

D.12 Transportation and Traffic

D.12.1 Environmental Setting for the Proposed Project

D.12.1.1 Existing Roadway Network

Figures B-2a and B-2b illustrate the study area roadway network and the Proposed Project transmission line path and substation locations. There are a number of roadway segments that would be directly or indirectly affected by construction of the Proposed Project. The names of these roadway segments, the general roadway classification, the number of lanes, and the daily and peak hour traffic volumes are provided in Table D.12-1. The table also indicates the orientation of the proposed transmission line to the roads. Refer to Figures B-2a and B-2b for the specific locations of the subject roadway segments.

Major study area roadways that would be potentially affected by the construction of the Proposed Project are further described below.

Interstate 280. The Proposed Project would include five overhead crossings of Interstate 280 (I-280), near Edgewood Road, State Route 92, Hayne Road, and two crossings near the Trousdale Drive interchange. In addition, the proposed underground line would cross under the I-280 overpass along San Bruno Avenue. I-280 is an eight- to ten-lane freeway running primarily north-south through San Francisco, San Mateo, and Santa Clara Counties. It is designated as a scenic corridor by Caltrans and serves as a major commuter route between the peninsula and South Bay and, along with U.S. Highway 101 (U.S. 101), is a major north-south corridor on the peninsula. The freeway provides connections to U.S. 101 in San Francisco and I-880 and I-680 in San Jose. I-280 also provides access to State Route 1 in San Francisco, State Route 92 to the San Mateo Bridge, and State Route 84 to the Dumbarton Bridge. The peak directions of travel along I-280 are southbound during the morning peak period and northbound during the evening peak period. Average daily traffic volume in 2002 on I-280 in the project area averaged from 111,000 to 116,000 trips.

Interstate 380. The proposed underground line would cross under the Interstate 380 (I-380) overpass along Huntington Avenue. I-380 is a two-mile, six- to ten-lane freeway in the project area between I-280 and U.S. 101. It is mainly used by commuters and travelers destined for San Francisco International Airport. Average daily traffic volume in 2002 in the project area was 128,000 trips.

State Route 35. The Proposed Project includes two overhead crossings of State Route 35 (SR 35), one north of Hayne Road and one north at San Bruno Avenue. SR 35 (also known in the project area as Skyline Boulevard) is a two-lane arterial roadway that originates at Highway 101 in San Francisco, merges with I-280 in San Bruno, and diverges at the Bunker Hill Drive exit before extending south to Los Gatos. This route is designated as a scenic corridor by Caltrans. Regionally, the route serves as a bypass of I-280 after the Bunker Hill exit for travelers heading south from San Mateo to San Jose. The daily traffic volume measured in 2002 along SR 35 in the project area was 15,700 trips.

State Route 82. The Proposed Project calls for a trenched crossing of State Route 82 (SR 82). SR 82 (also known as El Camino Real) originates at I-280 in Daly City and extends south to San Jose. SR 82 is classified as a major arterial with varying numbers of lanes, but generally has four to six lanes. Regionally, the route serves as a bypass of U.S. 101 for travelers heading south from I-280 to San Jose. Daily traffic volume in San Mateo County, measured in 2002, ranged from approximately 29,000 to 48,000 trips.

Table D.12-1. Summary of Roadway Characteristics Along Proposed Route

Roadway	Jurisdiction	Classification	Lanes	Traffic Volume			Transmission Line Orientation
				Year	Daily	Peak Hour	
Overhead Segment							
Edgewood Road	San Mateo Co.	Arterial	2	2000	20,300	N/A	overhead crossing
Interstate 280	Caltrans	Freeway	8 to 10	2002	111,000	11,700	2 overhead crossings
State Route 92	Caltrans	Arterial/Freeway	2 to 4	2002	82,000	8,700	overhead crossing
Bunker Hill Drive	San Mateo Co.	Local	2	1997	5,500	N/A	overhead crossing
Crystal Springs Road	San Mateo Co.	Arterial	2	2000	2,300	N/A	overhead crossing
Hayne Road	Hillsborough	Local	2	N/A	N/A	N/A	overhead crossing
Interstate 280	Caltrans	Freeway	8 to 10	2002	111,000	11,500	3 overhead crossings
State Route 35 (Skyline Boulevard)	Caltrans	Arterial	2	2002	15,700	1,650	overhead crossing
Underground Segment							
San Bruno Avenue (West of El Camino)	San Bruno	Arterial	4	1993	18,900	N/A	longitudinal trench
Interstate 280	Caltrans	Freeway	8 to 10	2002	116,000	11,100	under overpass crossing
State Route 82 (El Camino Real)	Caltrans	Arterial	4 to 6	2002	44,000	3,900	transverse trench
San Bruno Avenue (East of El Camino)	San Bruno	Arterial	4	1993	19,900	N/A	longitudinal trench
Huntington Avenue	South San Francisco	Arterial/Collector	2	N/A	N/A	N/A	nearby underground
Interstate 380	Caltrans	Freeway	6 to 10	2002	128,000	9,600	under freeway
South Spruce Avenue	South San Francisco	Minor Arterial	4	1997	18,200	N/A	transverse trench
West Orange Avenue	South San Francisco	Minor Arterial	2	1997	10,800	N/A	transverse trench
Chestnut Avenue	South San Francisco	Major Arterial	8	1997	14,100	N/A	transverse trench
Lawndale Avenue	Colma	Unclassified	2	N/A	NA	NA	longitudinal trench
Hillside Boulevard	Colma	Arterial	2 to 4	1998	15,000 to 20,000	1,900	longitudinal trench
Hoffman Street	Daly City	Collector	2	N/A	N/A	N/A	longitudinal trench
Orange Street	Daly City	Collector	2	unknown	1,000 to 6,000	N/A	longitudinal trench
Guadalupe Canyon Parkway	Brisbane, San Mateo County, Daly City	Arterial	4	2001	11,600	N/A	longitudinal trench
Bayshore Boulevard	Brisbane	Arterial	4		21,500	N/A	longitudinal trench

Sources: PG&E, 2002; Caltrans, 2003.

Edgewood Road. An overhead crossing would occur over Edgewood Road east of I-280. Edgewood Road is under the jurisdiction of San Mateo County in the vicinity of the Proposed Project. In the project area, Edgewood Road is a two-lane roadway with shoulders and no median. San Mateo County designates it as a scenic route. The average daily traffic volume along Edgewood Road measured in 2000 was 20,300 trips.

Bunker Hill Drive. The proposed overhead transmission line would cross over Bunker Hill Drive near the I-280 on- and off-ramps. In the project area, Bunker Hill Drive is in a primarily residential area under the jurisdiction of San Mateo County. The subject segment of Bunker Hill Drive is a two-lane roadway with shoulders and no median. The average daily traffic volume, measured in 1997, was 5,500 trips.

Crystal Springs Road. The proposed overhead transmission line would cross over Crystal Springs Road east of I-280. Crystal Springs Road in the vicinity of the Proposed Project is a two-lane roadway, with narrow shoulders and no median, under the jurisdiction of San Mateo County. San Mateo County designates the roadway as a scenic route. The average daily traffic volume along Crystal Springs Road during the year 2000 was 2,300 trips.

Hayne Road. The proposed overhead transmission line would cross over Hayne Road between I-280 and Black Mountain Road. Hayne Road in the vicinity of the project is under the Town of Hillsborough's jurisdiction. This section is in a primarily residential area and has two wide lanes and no shoulders or median. Traffic volume data for Hayne Road is not available.

San Bruno Avenue. The Proposed Project calls for trenching along San Bruno Avenue from the proposed transition station near San Bruno Avenue and Glenview Drive to the Bay Area Rapid Transit (BART) right-of-way (ROW) near Huntington Avenue. In the project area, San Bruno Avenue is under the jurisdiction of the City of San Bruno. San Bruno is classified as an arterial and is designated by the County as a scenic route. This section of San Bruno Avenue is a four-lane roadway, with a combination of raised and paved medians, and left turn bays at intersections. West of El Camino Real, parking is prohibited on either side of road; however, east of El Camino Real there are six-foot shoulders and parallel parking is allowed on both sides. San Bruno Avenue east of El Camino Real was recently resurfaced and a resurfacing pavement project is planned for San Bruno west of El Camino in the near future. In addition, the City of San Bruno is planning a grade separation project at the intersection of San Bruno and Huntington Avenues to allow Caltrain tracks to cross above San Bruno Avenue on a bridge.

San Bruno Avenue is used for access to U.S. 101 and San Francisco International Airport. The average daily traffic volume in 1993 on San Bruno Avenue west and east of El Camino Real was 18,900 and 19,900 trips, respectively.

Huntington Avenue. The proposed underground route line would turn north of San Bruno Avenue into Huntington Avenue, then continue directly east of Huntington Avenue within the BART ROW. The subject portion of Huntington Avenue is located in a primarily residential area under the jurisdiction of South San Francisco, with two wide lanes and no shoulders or median. Traffic volume data is not available.

South Spruce Avenue. Along the BART ROW, the project would trench across South Spruce Avenue east of Huntington Avenue. Within the project area, South Spruce Avenue is under the jurisdiction of the City of South San Francisco and is classified as minor. South Spruce Avenue east of Huntington Avenue is a four-lane roadway with shoulders and no median. The average daily traffic volume in 1997 was 18,200 trips.

West Orange Avenue. While the Proposed Project is in the BART ROW, it would trench across West Orange Avenue, west of Memorial Avenue. West Orange Avenue is under the City of South San Francisco's jurisdiction in the project area and is classified as a minor arterial. This section is in a residential area of the city and consists of two wide lanes with parallel parking allowed on both sides. The average daily traffic volume in 1997 was 10,800 trips.

