit Corridors Plan Redevelopment, San Bruno, California

(d) Groundwater production is the total demand minus the other available supplies, including the SFPUC purchases and NCCWD.
(e) Conjunctive Use Groundwater Production is the amount of groundwater pumped each year from the volumes stored from previous years.
(f) Cumulative stored groundwater is the aggregate difference between the average historical groundwater extraction of 2.0 MGD (see Table 16) and the amount needed to meet water demands.

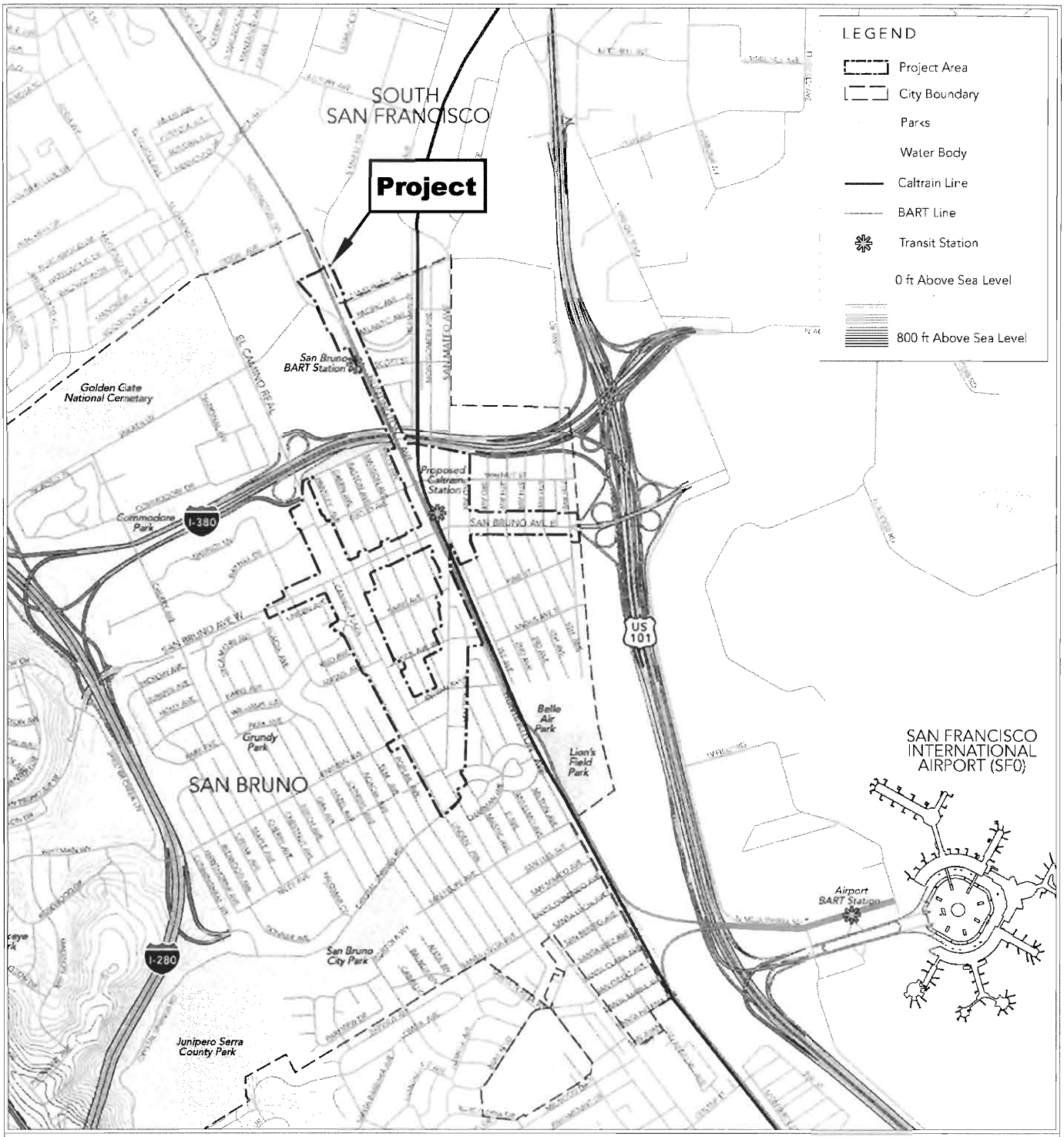
Table 11
Comparison of Total Supply versus Total Demand in the City of San Bruno in a Normal Year

Transit Corridors Plan Redevelopment, San Bruno, California

Water Supply and Demand	Estimated Potable Water Supply and Demand (MGD)				
	2014-15	2019-20	2024-25	2029-30	2034-35
Projected Available Supply (a)	5.4	5.4	5.4	5.4	5.4
Total Potable Water Demand (b)	4.51	4.63	4.76	4.91	5.13
Difference	***0.89***	***0.77***	***0.64***	***0.49***	***0.27***
Percent Cutback	***0%***	***0%***	***0%***	***0%***	***0%***

Abbreviations:
MGD = Millions of gallons per day
SFPUC = San Francisco Public Utilities Commission

Notes:
(a) Projected available supply for a normal year from Table 8.
(b) Total potable water demand from Table 7 for General Plan plus Project demands.