Chestnut Avenue. The Proposed Project would require a trenched crossing of Chestnut Avenue between Antoinette Lane and El Camino Real. Chestnut Avenue in the project area is under the City of South San Francisco's jurisdiction and is classified as a major arterial. This section of Chestnut Avenue consists of commercial, residential, and recreational land uses and is a newly paved eight-lane roadway with a raised median. The average daily traffic volume on Chestnut Avenue (east of El Camino Real) in 1997 was 15,100 trips.

Lawndale Avenue. Longitudinal trenching would occur in this newly created roadway, opened for use in June 2003, is an extension of McLellan Drive in South San Francisco. It is under the jurisdiction of the Town of Colma and extends west from Hillside Boulevard to El Camino Real.

Hillside Boulevard. Trenching would occur along Hillside Boulevard from Lawndale Avenue to Hoffman Street. This section of Hillside Boulevard is under the jurisdiction of the Town of Colma. Hillside Boulevard is classified as an arterial roadway and as a scenic corridor by the Town of Colma. The lane configuration on Hillside Boulevard varies from a two-lane roadway with parking on both sides to a four-lane roadway with parking on neither side. There are shoulders, bike lanes, and both raised and paved medians. The 1998 estimated average daily traffic volume was 15,000 to 20,000 trips.

Hoffman Street. Trenching would occur for the Proposed Project along Hoffman Street from Hillside Boulevard to Orange Street. Hoffman Street is under the jurisdiction of Daly City. Hoffman Street is classified as a collector street with mainly residential uses along the north side and the Oliver Memorial Park Cemetery along the south side. Hoffman Street is a two-lane roadway with no medians and parallel parking on both sides. Parking spaces are usually occupied, especially at the southwest end where the residential density is highest. Traffic volume data is not available.

Orange Street. The Proposed Project calls for trenching along Orange Street from Hoffman Street to Guadalupe Canyon Parkway. Orange Street is under the jurisdiction of Daly City and is classified as a collector. The land use along this segment of Orange Street is mainly residential, including a mix of single- and multi-family housing. Orange Street is a two-lane roadway with no medians and parallel parking is allowed on both sides. According to the 1999 Daly City General Plan, the average weekday traffic volumes along Orange Street ranged from 1,000 to 6,000 vehicles per day.

Guadalupe Canyon Parkway. Trenching would occur along Guadalupe Canyon Parkway from Orange Street to Bayshore Boulevard. Guadalupe Canyon Parkway between Bayshore Boulevard and the eastern Daly City limit is under the jurisdiction of the City of Brisbane. The road segment between the eastern and western Daly City limit goes through San Bruno Mountain County Park and is under San Mateo County jurisdiction. The remaining portion of Guadalupe Canyon Parkway is under the jurisdiction of Daly City. Brisbane classifies this road as arterial. Guadalupe Canyon Parkway is a four-lane roadway with a combination of raised and paved medians. The road's pavement is in good condition, having been recently resurfaced. The average daily traffic volume in 2001 was 11,600 trips.

Bayshore Boulevard. Trenching would occur along Bayshore Boulevard from Guadalupe Canyon Parkway to the Martin Substation, at the northwest corner of the Bayshore Boulevard/Geneva Avenue intersection. Bayshore Boulevard is under the jurisdiction of the City of Brisbane and is classified as an arterial roadway. The land use in this section is mainly industrial and open space. Bayshore Boulevard is a four-lane roadway with raised and painted medians, turn bays at intersections, and both narrow and wide shoulders. The average daily traffic volume on this section in 2001 was 21,500 trips.

D.12.1.2 Transit and Rail Service

Transit service in the project area is provided by Bay Area Rapid Transit (BART), Caltrain, and San Mateo County Transit District (SamTrans).

BART is a 95-mile long automated rapid transit system that currently serves approximately 290,000 people each workday in four Bay Area counties, including Alameda, Contra Costa, San Francisco, and northern San Mateo (BART, 2003). There are six BART stations currently open in the vicinity of the project area, including 4 new stations (South San Francisco, San Bruno, San Francisco International Airport, and the Millbrae Intermodal Station) associated with the BART-San Francisco International Airport Extension Project that opened this year on June 22. Ridership numbers associated with the new stations are not yet available, but the average combined weekday ridership at the other two BART stations in the project area (Colma and Daly City stations) is about 28,600 people (BART, 2003).

Caltrain provides commuter rail service between San Francisco and Gilroy via San Jose and continuing bus service to Santa Cruz. Caltrain has a daily ridership of approximately 27,200 and owns 29 locomotives and runs 34 active stations from San Francisco to Gilroy with 14 stations in San Mateo County (Caltrain 2003a and 2003b). The Caltrain tracks are mostly east of the project area parallel to U.S. 101, except near the San Bruno Station where the tracks run adjacent to Huntington Avenue and cross San Bruno.

The San Mateo County Transit District (SamTrans) provides bus service from San Mateo County to Palo Alto and Downtown San Francisco. SamTrans serves approximately 60,000 people per weekday. Table D.12-2 shows bus routes in the project vicinity.

Table D.12-2. SamTrans Bus Routes in the Project Area

Route	Description	Intersection or Overlap with Project
32	Connects El Camino Real to Airport Boulevard.	Route includes Chestnut Avenue (El Camino Real to West Orange Avenue) and West Orange Avenue (Chestnut Avenue to Grand Avenue).
34	Connects Tanforan Shopping Center to Geneva Avenue.	Route includes Bayshore Boulevard (Guadalupe Canyon Parkway to Geneva Avenue) and South Spruce Avenue (Baden Avenue to Huntington Avenue).
40	Connects Pacific Manor to Tanforan Shopping Center.	Route includes San Bruno Avenue (Huntington Avenue to Cherry Avenue).
41	Connects Shelter Creek/Jenevein to Tanforan Shopping Center.	Route includes San Bruno Avenue (Huntington Avenue to 3rd Avenue).
130	Connects Daly City BART to South San Francisco.	Route includes Hoffman Street (Orange Street to Abbott Avenue), Orange Street, and Hillside Boulevard (Sylvan Street to John Daly Boulevard).
193	Connects Daly City BART to Stonestown Shopping Center.	Route includes San Bruno Avenue (El Camino Real to Airport Boulevard).
292	Connects downtown San Francisco to Hillsdale Shopping Center.	Route includes Bayshore Boulevard (Guadalupe Canyon Parkway to Geneva Avenue).
294	Connects Pacifica and Half Moon Bay to the Hillsdale Caltrain Station.	Route includes State Route 92.
397	Connects downtown San Francisco to Palo Alto Caltrain.	Route includes Bayshore Boulevard (Guadalupe Canyon Parkway to Geneva Avenue).

Sources: PG&E, 2002; SamTrans, 2003.

D.12.1.3 Air Transportation

The San Francisco International Airport is located in South San Francisco approximately 2.5 miles east of what would be the northern most portion of the proposed overhead transmission line. The airport is a major regional passenger and cargo air terminal and the seventh most active commercial airfield in the world. In addition, a San Mateo County-operated airport named San Carlos Airport is approximately four miles northeast of the what would be the southern portion of the proposed overhead transmission line miles south of SFO next to the Bayshore Freeway (U.S. 101). San Carlos Airport is a general aviation facility with over 500 aircraft based at the airport. San Carlos Airport also has three flight-training facilities, and 3 maintenance facilities (San Mateo, 2003a).

D.12.1.4 Bicycle Facilities

Many of the roadways in the project area have either designated bicycle lanes or wide shoulders for safe bicycle transportation. In addition, there are several bicycle routes and paths throughout the project area that are off limits to motor vehicles. A complete discussion of these facilities is included in Section D.9, Recreation.

D.12.2 Applicable Regulations, Plans, and Standards

Construction of the Jefferson-Martin 230 kV Transmission Line Project could potentially affect transportation rights-of-way (ROWs), access, traffic flow, and parking on public streets and highways. Therefore, it will be necessary for the Applicant and/or the construction contractor to obtain encroachment permits or similar legal agreements from the public agencies responsible for each affected roadway or other transportation ROW. Such permits are needed for ROWs that would be crossed by the transmission line as well as for where transmission line construction activities would require the use of public right-of-way for a parallel installation. Depending on which route is approved, these encroachment permits would be issued by the Caltrans, County of San Mateo, the Towns of Hillsborough and Colma, and the Cities of Brisbane, Daly City, San Bruno, South San Francisco, and Bay Area Rapid Transit (BART).

The Proposed Project and support structures do not appear to have the potential to encroach upon air space (see Section D.12.3 below). The project, including all helicopter construction activities, would be required to comply with all appropriate regulations of the Federal Aviation Administration (FAA).

D.12.3 Environmental Impacts and Mitigation Measures for the Proposed Project

A transmission line is inherently more likely to affect the transportation facilities (roadways and railroads) during construction than during operation, because there is typically only a minimal amount of surface activity required to operate a transmission line. Consequently, the transportation analysis is devoted to the potential impacts during the construction phase.

With regard to aviation impacts, these impacts could occur during both construction and operation of a transmission line project because these impacts are caused by physical impediments to the navigable airspace. However, according to the guidelines of the FAA, construction of the Proposed Project could potentially have a significant impact on aviation activities if a structure, crane, or wire were to be positioned such that it would be more than 200 feet above the ground or if an object would penetrate the

imaginary surface extending outward and upward from a public or military airport runway or a helipad. The Proposed Project would not be located within the air space of a public or military airport runway or helipad. Because the maximum height of a crane used in construction would be approximately 175 feet, and the maximum height of a transmission tower about 150 feet, these project components would not extend into navigable airspace. Therefore, there would be no aviation impacts associated with the Proposed Project or alternatives.

The following sections present construction impact discussions, which are followed by recommended mitigation measures that could be used to alleviate the adverse impacts. The impact classifications (Class I, II, III, and IV), as applied in this section, are defined in Section D.1. The phrase “affected public agencies” used throughout the discussion refers to the state and local agencies responsible for the transportation infrastructure that would be impacted by the project, as defined in Section D.12.2 above.

D.12.3.1 Significance Criteria

The traffic/transportation significance criteria are based on the CEQA checklist in Appendix G of the CEQA Guidelines, a review of the environmental documentation for other utility projects in California, as well as on input from staff at the public agencies responsible for the transportation facilities. Traffic/transportation impacts would be significant if one or more of the following conditions resulted from construction:

- The installation of the transmission line within, adjacent to, or across a roadway would reduce the number of, or the available width of, one or more travel lanes during the peak traffic periods, resulting in a temporary disruption to traffic flow and/or increased traffic congestion
- A major roadway (arterial or collector classification) would be closed to through traffic as a result of construction activities and there would be no suitable alternative route available
- Construction activities would restrict access to or from adjacent land uses and there would be no suitable alternative access
- Construction activities would restrict the movements of emergency vehicles (police cars, fire trucks, ambulances, and paramedic units) and there would be no reasonable alternative access routes available
- An increase in vehicle trips associated with construction workers or equipment would result in an unacceptable reduction in level of service on the roadways in the project vicinity, as defined by each affected jurisdiction
- Construction activities would disrupt bus or rail transit service and there would be no suitable alternative routes or stops
- Construction activities within, adjacent to, or across a railroad right-of-way (ROW) would result in a temporary disruption of rail traffic
- Construction activities would impede pedestrian movements or bike trails in the construction area and there would be no suitable alternative pedestrian/bicycle access routes
- Construction activities or staging activities would increase the demand for and/or reduce the supply of parking spaces and there would be no provisions for accommodating the resulting parking deficiencies
- Construction activities would conflict with planned transportation projects in the project area

- An increase in roadway wear in the vicinity of the construction zone would occur as a result of heavy truck or construction equipment movements, resulting in noticeable deterioration of roadway surface
- Construction activities of the project would result in safety problems for vehicular traffic, pedestrians, transit operations, or trains.

D.12.3.2 Applicant Proposed Measures

The *Proponent’s Environmental Assessment* (PG&E, 2002) includes a number of measures to reduce project impacts. These “Applicant Proposed Measures” (APMs) are considered part of the Proposed Project and are listed in Table D.12-3 below.

Table D.12-3. Applicant Proposed Measures – Transportation and Traffic

Issue	APM Number and Text
Roadway Capacity Maintenance	13.1: PG&E will maintain the maximum possible amount of travel lane capacity on roads during non-construction periods and will provide traffic control (using flags) at all construction sites.
Work Zone Minimization	13.2: During construction, PG&E will limit the work zone to a width that, at a minimum, maintains alternate one-way traffic flow past the construction zone. Alternatively, PG&E will post detour signs on alternate access streets, where available, in the event that complete temporary street closures are required. Detour plans would be submitted to the cities and Caltrans as part of the permit requirements.
Traffic Control During Lane Closures	13.3: Required permits for temporary lane closures will be obtained from the City of San Bruno, Town of Colma, Daly City, City of South San Francisco, City of Hillsborough, San Mateo County, and Caltrans. Before obtaining roadway encroachment permits from the cities and counties, PG&E will submit a TMP, subject to the local jurisdiction’s review and approval. As part of the TMP, traffic control measures and construction vehicle access routes will be identified. The TMP will also include discussion of haul routes, limits on the length of open cuts, and resurfacing requirements. The TMP will address work zone hours; construction of the underground portion of the transmission line will occur between 8:00 a.m. and 5:00 p.m., Monday through Friday, unless otherwise permitted by the local jurisdiction. All property owners and residents on streets where construction will occur will be notified prior to the start of construction. Advance public notification will include postings of notices and appropriate signs.
Emergency Service Provisions	13.4: All construction activities will be coordinated with local law enforcement and fire protection agencies. Emergency service providers will be notified of the timing, location, and duration of construction activities. [This measure is superseded by Mitigation Measure T-6a. See Impact T-6 discussion in Section D.12.3.5]
Coordination With School Bus Routes and Transit Services	13.5: PG&E will consult with the San Mateo County Unified School District at least one month prior to construction to coordinate construction activities adjacent to school bus stops. If necessary, school bus stops will be temporarily relocated or buses will be rerouted until construction in the vicinity is complete. PG&E will also consult with SamTrans and Caltrain at least one month prior to construction to reduce potential interruption of transit services.
Access Restriction Provisions	13.6: As part of a TMP for the Project, PG&E will identify all access restrictions expected to occur during construction. PG&E will develop a plan for notifying the affected businesses, homes, and other facilities, and prepare a plan to ensure adequate access at all times. This plan may involve alternate access, detours, or other temporary mitigations.
Parking Impact Provisions	13.7: As part of the TMP, PG&E will develop for residential areas a notification process for temporary parking impacts and appropriate sign postings. PG&E will minimize the length of any temporary parking restrictions, develop appropriate sign postings, and specify the process for communicating with affected residents.
Pedestrian Facility Provisions	13.8: Where construction will result in temporary closures of sidewalks and other pedestrian facilities, PG&E will provide temporary pedestrian access, through detours or safe areas along the construction zone. Any affected pedestrian facilities and the alternative facilities or detours that will be provided will be identified in the TMP. Where construction activity will result in bike lane closures, appropriate detours and signs will be provided. Where trenching will affect bicycle travel on streets without bicycle facilities, requirements for plates to cover trenches will be in accordance with the permit requirements of the local jurisdiction.

Table D.12-3. Applicant Proposed Measures – Transportation and Traffic

Issue	APM Number and Text
Helicopter Lift Plan	<p>11.7: A Lift Plan will be prepared and approved by the FAA prior to all “skycrane” construction helicopter operations. PG&E does not presently anticipate that residents will be required to temporarily vacate their homes. In the unlikely event that final construction plans and Lift Plan require otherwise, PG&E will coordinate with potentially affected residents (providing a minimum of 30 days notice) to minimize the duration of the necessary work and any resultant inconvenience.</p> <p>The need for highway, roadway, and trail closures will be identified in the Lift Plan and will be coordinated with the appropriate jurisdictions as described in Chapter 13, Traffic/Transportation of the PEA. Notification to the public of those temporary closures will be provided as described in Applicant Proposed Measures 13.3 and 13.8.</p>

D.12.3.3 230 kV/60 kV Overhead Transmission Line

Construction Overview

Construction of the overhead transmission line portion of the Proposed Project would include preparation of access roads, installation of the new supporting structure foundations, removal of existing facilities, erection of new support structures, stringing of the new conductor, and cleanup. Overhead transmission line construction is estimated to last for approximately 13 months. Approximately 24 separate construction crews, each containing between 4 to 12 workers, would work on the overhead line portion of the project. It is estimated that between 100 and 200 workers would commute to various locations along the overhead line ROW each workday.

The majority of the tower sites are accessible from existing paved and dirt roads. However, some tower sites would require establishment of cross-country access roads or reestablishment of existing roads that have been out of service (see Table B-4 in Section 4, Project Description, for the proposed access road improvements associated with the Proposed Project). Motorized graders and crawler tractors would need to be hauled to various portions of the proposed overhead route for access road establishment and reestablishment work. It should be noted that all existing access roads that would be utilized by the Proposed Project are private with restricted access to the general public. All new access roads associated with the project would also be private with restricted access as well.

For installation of new pole and lattice foundations, several haul trips would be required to deliver construction equipment (e.g., auger, backhoes) and materials (e.g., reinforcing steel, concrete, steel mating, reinforced steel cages) to each of the proposed support structure sites. In addition, excavated soils would likely need to be hauled offsite.

Before work associated with dismantling of the existing line would begin, temporary crossing guard structures would be installed at all road crossings and any other locations where the existing conductors could potentially come in contact with vehicular traffic during removal. PG&E proposes to place the guard structures at the edge of the roadways. Temporary closures of freeways and public roads would be required during transport of equipment and materials for tower installation and removal by helicopter (sky-crane). Steel lattice tower components would be dispatched to the staging areas or to the individual tower sites for installation by either conventional methods using cranes or by helicopter. Tubular steel pole shafts would be delivered to the pole site in two or more sections via ground transportation. Pursuant to APM 11.7, a Helicopter Lift Plan would be prepared by PG&E and approved by the Federal Aviation Administration (FAA) prior to all construction helicopter operations. Similar to work associated with dismantling the existing line (see previous paragraph), before the new conductor would be installed, temporary clearance structures would be set up at all road crossings.

Three impacts and three mitigation measures have been identified for the overhead segment of the Proposed Project.

Impact T-1: Temporary Road and Lane Closures

Table D.12-1 shows the streets, highways, and freeways that would be crossed by the proposed overhead line portion of the project. According to the Project Description (Section B.3.2.2), it would be necessary to halt through traffic during stringing operations over Caltrans roads and on all roads when equipment or material is carried across a public roadway by helicopter. In addition, delivery of large and heavy pieces of material (e.g., lattice steel tower and tubular steel pole parts) via truck may require temporary street closures and would likely require issuance of a permit from the applicable agency. Temporary closures of this nature would likely occur for only up to a few minutes at a time. However, such closures could increase traffic levels and constrain circulation in the area, resulting in potentially significant impacts.