Notes:

1. Adapted from San Bruno Transit Corridors Plan.

N

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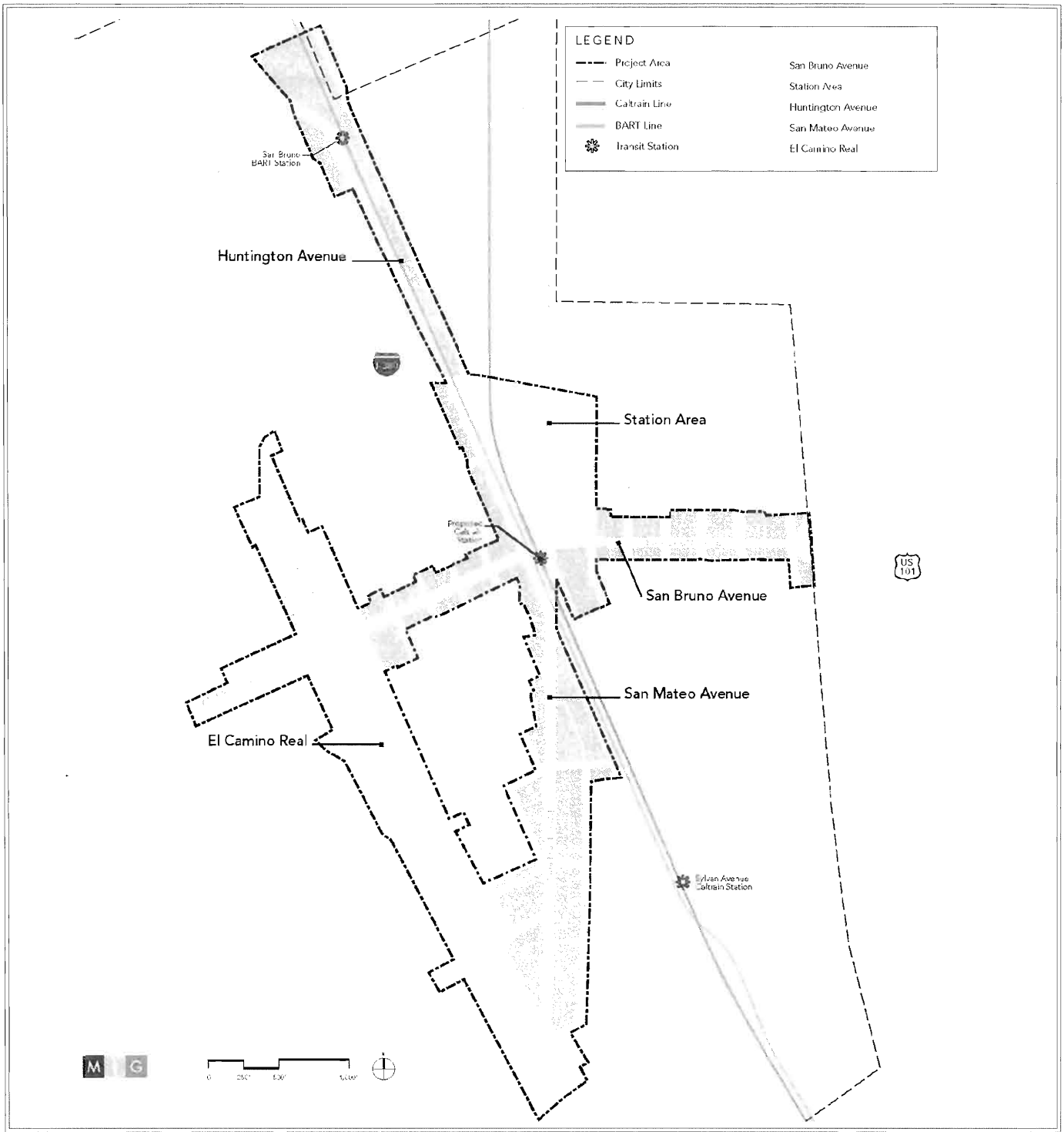
(Approximate Scale in Feet)

Erler & Kalinowski, Inc.

Project Location

City of San Bruno
Water Supply Assessment
San Bruno, CA
June 2011
EKI B00057.00

Figure 1



Notes:

1. Adapted from San Bruno Transit Corridors Plan.

N

0 1000 2000

(Approximate Scale in Feet)

Erler & Kalinowski, Inc.

Project Map

City of San Bruno
Water Supply Assessment
San Bruno, CA
June 2011
EKI B00057.00

Figure 2

Attachment A

California Water Code Sections 10910-10915

CALIFORNIA CODES
WATER CODE
SECTION **10910-10915**

10910. (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water

rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water systems or water service contractholders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin

from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

(2) Prior to the expiration of the 90-day period, if the public water system intends to request an extension of time to prepare and adopt the assessment, the public water system shall meet with the city or county to request an extension of time, which shall not exceed 30 days, to prepare and adopt the assessment.

(3) If the public water system fails to request an extension of time, or fails to submit the assessment notwithstanding the extension of time granted pursuant to paragraph (2), the city or county may seek a writ of mandamus to compel the governing body of the public water system to comply with the requirements of this part relating to the submission of the water supply assessment.

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water supply assessment that complies with the requirements of this part, no additional water supply assessment shall be required for subsequent projects that were part of a larger project for which a water supply assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment

was prepared.