PG&E has committed to APMs 13.1 through 13.3 (see Table D.12-3) to reduce impacts associated with temporary road closures. APM 13.3, which requires permits to be obtained from the applicable jurisdictions for temporary lane closures. The APM includes a provision that a Transportation Management Plan (TMP) will be prepared to address issues that appear to be mostly associated with underground construction activities. To ensure that the TMP required under APM 13.3 addresses lane closures that would be required during construction of the overhead line as well as during the underground construction, the Mitigation Measures T-1a and T-1b are recommended. These measures are recommended in addition to APM 13.3 to ensure that potentially significant impacts associated with short-term lane closures during overhead construction are reduced to less than significant levels (Class II).

Mitigation Measures for Impact T-1

T-1a Prepare Transportation Management Plans. Prior to the start of construction, PG&E shall submit Traffic Management Plans (TMPs) to all agencies with jurisdiction of public roads that would be affected by overhead and underground construction activities as part of the required traffic encroachment permits. TMPs shall define the locations of all roads that would need to be temporarily closed due to construction activities, including aerial hauling by helicopter, hauling of oversized loads by truck, and due to conductor stringing activities. Input and approval from the responsible public agencies shall be obtained; copies of approval letters from each jurisdiction must be provided to the CPUC prior to the start of construction within that jurisdiction. The TMPs shall define the use of flag persons, warning signs, lights, barricades, cones, etc. according to standard guidelines outlined in the Caltrans Traffic Manual, the Standard Specifications for Public Works Construction, and the *Work Area Traffic Control Handbook* (WATCH). Documentation of the approval of these plans and issuance of encroachment permits shall be provided to the CPUC prior to the start of construction activities that require temporary closure of a public roadway. (Supersedes APM 13.3)

T-1b Restrict Lane Closures. PG&E shall restrict all necessary lane closures or obstructions on major roadways associated with overhead or underground construction activities to off-peak periods in urbanized areas to mitigate traffic congestion and delays. Lane closures in urbanized areas must not occur between 6:00 and 9:30 a.m. and between 3:30 and 6:30 p.m., or as directed in writing by the affected public agency in the encroachment permit.

Impact T-2: Traffic Generated by Construction

Construction of the Proposed Project would generate additional traffic on the regional and local roadways. Construction worker commute trips, project equipment deliveries and hauling materials such as support towers and poles, concrete, fill, and excavation spoils would increase existing traffic volumes in the project area.

Workers commuting to construction sites would increase traffic in the project area. It is estimated that the daily project workforce would consist of 100 to 200 workers over a 13-month period. Workers associated with overhead line construction would be divided up into approximately 24 crews. Workers would drive personal vehicles to substation and transition structure sites and laydown area assembly points. Parking for workers vehicles would be provided at the laydown sites and substations. From these points, some workers would drive or ride in project vehicles to work areas along the transmission line ROW. Transmission line workers would be dispersed throughout the project area and would not typically be working at the same place at any one time. Assuming that each worker would commute to the work site in a personal vehicle and that several construction vehicles would also use the primary roadways in the project area every day, only minimal traffic increases would result relative to existing background levels of traffic.

Haul truck traffic would include trucks carrying equipment and materials, spoils for disposal, and pole and tower support pieces. Trips will be made to and from various points along the transmission line route. The exact routes and scheduling of truck trips are not known at this point.

The project-related commute traffic and construction truck/equipment activity is expected to be dispersed over the entire project area and dispersed over time. This project traffic could create short-term delays due to construction related vehicle activity but would be less than one percent of traffic volumes on study area roadways, therefore not creating significant impacts.

Impacts related to project construction traffic would be temporary and would be considered less than significant (Class III). No mitigation measures are required.

Impact T-3: Physical Impacts to Roads and Sidewalks

PG&E does not expect to cause any physical damage to public roads or sidewalks beyond that planned for trenching and excavation operations in specified areas. However, there is the potential for unexpected damage by vehicles and equipment to occur. This would be potentially significant, but reduced to less than significant levels with implementation of Mitigation Measure T-3a (Class II), which includes measure that expand on PG&E's proposed resurfacing requirement included in APM 13.3.

Mitigation Measure for Impact T-3

T-3a Repair Damaged Roadways. If damage to roads and sidewalks occurs, PG&E will coordinate repairs with the affected public agencies to ensure that any impacts to area roads are adequately repaired. Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces. Care shall be taken to prevent damage to roadside drainage structures. Roadside drainage structures and road drainage features (e.g., rolling dips) shall be protected by regrading and reconstructing roads to drain properly. Said measures shall be incorporated into an access agreement/easement with the applicable governing agency prior to construction.

D.12.3.4 Transition Station

Construction Overview

It is estimated that a construction crew of between 10 and 25 workers would be required to build the proposed transition station. The transition station would be set back approximately 25 feet from Glenview Drive and about 50 feet from San Bruno Avenue. Initial construction work on the currently open space parcel would include roadwork and grading. A concrete foundation similar to that of an angled tubular steel pole would be constructed for the dead end structure. The station would have an 8-foot-high masonry wall, enclosing an area of approximately 80 feet by 100 feet. A ground grid and conduit system would be installed. Besides a dead-end structure for the incoming 230 kV overhead circuit and support structures for cable terminations and surge arresters, there would be a control building and underground vault within the masonry wall enclosure, approximately 10 feet by 10 feet by 13 feet, erected to house protection and telecommunication equipment. The control building would be within the masonry wall enclosure. Installation and outside dimensions of the underground vault would be about 24 feet by 10 feet by 10 feet.

Impact Discussion

Because the majority of the work associated with construction of the proposed transition station would occur on the transition station site and not within the public ROW, impacts would be limited. Construction worker commute trips and equipment and material deliveries would slightly increase existing traffic volumes in the project area (Impact T-2), resulting in less than significant impacts (Class III). However, delivery of large and heavy pieces of material and equipment (e.g., dead-end structure, surge arresters, etc.) via truck may require temporary closures of Glenview Drive and/or San Bruno Avenue. Temporary road closures (Impact T-1) that may be required associated with delivery of oversized equipment and materials to the proposed transition station site would be mitigable to less than significant levels with implementation of Mitigation Measure T-1c (Class II). In addition, there is the potential for unexpected damage to public roads and sidewalks by vehicles carrying heavy loads to and from the proposed transition station site (Impact T-3). Impacts associated with physical damage to public roads and sidewalks would be mitigable to less than significant levels with implementation of Mitigation Measure T-3a (Class II).

D.12.3.5 230 kV Underground Transmission Line

Construction Overview

The length of time required for constructing the underground 230 kV transmission line along PG&E's proposed route is estimated at 12 months, including trenching, installation of the concrete duct bank, vault installation, cable installation, splicing, and terminating. An estimated total of 15 separate construction crews would perform the trenching, vault installation, cable pulling, and splicing work, including one crew to perform the bore work at the creek crossings. Each major construction activity would be performed by between one and five crews and each crew would range from 4 to 22 crew members, for a total of approximately 150 to 250 crew members for these tasks.

Most of the proposed underground transmission line would be installed in public streets. However, PG&E would need to acquire private ROW from BART for the portion of the proposed route from San Bruno Avenue to McLellan Boulevard Extension.

Construction would begin with removal of the roadway pavement above the trench. The pavement would be broken into manageable pieces for removal. The typical trench for duct bank installation would be approximately two feet wide, with a depth of six to seven feet. Approximately 150 to 300 feet of open trench along each street would be typical, depending on local permit requirements. The width of the workspace would be as set forth in the encroachment permit to be issued by the affected jurisdictions.

As the trench for the underground 230 kV transmission line is completed, PG&E would install the cable conduit, reinforcement bar, ground wire, and concrete conduit encasement (duct bank). As discussed above, the typical trench for duct bank installation would be approximately two feet wide, with a depth of six to seven feet. Depending on soil conditions, existing utility placement, and requirements to allow appropriate cover and repaving, the total excavation (i.e., width and/or depth) for the trench may vary (see Figures B-9, B-10, and B-11). The duct bank would have a minimum cover of 36 inches. Approximately every 1,600 feet, splice vaults would be incorporated for installing cables and splicing sections of cables together.

PG&E would excavate and place up to approximately 43 pre-formed concrete splice vaults at approximately 1,600-foot intervals during trenching for pulling cables and housing cable splices. The vaults would be used initially to pull the cables through the conduits and to splice cables together. During operation, vaults provide access to the underground cables for maintenance, inspections, and repairs. Vaults would be constructed of steel-reinforced concrete (either prefabricated or cast-in-place), with inside dimensions of approximately 22 feet long, 8 feet wide, and 8 feet deep. The vaults would be designed to withstand the maximum credible earthquake in the area, as well as heavy truck traffic loading.

The total excavation footprint for a vault would be approximately 26 feet long by 12 feet wide and 10 feet deep. Installation of each vault would take place over a 3-day period with excavation and shoring of the vault pit being followed by delivery and installation the vault, filling and compacting a backfill, and repaving of the excavation area. Throughout construction of the trench, duct bank and vaults, asphalt, concrete, and excavated material would be reused on-site or hauled off by truck for reuse or disposal at an approved disposal site, depending on the spoil characteristics. Approximately 44,000 cubic yards of asphalt and spoil would be removed from the trench and vaults.

In roadways, trucks would be used to off-haul material typically as it is excavated from the trenches. As trucks are filled with spoils, they would leave the site and be replaced by empty trucks. The number of truck trips per day would depend upon the rate of the trenching and the size of vault excavation. Jackhammers would be used sparingly to break up any sections of concrete that cannot be reached with the saw-cutting and pavement-breaking machines. Other miscellaneous equipment would include a concrete saw, a pavement breaker, various paving equipment, and pickup trucks.

Impact Discussion

Construction of the 12.4-mile underground segment of the proposed transmission line would cause temporary lane closures and would reduce the number of lanes for an estimated amount of up to 600 feet at a time (twice the length of the open trench). Refer to the lower portion of Table D.12-1 for a list of roads that would be affected by proposed underground construction. Overall, the temporary lane closures would occur over a period of approximately 12 months. The temporary lane closures, increased traffic levels and constrained circulation in the area would result in a potentially significant impacts. PG&E has committed to implementing APMs 13.1 through 13.3 (see Table D.12-3) to reduce impacts associated with temporary road closures. To strengthen the intent of APMs 13.1 through 13.3, Mitigation Measures T-1a through T-1c are recommended (see Section D.12.3.3 for mitigation measure text). Impacts due to temporary

lane closures (Impact T-1) associated with underground construction work would be mitigated to less than significant levels with implementation of Mitigation Measures T-1a through T-1c (Class II).

Workers commuting to the underground construction sites would increase traffic in the project area. According to the project description, the daily project workforce would consist of 150 to 250 workers over a 12-month period. As described in Section D.12.3.3, workers would drive personal vehicles to substation and transition structure sites and laydown area assembly points. Parking for workers vehicles would be provided at the laydown sites and substations. From these points, some workers would drive or ride in project vehicles to work areas along the transmission line ROW. Assuming that each worker would commute to the work site in a personal vehicle and that several construction vehicles would also use the primary roadways in the project area every day, only minimal traffic increases would result relative to existing background levels of traffic. Haul truck traffic would include trucks carrying equipment and materials, trench spoils and road debris for disposal, cable, conduit, etc. Trips would be made to and from various points along the transmission line route. The exact routes and scheduling of truck trips are not known at this point.

All of the project-related commute traffic and construction truck/equipment activity is expected to be dispersed over the entire underground transmission line area and dispersed over time. Project traffic could create short-term delays due to construction related vehicle activity but would be less than 1 percent of traffic volumes on study area roadways and would not be expected to create significant operational impacts. Impacts related to project construction traffic (Impact T-2) would be temporary and would be considered less than significant (Class III). Because no significant impacts have been identified, mitigation measures are not required.

Underground construction activities within roads require cutting and trenching within the roadway. Although PG&E plans on restoring the trenched area within public roads, there is a possibility that physical damage to roads and sidewalks could exist from underground transmission line construction (Impact T-3) after construction is completed. In addition, other parts of roads and/or sidewalks not in the immediate vicinity of a road trench may be physically damaged by vehicles associated with heavy load hauling. To ensure that roads and sidewalks are properly restored to preconstruction conditions, Mitigation Measure T-3a is recommended (see Section D.12.3.3 for text of mitigation measure). Impacts related to physical damage of roads and sidewalks (Impact T-3) would be mitigable to less than significant levels with implementation of Mitigation Measure T-3a (Class II).

In addition to the impacts described above, underground construction activities would also cause six other types of impacts that would be unique to the underground transmission line portion of the project; each is addressed below.

Impact T-4: Restricted Access to Properties

When construction occurs in the outer lane and/or shoulders of roads, access to driveways would temporarily be blocked by the construction zone, thereby affecting access and parking for the adjacent residences, institutions, businesses and other uses. This impact is discussed in detail in Land Use Section D.2.3.5 (see Impact L-7 discussion). Impacts associated with restricted access to properties during construction along the underground transmission line ROW would be mitigated to less than significant levels with implementation of Mitigation Measures L-7a and L-7b (Class II; see Land Use, Section D.2.3.5, for mitigation measure text).

Impact T-5: Interference with Pedestrian/Bicycle Circulation and Safety

Pedestrian and bicycle circulation would be affected by the underground transmission line construction activities if pedestrians and bicyclists were unable to pass through the construction zone or if established pedestrian and bike routes are blocked. Additionally, since there may be disruption to bicycle routes, sidewalks, shoulders, and pedestrian crossings, pedestrians and bicyclists may enter the affected streets and highways and risk a vehicular-related accident. However, PG&E has committed to APM 13.8 (see Table D.12-3), which requires safe pedestrian and bicycle detours where construction activities would block sidewalks and/or bicycle lanes. Implementation of APM 13.8 would result in less than significant impacts (Class III). Additional mitigation measures are not required.

Impact T-6: Construction Interference with Emergency Response

Underground construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles. The loss of a lane and the resulting increase in congestion could lengthen the response time required for emergency vehicles passing through the construction zone. Moreover, there is a possibility that emergency services may be needed at a location where access is temporarily blocked by the construction zone. PG&E has committed to APM 13.4 to reduce potential impacts associated with emergency response. However, Mitigation Measure T-6a described below is recommended to supersede APM 13.4 to strengthen the intent of the measure and to reduce potentially significant impacts to less than significant levels (Class II).

Mitigation Measure for Impacts T-6

The impacts would be potentially significant, but reduced to a non-significant level with implementation of Mitigation Measure T-6a below (Class II).

T-6a Ensure Emergency Response Access. PG&E shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services shall be notified in advance by PG&E of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. Traffic Control Plans (T-1a) shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service providers. Documentation of coordination with service providers shall be provided to the CPUC prior to the start of construction.

Impact T-7: Loss of Parking

Underground construction activities may result in short-term elimination of a limited amount of parking spaces immediately adjacent to the construction ROW. However, PG&E has committed to APM 13.7 (see Table D.12.-3), which requires that the approved TMP have provisions to notify and communicate with residences about all short term potential parking disruptions. Implementation of APM 13.7 would result in less than significant impacts (Class III). Additional mitigation measures are not required.

Impact T-8: Disruption of Public Transit

Construction of the underground transmission line could disrupt up to four SamTrans bus routes (Routes 41, 130, 40, and 292) and a number of local school bus routes. Potential impacts would include scheduling

delays and bus stop closures. However, PG&E has committed to APM 13.5 (see Table D.12-3), which requires coordination with SamTrans and the San Mateo County Unified School District to coordinate construction activities with bus operations. Implementation of APM 13.5 would result in less than significant impacts (Class III). Additional mitigation measures are not required.

No portion of the Proposed Project (South Area) would encroach on existing freight or passenger railroad right-of-way. There would be no impact on local rail operations with the construction of the Proposed Project.

Impact T-9: Conflict with Planned Transportation Projects

The proposed underground transmission line ROW would pass through the limits of the San Bruno Avenue Grade Separation Conceptual Plan project, which is at the intersection of San Bruno Avenue and Huntington Avenue. The City of San Bruno has expressed concern over possible conflicts that the underground portion of the Proposed Project may have with the grade separation project (CPUC, 2003). To eliminate potentially significant (Class II) impacts, Mitigation Measure T-9a is recommended. This measure would create a short reroute, avoiding potential construction conflicts.

Mitigation Measure for Impact T-9

T-9a Grade Separation Avoidance. To avoid conflicts with the City of San Bruno's San Bruno Avenue Grade Separation Conceptual Plan project, the Proposed Project underground route shall turn north on El Camino Real from San Bruno Avenue, proceed north to Sneath Lane, turn northeast in Sneath Lane through Huntington Avenue to the BART ROW, where the line would rejoin the proposed route. This reroute shall also be implemented if PG&E Route Option 1B is selected.

If the Modified Underground 230 kV Alternative is selected for use with either the proposed route along San Bruno Avenue or PG&E Route Option 1B, the grade separation project shall be avoided by the same reroute, except that the underground route shall continue east past the end of Sneath Lane, under the railroad tracks, into Tanforan Drive and to Shaw Drive, where this reroute would join the Modified Underground 230 kV Alternative as originally defined.

CEQA requires that impacts of proposed mitigation measures be considered. This reroute mitigation measure would avoid effects on the San Bruno Avenue Grade Separation Conceptual Plan project, and would cause same transportation and traffic related impacts as those described above for the proposed underground road construction. Impacts to other environmental issue areas associated with this reroute are described in each issue area's impact analysis of the Sneath Lane Route Alternative (Sections D.2.5 through D.13.5).

D.12.3.6 Substations, Switchyards, and Taps

New structures in the Jefferson and Martin Substations and at the switchyard and tap sites would be developed within the existing property line and generally within areas previously disturbed for substation access. The work associated with substation and switch station upgrades and tap construction would occur on the station sites and not within the public ROW. Construction worker commute trips and equipment and material deliveries would slightly increase existing traffic volumes in the project area (Impact T-2), resulting in less than significant impacts (Class III). However, delivery of large and heavy pieces of material and equipment (e.g., busses, circuit breakers, switches, etc.) via truck may require temporary closures adjacent roadways. Temporary lane and road closures (Impact T-1) that may be required to deliver oversized equipment and materials to the substation and switchyard station

sites would be mitigable to less than significant levels with implementation of Mitigation Measure T-1a (Class II). In addition, there is the potential for unexpected damage to public roads and sidewalks by vehicles carrying heavy loads to and from the substation and switchyard station sites (Impact T-3). Impacts associated with physical damage to public roads and sidewalks would be mitigable to less than significant levels with implementation of Mitigation Measure T-3a (Class II).