10911. (a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

(b) The city or county shall include the water supply assessment provided pursuant to Section **10910**, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

10912. For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3000 or more service connections. A public water system includes all of the following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

10914. (a) Nothing in this part is intended to create a right or entitlement to water service or any specific level of water service.

(b) Nothing in this part is intended to either impose, expand, or limit any duty concerning the obligation of a public water system to provide certain service to its existing customers or to any future potential customers.

(c) Nothing in this part is intended to modify or otherwise change existing law with respect to projects which are not subject to this part.

(d) This part applies only to a project for which a notice of preparation is submitted on or after January 1, 1996.

10915. The County of San Diego is deemed to comply with this part if the Office of Planning and Research determines that all of the following conditions have been met:

(a) Proposition C, as approved by the voters of the County of San Diego in November 1988, requires the development of a regional growth management plan and directs the establishment of a regional planning and growth management review board.

(b) The County of San Diego and the cities in the county, by agreement, designate the San Diego Association of Governments as that review board.

(c) A regional growth management strategy that provides for a comprehensive regional strategy and a coordinated economic development and growth management program has been developed pursuant to Proposition C.

(d) The regional growth management strategy includes a water element to coordinate planning for water that is consistent with the requirements of this part.

(e) The San Diego County Water Authority, by agreement with the San Diego Association of Governments in its capacity as the review board, uses the association's most recent regional growth forecasts for planning purposes and to implement the water element of the strategy.

(f) The procedures established by the review board for the development and approval of the regional growth management strategy, including the water element and any certification process established to ensure that a project is consistent with that element, comply with the requirements of this part.

(g) The environmental documents for a project located in the County of San Diego include information that accomplishes the same purposes as a water supply assessment that is prepared pursuant to Section **10910.**

Attachment B

Project Specific Estimation Method Worksheets

Table B-1a
Estimated Residential Water Demand by AWWARF Model (a)
New Development With Transit Corridors Plan Buildout

Transit Corridors Plan Redevelopment, San Bruno, California

Water Demand Characteristics of Residential Portion	Value	Units
Home square footage (b)	750	sq ft
Household Size (b)	2.57	persons
Household income (b)	99,400	$
Marginal price of water (c)	8.69	$/kgal
Fraction of customers that rent (b)	0.55	0 to 1
Fraction of customers with personal swimming pools (b)	0.0	"
Fraction of customers with personal hot-tubs (b)	0.0	"
Fraction of homes built before 1960	0.0	"
Fraction of homes built after 1989	1.0	"
Fraction of all toilets that are ultra-low-flow (b)	1.00	"
Fraction of customers that are completely retrofitted with ULF toilets (b)	1.00	"
Fraction of all showerheads that are low-flow (b)	1.00	"
Fraction of customers with home water treatment systems	0.0	"
Fraction of customers with evaporative coolers	0.0	"
Marginal Price of Sewer (d)	7.65	$/kgal
Estimated Water Demand by End Use Category (e)	**Value**	**Units**
Toilet Water Use	6.2	GPCD
Shower/bath Water Demand	7.9	"
Faucet Water Demand	8.5	"
Dishwasher Water Demand	0.7	"
Clothes Washer Water Demand	15.7	"
Leak Water Demand	2.1	"
Other Water Demand	0.8	"
	41.9	**GPCD**
TOTAL ESTIMATED PROJECT INDOOR RESIDENTIAL WATER DEMAND	**108**	**GPD/du**
	0.120	**AFY/du**
	194	**AFY**

Abbreviations:

$ = U.S. Dollars
$/kgal = U.S. Dollars per 1,000 gallons
0 to 1 = fraction (without units) between 0 and 1
AFY = acre-feet of water used per year
AWWARF = American Water Works Association Research Foundation
du/ac = dwelling units per gross acre
GPCD = gallons per capita daily
sq ft = square feet
ULF = Ultra low flow

Table B-1a
Estimated Residential Water Demand by AWWARF Model (a)
New Development With Transit Corridors Plan Buildout
Transit Corridors Plan Redevelopment, San Bruno, California

Notes:

(a) This worksheet estimates the indoor water use by using the AWWARF Residential End Uses of Water inferential model ("AWWARF model") (see Reference 1).

(b) Based on information provided by City.

(c) Marginal price of water is based on City of San Bruno rates for all accounts effective as of 1 July 2010.

(d) Marginal price of sewer is based on City of San Bruno rates for all accounts effective as of 1 July 2010.

(e) Water demand for each end use was estimated using the AWWARF inferential model equations. An additional safety factor was added to each end use based on the difference between the average measured and modeled water demand for the cities included in the AWWARF study (for end uses where the measured water demand exceeded the modeled water demand). These safety factors are:

Toilet	11%
Shower / bath	12%
Faucet	18%
Dishwasher	0%
Clothes washer	22%
Leaks	175%
Other	69%

The total indoor water demand is the sum of the estimated indoor water demand for each end use. Note that 1 acre-feet per year is equal to approximately 893 gallons per day.

Reference:

1 AWWARF, 1999. Mayer, P.W., DeOreo, W.B., et al. Residential End Uses of Water, American Water Works Association Research Foundation, 1999.