D.12.4 Southern Area Alternatives

D.12.4.1 PG&E Route Option 1B – Underground

Environmental Setting

Under the PG&E Route Option 1B Alternative, the transmission line would be installed completely underground within public road ROWs. From Jefferson Substation, the line would be installed within Cañada Road, it would cross under the I-280 overpass and continue for about 5.0 miles to SR 92. It would then turn onto SR 92 (just west of the I-280) for a 0.7-mile stretch before turning back onto Skyline Boulevard (SR 35). The route would continue north within Skyline Boulevard for 2.6 miles, to Crystal Springs Dam at San Mateo Creek. From this location there, six possible options were considered for crossing the Crystal Springs Dam area (see Section 4.2.1 of Appendix 1). Options that would best avoid biological impacts are an underwater crossing around the dam, an overhead crossing of the dam, and attaching the cables to the face of the dam. Due to the planned replacement of the bridge over the dam to improve the seismic safety of the bridge, none of the options considered include attaching the cables to the existing bridge itself. However, construction associated with any of these options would likely require use of the bridge by construction vehicles.

North of the Crystal Springs Dam at Golf Course Road the line would turn east, crossing below I-280 then turning north on the continuation of Skyline Boulevard to its intersection with Trousdale Drive where it would turn northeast onto Trousdale Drive. Trousdale Drive is a four-lane road with multi-family residences on north side at its intersection with Skyline Boulevard. The road becomes primarily commercial just west of Magnolia Street. The route would travel approximately 1.7-mile long route down Trousdale Drive to the corner of Trousdale Drive and El Camino Real (SR 82). At this point the route would turn north onto El Camino Real and travel down the roadway until it would rejoin the proposed route at El Camino Real and Huntington Avenue or transition to one of the Northern Segment Alternatives.

Table D.12-4 provides a summary of the roadway characteristics along the PG&E Route Option 1B Alternative, including the names of the roadway segments, the general roadway classification, the number of lanes, and the daily and peak hour traffic volumes. The table also indicates the orientation of the proposed transmission line to the roads. Refer to Figure C-1 for the specific locations of the subject roadway segments along the PG&E Route Option 1B.

Table D.12-4. Summary of Roadway Characteristics Along PG&E Route Option 1B – Underground

Roadway	Jurisdiction	Classification	Lanes	Traffic Volume			Transmission Line Orientation
				Year	Daily	Peak Hour	
Cañada Road	San Mateo County	Collector	2	2000	2,200 - 3,300	N/A	longitudinal trench
State Route 92	Caltrans	Arterial/Freeway	2	2002	23,500	2,000	longitudinal trench
State Route 35 (Skyline Boulevard)	Caltrans	Arterial	2	2002	15,700	1,650	longitudinal trench
Golf Course Road	San Mateo County	Collector	2	2000	8,600	N/A	longitudinal trench
Trousdale Drive	Burlingame	Arterial	4	1995	9,000 - 15,000	N/A	longitudinal trench
State Route 82 (El Camino Real)	Caltrans	Arterial	4 to 6	2002	29,000 - 48,000	4,300	longitudinal trench

Source: Caltrans, 2003; Burlingame, 2003; San Mateo, 2003b.

SamTrans provides bus service along this alternative route on Trousdale Drive (Bus Route 242) and El Camino Real (Bus Route 390 and Express Route MX) and SR 92 (Bus Route 294; SamTrans, 2003).

Environmental Impacts and Mitigation Measures

The PG&E Route Option 1B would have similar impacts as those described for the underground segment of the Proposed Project. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), short-term elimination of parking spaces (Impact T-7), and disruption of public transit operations (Impact T-8) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a through T-1c, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, blocking of access (Impact T-4) would require implementation of Mitigation Measures L-7a and L-7b, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

Crossing of Crystal Springs Dam. Several options are presented for crossing this dam. Due to the future seismic improvements to the roadway bridge, the line would not use the bridge itself, but would be on the dam or around its face, underwater. However, it is possible that a temporary or permanent overhead crossing of the dam could be implemented, or that construction of the road improvement project could be concurrent with the transmission line project. Mitigation Measure T-9b would be required to avoid potential conflicts with the planned bridge replacement project (Impact T-9). Implementation of Mitigation Measure T-9b would ensure that these potential conflicts would be less than significant (Class II).

- T-9b** If Route Option 1B is approved and the method of crossing the Crystal Springs Dam area would affect the bridge over the dam, PG&E shall coordinate the timing of its transmission line project with San Mateo County so the transmission line project can avoid conflict with, or be incorporated into, the County’s bridge replacement project plans. PG&E shall reimburse the County for all cost that the County occurs associated with incorporating the transmission line project with the bridge replacement project.

Comparison to Proposed Route Segment

Implementation of the PG&E Route Option 1B Alternative would result in a significant amount of additional underground construction impacts within public road ROWs compared to the Proposed Project's overhead segment, which would have little direct effect on roadways. However, Route Option 1B would avoid construction impacts along residential areas in Hillsborough, Burlingame, and the San Mateo Highlands where helicopter construction for tower installation would occur near these residential areas.

D.12.4.2 Partial Underground Alternative

Environmental Setting

The Partial Underground Alternative would require installation of new overhead towers and lines from Jefferson Substation for 2.8 miles to an alignment closer to, but not within, Cañada Road's ROW. The route would cross I-280 just north of the Cañada Road undercrossing, then cross Edgewood Road, then parallels the east side of Cañada Road at a distance of between 100 and 900 feet east of the roadway. From approximately MP 2.3, this alternative would be identical to the Proposed Project for about three miles, crossing SR 92 to the Ralston Substation. From Ralston Substation to just south of the Carolands Substation, the Partial Underground Alternative would follow the proposed route, but the alternative (230 kV/60 kV) line would be installed underground within an existing dirt access road that parallels the existing overhead 60 kV transmission line. South of Carolands Substation, the line would transition to overhead for about 0.5 miles and would cross over Crystal Springs Road. Just north of Crystal Springs Road, the line would again transition to underground for approximately 1.5 miles within the existing 60 kV ROW.

Trenches would be required to cross Bunker Hill Road and Hayne Road. In the Hillsborough area, the overhead line would cross I-280 once and remain entirely on the west side of the freeway to San Bruno Avenue eliminating two crossings of the freeway that would be required with the Proposed Project.

Please refer to Section D.12.1 for summary information about I-280, Edgewood Road, SR 92, Crystal Springs Road, and Hayne Road. Refer to Figure C-1 for the specific locations of the subject roadway segments.

Environmental Impacts and Mitigation Measures

The Partial Underground Alternative would have similar impacts as those described for the overhead and underground segments of the Proposed Project. However, unlike the proposed underground segment, there would not be trenching within roads associated with this alternative. The only road trenching work associated with this alternative would be to cross Bunker Hill Road and Hayne Road. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), and short-term elimination of parking spaces (Impact T-7) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

Comparison to Proposed Route Segment

The level of impact associated with the Partial Underground Alternative would essentially be the same for that of the Proposed Project. Although the Partial Underground Alternative would involve trenches across two additional roads compared to the Proposed Project, the Proposed Project would require two additional overhead crossings of I-280.

D.12.5 Northern Area Alternatives

D.12.5.1 West of Skyline Transition Station

Environmental Setting of the Alternative Transition Station

This alternative transition station would be west of Skyline Boulevard at a location approximately 500 feet southeast the Skyline Boulevard and San Bruno Avenue Intersection. Bus service is not provided along Skyline Boulevard. Table D.12-1 presents information about Skyline Boulevard and San Bruno Avenue.

Environmental Impacts and Mitigation Measures for the Alternative Transition Station

Impacts and mitigation measures associated with the West of Skyline Transition Station would be essentially the same as those described for the proposed transition station. Construction worker commute trips and equipment and material deliveries would slightly increase existing traffic volumes in the project area (Impact T-2), resulting in less than significant impacts (Class III). Delivery of large and heavy pieces of material and equipment (e.g., dead-end structure, surge arresters, etc.) via truck may require temporary closures of Skyline Boulevard. Temporary lane and road closures (Impact T-1) that may be required associated with delivery of oversized equipment and materials to the transition station site would be mitigable to less than significant levels with implementation of Mitigation Measure T-1a (Class II). In addition, there is the potential for unexpected damage to public roads and sidewalks by vehicles carrying heavy loads to and from the transition station site (Impact T-3). Impacts associated with physical damage to public roads and sidewalks would be mitigable to less than significant levels with implementation of Mitigation Measure T-3a (Class II).

Comparison to Proposed Transition Station

The level of traffic/transportation impacts associated with the West of Skyline Transition Station would essentially be the same as those of the proposed transition station.

West of Skyline Transition Station with Proposed Underground Route

Environmental Setting

This route would require an approximate 500-foot long trench within Skyline Boulevard (SR 35) from the West of Skyline Boulevard Transition Station to San Bruno Avenue. The trench would have to cross Skyline Boulevard into San Bruno Avenue where it would join the Proposed Project. Bus service is not provided along Skyline Boulevard or the subject portion of San Bruno Avenue. Please refer to Table D.12-1 for information about Skyline Boulevard and San Bruno Avenue. Refer to Figure C-1 for the specific locations of the subject roadway segments.

Environmental Impacts and Mitigation Measures

This alternative would have similar impacts as those described for the underground segment of the Proposed Project. Construction-generated traffic (Impact T-2) and pedestrian and bicycle circulation and safety (Impact T-5) would result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a through T-1c, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

Comparison to Proposed Route Segment

Implementation of the West of Skyline Transition Station with the proposed route would result in approximately 500 feet of more underground construction work within a public road ROW (Skyline Boulevard) as compared to the Proposed Project.

West of Skyline Transition Station with Sneath Lane Underground Route

Environmental Setting

This route would require a trench within Skyline Boulevard (SR 35) from the West of Skyline Boulevard Transition Station to Sneath Lane and then down Sneath Lane to the BART ROW. The City of San Bruno has plans to widen Skyline Boulevard between I-280 and Sneath Lane. The City intends to reserve the west side of the parcel for the expansion project; however, funding has not yet been secured for the project. At Sneath Lane the line would turn east and would be longitudinally trenched in Sneath Lane to I-280. Because Sneath Lane crosses over the I-280 (rather than crossing below the freeway through an underpass), the transmission line would likely have to be directionally drilled beneath the freeway, most likely from the golf course area south of Sneath Lane on the west side of the freeway. The length of the crossing is estimated to be 800 to 1,000 feet. East of I-280, the line would continue east in Sneath Lane, trenching across El Camino Real (SR 82) to the BART ROW.

SamTrans provides bus service along Sneath Lane (Bus Route 40; SamTrans, 2003). Table D.12-5 shows characteristics of the road segments within the Sneath Lane Underground Route Alternative. Refer to Figure C-1 for the specific locations of the subject roadway segments.

Table D.12-5. Summary of Roadway Characteristics Along the Sneath Lane Underground Route

Roadway	Jurisdiction	Classification	Lanes	Traffic Volume			Transmission Line Orientation
				Year	Daily	Peak Hour	
State Route 35 (Skyline Boulevard)	Caltrans	Arterial	2	2002	20,200	2,100	longitudinal trench
Sneath Lane	San Bruno	Arterial	4	N/A ¹	3,767	481	longitudinal trench
State Route 82 (El Camino Real)	Caltrans	Arterial	6	2002	45,000	4,000	transverse trench

Sources: Caltrans, 2003; San Bruno, 2003

¹ The year the City of San Bruno traffic counts were collected is unknown, but the City believes it is likely that they were collected in the late 1980s.

Environmental Impacts and Mitigation Measures

The West of Skyline Boulevard Transition Station with the Sneath Lane Underground Route Alternative would have similar impacts as those described for the underground segment of the Proposed Project. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), short-term elimination of parking spaces (Impact T-7), and disruption of public transit operations (Impact T-8) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, blocking of access (Impact T-4) would require implementation of Mitigation Measures L-7a and L-7b, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II). In addition, the City of San Bruno has indicated that it plans to widen Skyline Boulevard between San Bruno Avenue and Sneath Lane, which could potentially be impacted by this alternative (Impact T-9). However, because the City has not yet secured funding for the road-widening project, its future implementation is speculative at this time. Therefore, potential impacts are considered to be less than significant (Class III).

Comparison to Proposed Route Segment

The Sneath Lane Underground Route Alternative with the West of Skyline Transition Station would be slightly shorter than the proposed underground route segment it would replace. In addition, the Sneath Lane route would require a directional bore that would be up to 1,000 feet long, thus further reducing the amount of road construction work associated with this alternative. .

West of Skyline Transition Station with Westborough Boulevard Underground

Environmental Setting

This route would require a trench within Skyline Boulevard (SR 35) for approximately 2.1 miles from the West of Skyline Boulevard Transition Station to Westborough Boulevard. At Westborough Boulevard the line would turn east and would be longitudinally trenched in Westborough Boulevard to the BART ROW, crossing under the I-280 overpass, and trenching across El Camino Real (SR 82) just south of the BART ROW.

SamTrans provides bus service along Westborough Boulevard (Bus Route 122; SamTrans, 2003). Table D.12-6 presents information about the road segments within the Westborough Boulevard Underground Route Alternative. Refer to Figure C-1 for the specific locations of the subject roadway segments.

Table D.12-6. Summary of Roadway Characteristics Along the Westborough Boulevard Underground Route

Roadway	Jurisdiction	Classification	Lanes	Traffic Volume			Transmission Line Orientation
				Year	Daily	Peak Hour	
Skyline (SR35)	Caltrans	Arterial	2	2002	20,200	2,100	longitudinal trench
Westborough Boulevard	South San Francisco	Major Arterial	4	1997	44,365	3,542	longitudinal trench
Callan Boulevard	South San Francisco	Minor Arterial	2	1997	9,824	936	transverse trench
Galway Drive	South San Francisco	Collector	2	2000	5,312	463	transverse trench
Gellert Boulevard	South San Francisco	Major Arterial	4	NA	NA	NA	transverse trench
State Route 82 (El Camino Real)	Caltrans	Arterial	6	2002	48,000	4,300	transverse trench

Sources: Caltrans, 2003; South San Francisco, 2001 and 2003.

Environmental Impacts and Mitigation Measures

The Westborough Boulevard Underground Route with the West of Skyline Boulevard Transition Station would have similar impacts as those described for the underground segment of the Proposed Project. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), short-term elimination of parking spaces (Impact T-7), and disruption of public transit operations (Impact T-8) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, blocking of access (Impact T-4) would require implementation of Mitigation Measures L-7a and L-7b, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

In addition, as with the Sneath Lane Route Alternative, the City of San Bruno’s plans to widen Skyline Boulevard between San Bruno Avenue and Sneath Lane could potentially be impacted by this alternative (Impact T-9). However, because the City has not yet secured funding for the road-widening project, its future implementation is speculative at this time. Therefore, potential impacts are considered to be less than significant (Class III).

Comparison to Proposed Route Segment

The Westborough Boulevard Route Alternative would require approximately 1.5 miles more of underground road construction than the Proposed Project, resulting in greater impacts to traffic and transportation services.

D.12.5.2 Sneath Lane Transition Station

Environmental Setting of the Transition Station Alternative

This alternative transition station would be on Skyline Boulevard adjacent to the Sneath Lane Substation. Please refer to Table D.12-5 for summary characteristic information about Skyline Boulevard and Sneath Lane.

Environmental Impacts and Mitigation Measures for the Transition Station Alternative

Impacts and mitigation measures associated with the Sneath Lane Transition Station would be essentially the same as those described for the West of Skyline Boulevard Station and the proposed transition station. Construction worker commute trips and equipment and material deliveries would slightly increase existing traffic volumes in the project area (Impact T-2), resulting in less than significant impacts (Class III). Delivery of large and heavy pieces of material and equipment (e.g., dead-end structure, surge arresters, etc.) via truck may require temporary closures of Skyline Boulevard Avenue. Temporary lane and road closures (Impact T-1) that may be required associated with delivery of oversized equipment and materials to the transition station site would be mitigable to less than significant levels with implementation of Mitigation Measure T-1a (Class II). In addition, there is the potential for unexpected damage to public roads and sidewalks by vehicles carrying heavy loads to and from the transition station site (Impact T-3). Impacts associated with physical damage to public roads and sidewalks would be mitigable to less than significant levels with implementation of Mitigation Measure T-3a (Class II).

Comparison to Proposed Transition Station

The traffic and transportation impacts associated with the Sneath Lane Transition Station would essentially be the same as those compared to the proposed transition station.

Sneath Lane Transition Station with Proposed Underground Route

Environmental Setting

This alternative route would require trenching within Skyline Boulevard from the Sneath Lane Transition Station location, down to San Bruno Avenue where the route would meet with the Proposed Project route. Bus service is not provided along Skyline Boulevard or the subject portion of San Bruno Avenue. Table D.12-5 summarizes information about Skyline Boulevard between Sneath Lane and San Bruno Avenue. Refer to Figure C-1 for the specific locations of the subject roadway segments.

Environmental Impacts and Mitigation Measures

This alternative would have similar impacts as those described for the overhead and underground segments of the Proposed Project. Construction-generated traffic (Impact T-2) and pedestrian and bicycle circulation and safety (Impact T-5) would result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

In addition, the City of San Bruno has indicated that it plans on widening Skyline Boulevard between San Bruno Avenue and Sneath Lane, which could potentially be impacted by this alternative (Impact T-9). However, because the City has not yet secured funding for the road-widening project, its future implementation is speculative at this time. Therefore, potential impacts are considered to be less than significant (Class III).

Comparison to Proposed Route Segment

The Sneath Lane Transition Station with the Proposed Underground Route would require approximately one half mile more of underground road construction than the Proposed Project. This alternative would

also require approximately one half mile more of overhead 230 kV line construction. Because the amount of underground construction work within roads is directly proportional to the amount and duration of traffic and transportation impacts, the Proposed Project would have slightly reduced traffic impacts in comparison to the Sneath Lane Transition Station with the Proposed Underground Route.

Sneath Lane Transition Station with Sneath Lane Underground Route

Environmental Setting

This alternative route would require a trench across Skyline Boulevard from the Sneath Lane Transition Station location to Sneath Lane, where the line would join with the Sneath Lane Underground Route Alternative. Please refer to Table D.12-5 for information about Skyline Boulevard and Sneath Lane, and Figure C-1 for the specific locations of these roadway segments.

Environmental Impacts and Mitigation Measures

The Sneath Lane Transition Station with the Sneath Lane Underground Route Alternative would have similar impacts as those described for the underground and overhead segments of the Proposed Project. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), short-term elimination of parking spaces (Impact T-7), and disruption of public transit operations (Impact T-8) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, blocking of access (Impact T-4) would require implementation of Mitigation Measures L-7a and L-7b, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

This route would avoid conflict with the City of San Bruno's grade separation project at San Bruno and Huntington Avenues, eliminating Impact T-9.