Table B-1b
Estimated Residential Water Demand by AWWARF Model (a)
Net New Development Over General Plan
Transit Corridors Plan Redevelopment, San Bruno, California

Water Demand Characteristics of Residential Portion	Value	Units
Home square footage (b)	750	sq ft
Household Size (b)	2.57	persons
Household income (b)	99,400	$
Marginal price of water (c)	8.69	$/kgal
Fraction of customers that rent (b)	0.55	0 to 1
Fraction of customers with personal swimming pools (b)	0.0	"
Fraction of customers with personal hot-tubs (b)	0.0	"
Fraction of homes built before 1960	0.0	"
Fraction of homes built after 1989	1.0	"
Fraction of all toilets that are ultra-low-flow (b)	1.00	"
Fraction of customers that are completely retrofitted with ULF toilets (b)	1.00	"
Fraction of all showerheads that are low-flow (b)	1.00	"
Fraction of customers with home water treatment systems	0.0	"
Fraction of customers with evaporative coolers	0.0	"
Marginal Price of Sewer (d)	7.65	$/kgal
Estimated Water Demand by End Use Category (e)	**Value**	**Units**
Toilet Water Use	6.2	GPCD
Shower/bath Water Use	7.9	"
Faucet Water Use	8.5	"
Dishwasher Water Use	0.7	"
Clothes Washer Water Use	15.7	"
Leak Water Use	2.1	"
Other Water Use	0.8	"
TOTAL ESTIMATED PROJECT INDOOR RESIDENTIAL WATER DEMAND	**41.9** **108** **0.120** **107**	**GPCD** **GPD/du** **AFY/du** **AFY**

Abbreviations:
$ = U.S. Dollars
$/kgal = U.S. Dollars per 1,000 gallons
0 to 1 = fraction (without units) between 0 and 1
AFY = acre-feet of water used per year
AWWARF = American Water Works Association Research Foundation
du/ac = dwelling units per gross acre
GPCD = gallons per capita daily
sq ft = square feet
ULF = Ultra low flow

Table B-1b
Estimated Residential Water Demand by AWWARF Model (a)
Net New Development Over General Plan
Transit Corridors Plan Redevelopment, San Bruno, California

Notes:

(a) This worksheet estimates the indoor water use by using the AWWARF Residential End Uses of Water inferential model ("AWWARF model") (see Reference 1).

(b) Based on information provided by City.

(c) Marginal price of water is based on City of San Bruno rates for all accounts effective as of 1 July 2010.

(d) Marginal price of sewer is based on City of San Bruno rates for all accounts effective as of 1 July 2010.

(e) Water demand for each end use was estimated using the AWWARF inferential model equations. An additional safety factor was added to each end use based on the difference between the average measured and modeled water demand for the cities included in the AWWARF study (for end uses where the measured water demand exceeded the modeled water demand). These safety factors are:

Toilet	11%
Shower / bath	12%
Faucet	18%
Dishwasher	0%
Clothes washer	22%
Leaks	175%
Other	69%

The total indoor water demand is the sum of the estimated indoor water demand for each end use. Note that 1 acre-feet per year is equal to approximately 893 gallons per day.

Reference:

1 AWWARF, 1999. Mayer, P.W., DeOreo, W.B., et al. Residential End Uses of Water, American Water Works Association Research Foundation, 1999.

Table B-2a
Commercial Water Demand Estimates by the Pacific Institute Methodology
New Development With Transit Corridors Plan Buildout

Transit Corridors Plan Redevelopment, San Bruno, California

Commercial Land Use (a)	[B] Floor Area or Rooms (a) sf or rooms	[C] Square Feet or Rooms per Employee (b) sf/emp or rooms/emp	[D] Number of Employees D = B / C	[E] Employee Water Demand (c) gpd/emp	[F] Conservation Savings (d)	[G] Estimated Water Demand AFY G = D × E × (1-F) × 225 / 325851
Office	988,100	333	2,967	79	0.2	129
Retail	147,700	333	444	117	0.2	29
Hotel	190	1	190	216	0.2	23
Total						181

Abbreviations:

ac = acre
ac/ac = acre per developed acre
AFY = acre-feet per year
gpd/emp = gallons per day per employee
rooms/emp = rooms per employee
sf/emp = square feet per employee
sf = square feet

Notes:

(a) Commercial land uses and their approximate square footage and hotel rooms are from Reference 1.

(b) Office employee square feet based on Regional Office value (300 sf per employee and 10% vacancy rate) presented in December 2008 General Plan DEIR Table 3.1-2. Retail employee square feet based on Neighborhood Commercial value (300 sf per employee and 10% vacancy rate) presented in December 2008 General Plan DEIR Table 3.1-2. Rooms per employee was assumed from Reference 2.

(c) The employee water use factor relates the total water use for a commercial land use to the number of employees. These values are based on an estimated work year of 225 days. Employee water demand factors are based on values provided in Reference 3 Appendix E. The office and retail water demand gpd/emp was adjusted from the Reference 3 value to remove landscaping because it is accounted for elsewhere. Retail assumes 80% retail (152 gpd/employee minus 45.9 gpd/employee for landscaping) and 20% grocery stores (170 gpd/employee minus 5.1 gpd/employee for landscaping). Hotel employee water use is also from Reference 2 and adjusted to remove landscaping.

(d) To account for reductions in water use associated with the installation of water-efficient plumbing fixtures, appliances, landscaping, and other recent technologies, a savings of 20% was applied to the water demands. As discussed in Reference 3, other studies have estimated water conservation savings to range from 28 to 52% total current commercial water demand. For purposes of this document, a more conservative estimate of 20% was used.

References:

(1) City of San Bruno Transit Corridor Plan Public Review Draft June 2010.
(2) City of San Bruno Transit Corridor Plan Draft Environmental Impact Report, 25 March 2011.
(3) Pacific Institute, 2003. *Waste Not, Want Not: The Potential for Urban Water Conservation in California,* November 2003.

Table B-2b
Commercial Water Demand Estimates by the Pacific Institute Methodology
Net New Development Over General Plan

Transit Corridors Plan Redevelopment, San Bruno, California

Commercial Land Use (a)	[B] Floor Area or Rooms (a) sf or rooms	[C] Square Feet or Rooms per Employee (b) sf/emp or rooms/emp	[D] Number of Employees D = B / C	[E] Employee Water Demand (c) gpd/emp	[F] Conservation Savings (d)	[G] Estimated Water Demand AFY G = D × E × (1-F) × 225 / 325851
Office	666,600	333	2,002	79	0.2	87
Retail	19,100	333	57	117	0.2	4
Hotel	190	1	190	216	0.2	23
Total						114

Abbreviations:

ac = acre
ac/ac = acre per developed acre
AFY = acre-feet per year
gpd/emp = gallons per day per employee
rooms/emp = rooms per employee
sf/emp = square feet per employee
sf = square feet

Notes:

(a) Commercial land uses and their approximate square footage and hotel rooms are from Reference 1.

(b) Office employee square feet based on Regional Office value (300 sf per employee and 10% vacancy rate) presented in December 2008 General Plan DEIR Table 3.1-2. Retail employee square feet based on Neighborhood Commercial value (300 sf per employee and 10% vacancy rate) presented in December 2008 General Plan DEIR Table 3.1-2. Rooms per employee was assumed from Reference 2.

(c) The employee water use factor relates the total water use for a commercial land use to the number of employees. These values are based on an estimated work year of 225 days. Employee water demand factors are based on values provided in Reference 3 Appendix E. The office and retail water demand gpd/emp was adjusted from the Reference 3 value to remove landscaping because it is accounted for elsewhere. Retail assumes 80% retail (152 gpd/employee minus 45.9 gpd/employee for landscaping) and 20% grocery stores (170 gpd/employee minus 5.1 gpd/employee for landscaping). Hotel employee water use is also from Reference 2 and adjusted to remove landscaping.

(d) To account for reductions in water use associated with the installation of water-efficient plumbing fixtures, appliances, landscaping, and other recent technologies, a savings of 20% was applied to the water demands. As discussed in Reference 3, other studies have estimated water conservation savings to range from 28 to 52% total current commercial water demand. For purposes of this document, a more conservative estimate of 20% was used.

References:

(1) City of San Bruno Transit Corridor Plan Public Review Draft June 2010.
(2) City of San Bruno Transit Corridor Plan Draft Environmental Impact Report, 25 March 2011.
(3) Pacific Institute, 2003. *Waste Not, Want Not: The Potential for Urban Water Conservation in California,* November 2003.

Table B-3
Irrigation Water Requirements (UCCE / DWR Landscape Irrigation Model)
Transit Corridors Plan Redevelopment, San Bruno, California

			High Water Use Plantings (in)						Low Water Use Plantings (in)					
	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]
Month	**Reference Evapotranspiration (a)** in	**Precipitation (b)** in	**HWUP Landscape Coefficient (c)** --	**HWUP Planting Evapotranspiration (d)** D = A × C	**Effective Precipitation (e)** E = 0.5 × B	**HWUP Required Irrigation (f)** F = E - D	**Irrigation Efficiency (g)** %	**HWUP Total Applied Irrigation Rate (h)** H = F / G	**LWUP Landscape Coefficient (i)** --	**LWUP Planting Evapotranspiration (d)** J = A × I	**Effective Precipitation (e)** K = 0.5 × B	**LWUP Required Irrigation (f)** L = J - K	**Irrigation Efficiency (g)** %	**LWUP Total Applied Irrigation Rate (h)** N = L / M
January	1.38	4.40	0.8	1.10	2.20	0.00	75%	0.00	0.4	0.55	2.20	0.00	75%	0.00
February	1.89	3.61	0.8	1.51	1.81	0.00	75%	0.00	0.4	0.76	1.81	0.00	75%	0.00
March	3.66	2.80	0.8	2.93	1.40	1.53	75%	2.04	0.4	1.46	1.40	0.06	75%	0.09
April	5.31	1.37	0.8	4.25	0.69	3.57	75%	4.76	0.4	2.13	0.69	1.44	75%	1.92
May	6.89	0.39	0.8	5.51	0.20	5.32	75%	7.09	0.4	2.76	0.20	2.56	75%	3.41
June	7.87	0.11	0.8	6.30	0.06	6.24	75%	8.32	0.4	3.15	0.06	3.09	75%	4.13
July	8.43	0.02	0.8	6.74	0.01	6.73	75%	8.97	0.4	3.37	0.01	3.36	75%	4.48
August	7.40	0.05	0.8	5.92	0.03	5.90	75%	7.87	0.4	2.96	0.03	2.94	75%	3.91
September	5.75	0.18	0.8	4.60	0.09	4.51	75%	6.01	0.4	2.30	0.09	2.21	75%	2.95
October	3.86	0.99	0.8	3.09	0.50	2.59	75%	3.45	0.4	1.54	0.50	1.05	75%	1.40
November	2.01	2.32	0.8	1.61	1.16	0.45	75%	0.60	0.4	0.80	1.16	0.00	75%	0.00
December	1.34	3.75	0.8	1.07	1.88	0.00	75%	0.00	0.4	0.54	1.88	0.00	75%	0.00
Total Annual Applied Irrigation (j)								**49.12 in 4.1 AFY/ac**						**22.29 in 1.9 AFY/ac**

Abbreviations
AFY/ac = acre-feet per year per acre
DWR = Department of Water Resources
HWUP = High water use plantings
in = inches
LWUP = Low water use plantings
UCCE = University of California Cooperative Extension

Table B-3
Irrigation Water Requirements (UCCE / DWR Landscape Irrigation Model)
Transit Corridors Plan Redevelopment, San Bruno, California

Notes:

(a) Reference evapotranspiration data were obtained from a California Irrigation Management Information System ("CIMIS") station located near San Bruno. Because CIMIS data are not available for San Bruno itself, the average monthly evapotranspiration was estimated based on CIMIS station 96 in Woodside.

(b) From Western Regional Climate Center, for San Francisco airport, station 047769 from 7/1/1948 to 7/31/2010. http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7769

(c) The high water use plantings landscape coefficient is based on the high end of typical values for turf grasses from Reference 1.

(d) The planting evapotranspiration is calculated as the product of the reference evapotranspiration and the landscape coefficient. The planting evapotranspiration represents the total water requirements for the plantings.

(e) Effective precipitation refers to the amount of precipitation that is available to plants. For planning purposes, the effective precipitation is estimated as 50 percent of total precipitation, on a monthly basis, as described in Reference 2.

(f) The required irrigation is the amount of irrigation water that needs to be applied in addition to the amount of precipitation so that the planting evapotranspiration is met. If the precipitation exceeds the planting evapotranspiration, no additional irrigation water is necessary.

(g) According to Reference 1, a well operated irrigation system can have an irrigation efficiency range from 80% to 90%. A value of 75% was used as a conservative estimate of irrigation efficiency.

(h) The total applied irrigation is calculated by dividing the required irrigation by the irrigation efficiency.

(i) The low water use plantings landscape coefficient is based on the low end of the range for landscape coefficients for moderate water use plants from Reference 1.

(j) The total annual applied irrigation is how much water use is necessary for an area of plantings. Note that 1 AFY/ac is equal to 12 inches annually.

References:

1 University of California Cooperative Extension and California Department of Water Resources. *A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California,* August 2000.

2 Irrigation Agency Water Demand Committee, *Landscape Irrigation Scheduling and Water Management,* March 2005.

Table B-4a
Landscape Water Use Calculations and Factors
New Development With Transit Corridors Plan Buildout
Transit Corridors Plan Redevelopment, San Bruno, California

	[A]	High Water Use Plantings				Low Water Use Plantings				[J]	[K]
	Acres (a) ac	[B] **Area of Land as HWUP (a,b)** %	[C] **Total Area of HWUP (c)** ac C = A × B	[D] **HWUP Irrigation Rate (d)** AFY/ac	[E] **Total Applied Irrigation (e)** AFY E = C × D	[F] **Area of Land as LWUP (a,f)** %	[G] **Total Area of LWUP (c)** ac G = A × F	[H] **LWUP Irrigation Rate (d)** AFY/ac	[I] **Total Applied Irrigation (e)** AFY I = G × H	**Water Use Factor** AFY/ac J = K/A	**Total Irrigation Water Use (g)** AFY K = E + I
Transit Corridors	4.68	30%	1.4	4.1	5.8	70%	3.28	1.9	6.2	2.6	12.0
Total Estimated Irrigation Water Use for Landscape Areas											**12.0**

Abbreviations:

ac = acre
AFY = acre-feet per year
AFY/ac = acre-feet per year per acre
HWUP = high water use plantings
LWUP = low water use plantings
% = percent

Notes:

(a) Area based on information provided by City.
(b) High water use plantings include turf grasses and trees.
(c) The area of plantings is the acreage multiplied by the percentage of the land that is covered by each type of planting
(d) The total water application rates for high and low water use plantings are estimated (see Table B-3).
(e) The applied irrigation for high water use plantings is the area of plantings multiplied by the annual applied irrigation rate for that kind of planting.
(f) Low water use plantings include shrubs and native vegetation.
(g) The total annual irrigation water use is the sum of the applied irrigation for high water use plantings and the applied irrigation for low water use plantings.

Table B-4b
Landscape Water Use Calculations and Factors
Net New Development Over General Plan
Transit Corridors Plan Redevelopment, San Bruno, California

	[A]	High Water Use Plantings				Low Water Use Plantings				[J]	[K]
	Acres (a) ac	[B] **Area of Land as HWUP (a,b)** %	[C] **Total Area of HWUP (c)** ac C = A × B	[D] **HWUP Irrigation Rate (d)** AFY/ac	[E] **Total Applied Irrigation (e)** AFY E = C × D	[F] **Area of Land as LWUP (a,f)** %	[G] **Total Area of LWUP (c)** ac G = A × F	[H] **LWUP Irrigation Rate (d)** AFY/ac	[I] **Total Applied Irrigation (e)** AFY I = G × H	**Water Use Factor** AFY/ac J = K/A	**Total Irrigation Water Use (g)** AFY K = E + I
Project Increment over General Plan	2.76	30%	0.8	4.1	3.4	70%	1.93	1.9	3.7	2.6	7.1
Total Estimated Irrigation Water Use for Landscape Areas											**7.0**

Abbreviations:

ac = acre
AFY = acre-feet per year
AFY/ac = acre-feet per year per acre
HWUP = high water use plantings
LWUP = low water use plantings
% = percent

Notes:

(a) Area estimated from information provided by City.
(b) High water use plantings include turf grasses and trees.
(c) The area of plantings is the acreage multiplied by the percentage of the land that is covered by each type of planting
(d) The total water application rates for high and low water use plantings are estimated (see Table B-3).
(e) The applied irrigation for high water use plantings is the area of plantings multiplied by the annual applied irrigation rate for that kind of planting.
(f) Low water use plantings include shrubs and native vegetation.
(g) The total annual irrigation water use is the sum of the applied irrigation for high water use plantings and the applied irrigation for low water use plantings.

APPENDIX 19.4: SUPPLEMENTAL TRANSPORTATION ANALYSIS INFORMATION

There are few methodologies available to estimate the unique trip generation characteristics of mixed-use and infill developments. One of the most commonly used methods is to use trip generation rates or equations from the Institute of Transportation Engineers (ITE) *Trip Generation* and apply reductions from the mixed-use internalization spreadsheet from the ITE *Trip Generation Handbook*. This method has some shortcomings in that it is based on a limited sample size of three mixed-use sites in Florida, it is not recommended for town center projects such as the land uses changes proposed in the Transit Corridors Plan, it is limited to three land use types (residential, retail, and office), and it does not take into account the influence of nearby land uses.

The development anticipated in the Transit Corridors Plan is not a typical suburban development in that it includes a mix of uses with higher development densities. It is also located in an area with local bus service and is within walking distance of the San Bruno Caltrain station. Therefore, the mixed-use development (MXD) trip generation model, developed by Fehr & Peers, was used to estimate the amount of traffic the project would add to the surrounding roadway system. The MXD model is a quantitative model that captures the traffic benefits of mixed-use developments and is based on the results of a national research project conducted for the United State Environmental Protection Agency (EPA) co-led by Fehr & Peers and Dr. Reid Ewing of the University of Utah. The MXD trip generation model consists of three steps to estimate external automobile trips generated by a mixed-use development:

1. Compute daily trip estimates using the equations from the ITE *Trip Generation* manual (these are referred to as "Raw ITE Trips"). These estimates assume no internalization, and only minimal trips made by walking and/or transit modes.

2. Compute the probability of a trip staying internal to the mixed-use development.

3. Compute the probability an external trip will be made by transit.

The model was developed using data from 240 mixed-use development sites in six metropolitan regions (Boston, Atlanta, Houston, San Diego, Seattle, and Sacramento). Hierarchical Linear Modeling (HLM) techniques were used to quantify relationships between characteristics of the mixed-use developments and the likelihood that trips generated by those mixed-use developments will stay internal to the site and/or use modes of transportation other than the private vehicle (e.g. walk and transit). Variables that proved to be the most informative and that are used in the MXD model are: employment, population and employment per square mile, land area, total jobs per population diversity, retail jobs per population diversity, number of intersections per square mile, employment within a mile, average household size, and vehicles owned per capita. Many of these variables are examples of the "Ds" of "smart growth," which are built environment variables that are known to influence travel behavior – including the **d**ensity, **d**iversity, **d**evelopment scale, **d**esign, and **d**istance to transit.

Further discussion of the MXD methodology and validation process can be found in the San Bruno Transit Corridors Plan Transportation Impact Analysis prepared by Fehr & Peers, transportation planners, which is available for review at the City of San Bruno Community Development Department.[1]

The MXD model is designed for sites between five and 2,000 acres, which include up to 5,000 dwelling units and 3 million square feet of commercial uses. The Transit Corridors Plan area of approximately 160 acres is within the intended range with 1,610 dwelling units, 147,700 square feet of commercial use, 988,100 square feet of office use, and 190 hotel rooms.

Internal Capture. Internalization of trips is primarily related to four variables: resident population, employment, job-population balance, and intersection density within the mixed-use development. The first two are measures of *development scale*, the third a measure of *diversity*, and the fourth a measure of *design*. All four are positively related to the likelihood of internal trips. Larger mixed-use developments are more likely to capture trips internally, as are mixed-use developments with a balance of employment and resident population and mixed-use developments with short blocks and highly connected streets. A high job-housing balance index suggests relatively high trip internalization for work trips as well as retail shopping, since employment values include individuals working in the retail and service sectors.

Many internal trips within the Transit Corridors Area will be made on foot. The strongest influences on walking are intersection density and jobs within one mile of the mixed-use development boundary. The former is a measure of *design*, and the latter is a measure of *destination accessibility*. High intersection density within the mixed-use development makes walking to/from activities outside the mixed-use development that much faster and easier. High employment totals within a mile of the mixed-use development affords trip attractions within walking distance. Activity *density* within the mixed-use development is also positively related to walking for external trips.

Transit Mode Share. In the MXD model, transit use is modeled independently because it depends on slightly different environmental factors than internalized trips. Transit Corridors Plan development will benefit from the close proximity of bus and rail services. Caltrain provides connectivity from San Mateo County (San Bruno Caltrain Station) to San Francisco and Santa Clara County.

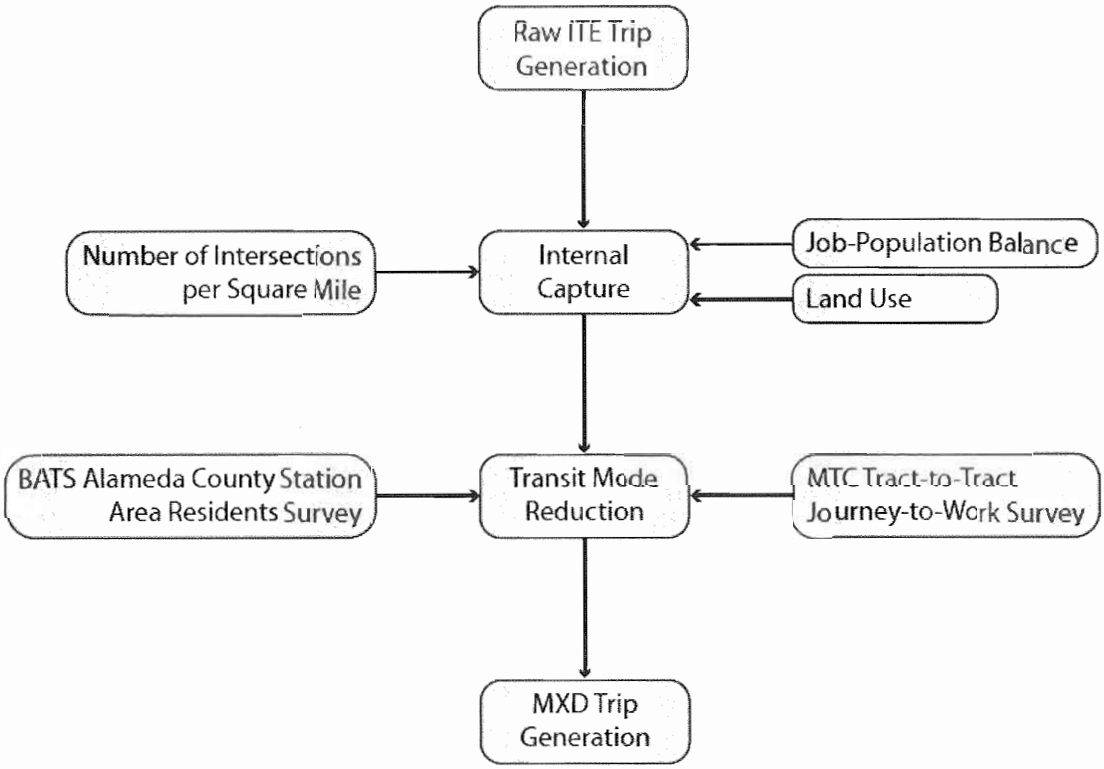
While the MXD model was developed to account for external transit (buses and rail) reductions by tallying the total employment within a 30-minute transit trip, transit reductions were applied to trip vehicle generation estimates based on the more extensive and local surveys provided by Census data and the Metropolitan Transportation Commission. The transit reductions were applied to the three conventional trip generation splits: Home Based Work, Home Based Other, and Non Home Based. Table 19.3-1 identifies the reduction source per trip types and the overall transit ridership reduction percentages for the two land use types (residential and non-residential). The MXD trip generation model process and the critical roles of each input variable are illustrated in the following flow chart.

[1]Fehr & Peers, San Bruno Transit Corridors Plan Draft Transportation Impact Analysis, January 2011.

TABLE 19.3-1:
TRANSIT REDUCTION SOURCES AND ASSUMPTIONS

Land Use Type	Home Based Work Trips	Home Based Other Trips	Non Home Based Trips	Overall Transit Reduction
Residential	BATS 2000	BATS 2000	BATS 2000	6.0%
Non-Residential	Dill 2003	BATS 2000	BATS 2000	4.0%

Sources: Bay Area Travel Survey *2000 (BATS 2000) and Jennifer Dill,* Transit Use and Proximity to Rail: Results from Large Employment Sites in the San Francisco Bay Area, California, *Journal of the Transportation Research Board, vol. 1835, 2003.*



MXD Trip Generation Model Process

APPENDIX 19.5:

CEQA STANDARDS FOR EIR ADEQUACY

According to section 15151 of the CEQA Guidelines, the standards for Adequacy of an EIR are as follows:

An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

APPENDIX 19.6:

CEQA DEFINITION OF "MITIGATION"

According to section 15370 of the CEQA Guidelines, the term "mitigation" includes:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree of magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impacts by replacing or providing substitute resources or environments.

APPENDIX 19.7 EIR AUTHORS

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