Comparison to Proposed Route Segment

The Sneath Lane Transition Station with the Sneath Lane Underground Route would require approximately 0.75 miles less of underground road construction than the proposed underground route that it would replace (including the road work that would be displaced by the up to 1,000-foot long directional bore under I-280). It would also avoid conflict with the grade separation project. Because the amount of underground construction work within roads is directly proportional to the amount and duration of traffic and transportation impacts, the Sneath Lane Route Alternative would create fewer traffic impacts than the Proposed Project.

Sneath Lane Transition Station with Westborough Boulevard Underground

Environmental Setting

This alternative would join the Westborough Boulevard Underground Route Alternative immediately adjacent to the Sneath Lane Transition Station. Table D.12-6 presents summary information about Skyline Boulevard (between Sneath Lane and Westborough Boulevard) and Westborough Boulevard.

Environmental Impacts and Mitigation Measures

The Westborough Boulevard Underground Route from the Sneath Lane Transition Station would have similar impacts as those described for the overhead and underground segments of the Proposed Project. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), short-term elimination of parking spaces (Impact T-7), and disruption of public transit operations (Impact T-8) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, blocking of access (Impact T-4) would require implementation of Mitigation Measures L-7a and L-7b, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II). The Westborough route would also avoid conflict with the grade separation project at San Bruno and Huntington Avenues (Impact T-9).

Comparison to Proposed Route Segment

The Sneath Lane Transition Station with the Westborough Boulevard Route would require at least one mile more of underground road construction than the Proposed Project, but it would avoid conflict with the grade separation project at San Bruno Avenue. Because the amount of underground construction work within roads is directly proportional to the amount and duration of traffic and transportation impacts, the Proposed Project (with Mitigation Measure T-9a to avoid the grade separation project) would have less impacts than the Sneath Lane Transition Station with the Westborough Boulevard Route.

D.12.5.3 Cherry Avenue Alternative

Environmental Setting

This underground alternative route would diverge from the proposed underground route at the intersection of San Bruno Avenue and Cherry Avenue, turning to the north within Cherry Avenue for 0.5 miles to Sneath Lane. Cherry Avenue is a wide four-lane road with a median, crossing under I-380. Land uses include an office park, Commodore Park, and multi-family residences. Trenching would cross Bayhill Drive and Commodore Drive. At Sneath Lane, the line would turn east and join the Sneath Lane Underground Route.

SamTrans provides bus service along Cherry Avenue (Bus Route 40; SamTrans, 2003). Please refer to Table D.12-7 for summary characteristics about Cherry Avenue, Bayhill Drive, and Commodore Drive and to Table D.12-5 for summary characteristic information about Sneath Lane. Refer to Figure C-1 for the specific locations of the subject roadway segments.

Table D.12-7. Summary of Roadway Characteristics Along the Cherry Avenue Route

Roadway	Jurisdiction	Classification	Lanes	Traffic Volume			Transmission Line Orientation
				Year	Daily	Peak Hour	
Cherry Avenue (north of San Bruno Avenue)	San Bruno	Arterial	4	N/A ¹	5,806	519	longitudinal trench
Bayhill Drive (at Cherry Avenue)	San Bruno	Collector	4	N/A ¹	1,967	317	transverse trench
Commodore Drive (at Cherry Avenue)	San Bruno	Local	1	N/A ¹	N/A	N/A	transverse trench

Source: San Bruno, 2003.

¹ The year the City of San Bruno traffic counts were collected is unknown, but the City believes it is likely that they were collected in the late 1980s.

Environmental Impacts and Mitigation Measures

The Cherry Avenue Route would have similar impacts as those described for the underground segment of the Proposed Project. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), short-term elimination of parking spaces (Impact T-7), and disruption of public transit operations (Impact T-8) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, blocking of access (Impact T-4) would require implementation of Mitigation Measures L-7a and L-7b, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

Comparison to Proposed Route Segment

The Cherry Avenue Route Alternative would require approximately the same amount of underground road construction as the Proposed Project. Because the amount of underground construction work within roads is directly proportional to the amount and duration of traffic and transportation disturbance, impacts would essentially be the same as those compared to the Proposed Project.

D.12.5.4 PG&E's Route Option 4B – East Market Street

Environmental Setting

The East Market Street Alternative would diverge from the proposed underground route by continuing north on Hillside Boulevard. The alternative underground route follows Hillside for 0.4 miles, and then turn northeast into East Market Street, where it would rejoin the proposed route at Orange Street (East Market becomes Guadalupe Canyon Parkway at Orange Street).

SamTrans provides bus service along Hillside Boulevard (Bus Route 130) and East Market Street (Bus Route 121; SamTrans, 2003) and the main entrance to Susan B. Anthony Elementary School is along the southeast side of East Market Street. Recent traffic volume data for East Market Street and Hillside Boulevard is not available. Both roads are 4-laned arterials under the jurisdiction of Daly City. Land uses along Hillside and East Market include commercial, residential, and educational properties.

Environmental Impacts and Mitigation Measures

PG&E Route Option 4B would have similar impacts as those described for the underground segment of the Proposed Project. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), short-term elimination of parking spaces (Impact T-7), and disruption of public transit operations (Impact T-8) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, blocking of access (Impact T-4) would require implementation of Mitigation Measures L-7a and L-7b, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

Comparison to Proposed Route Segment

PG&E Route Option 4B would require approximately the same amount of underground road construction as the Proposed Project. Hillside Boulevard and East Market are wider streets than Hoffman and Orange Streets, which would give the construction contractor the option to keep at least one or two lanes open during construction. Hoffman and Orange streets would likely have to be completely closed with short-term detours routing traffic out of the construction area. However, East Market and Hoffman are arterials that experience much more traffic than Hoffman and Orange. In addition, because the main entrance to Susan B. Anthony Elementary School is on East Market Street, construction of this alternative would have the potential to create morning and afternoon traffic congestion (although impacts would still be less than significant, Class II and III, with mitigation).

D.12.5.5 Junipero Serra Alternative

Environmental Setting

This alternative alignment would include a longitudinal trench in Junipero Serra Boulevard for 1.8 miles (beginning at Westborough Boulevard in the City of South San Francisco), rather than the BART ROW. This route alternative would combine with either the Sneath Lane or West of Skyline Transition Station Alternatives, and would continue north along Skyline Boulevard until it would turn east onto Westborough Boulevard to the intersection of Westborough Boulevard and Junipero Serra Boulevard. Junipero Serra is a wide road with a median and few pedestrians. The land uses along the route become commercial as it approaches Serramonte Boulevard. The route would turn east into Serramonte Boulevard, staying in Serramonte for about one mile to Hillside, where it would rejoin the Proposed Project route.

SamTrans provides bus service along Junipero Serra Boulevard (Bus Routes 122 and 133) and Serramonte Boulevard (Bus Route 131; SamTrans, 2003). Table D.12-8 provides summary information for Junipero Serra Boulevard. Recent traffic data for Serramonte Boulevard, which is a 4-laned arterial, is not available. Refer to Table D.12-6 for road summary information up to Junipero Serra Road. Refer to Figure C-1 for the specific locations of the subject roadway segments.

Table D.12-8. Summary of Roadway Characteristics Along the Junipero Serra Alternative

Roadway	Jurisdiction	Classification	Lanes	Traffic Volume			Transmission Line Orientation
				Year	Daily	Peak Hour	
Junipero Serra Road	South San Francisco	Major Arterial	4	1997	14,265	1,621	longitudinal trench

Sources: Daly City, 2003; South San Francisco, 2001 and 2003.

Environmental Impacts and Mitigation Measures

The Junipero Serra Alternative would have similar impacts as those described for the underground segment of the Proposed Project. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), short-term elimination of parking spaces (Impact T-7), and disruption of public transit operations (Impact T-8) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, blocking of access (Impact T-4) would require implementation of Mitigation Measures L-7a and L-7b, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

In addition, the Town of Colma is planning a phased road improvement project for Junipero Serra Boulevard and the Town would prefer not to have trenching occur within the road immediately after it is improved. However, the Town has indicated that it would likely be able to plan its road improvement project around the proposed transmission line project (Colma, 2003). Therefore, potential impacts associated with a conflict between the Proposed Project and the Town of Colma's Junipero Serra Boulevard improvement project (Impact T-9) are less than significant (Class III) and no mitigation measures are required.

Comparison to Proposed Route Segment

The Junipero Serra Alternative would require approximately two additional miles of underground road construction compared to the Proposed Project. Because the amount of underground construction work within roads is directly proportional to the amount and duration of traffic and transportation impacts, the Proposed Project would less construction impacts than the Junipero Serra Alternative.

D.12.5.6 Modified Existing 230 kV Underground ROW

Environmental Setting

This alternative begins at San Bruno Avenue and Huntington Avenue. Either the Proposed Project route or the Sneath Lane Underground route (into Tanforan Avenue, boring under two railroad crossings to Shaw Road) could also connect with this Northern Segment Alternative. This route would be completely underground. The Modified Existing 230 kV Underground Alternative would be in San Bruno Avenue for 0.4 miles, then north into PG&E's 115 kV overhead line corridor just east of 7th Avenue (adjacent to Highway 101). Just south of the I-380, the route would jog west onto 7th Avenue then cross under I-380 and enter the City of South San Francisco where 7th Avenue becomes Shaw Road. After traveling on Shaw Road for 0.7 miles, the route would require a bored crossing of a tributary of Colma Creek and travel through a large parking lot east of Golden Gate Produce Terminal for approximately 0.3 miles before joining Produce Avenue.

Where Airport Boulevard crosses under Highway 101 (0.3 miles to the north), this route would turn east and cross below Highway 101, then turn northeast onto Gateway Boulevard. The route would travel along Gateway Boulevard for approximately 1.1 miles before crossing Oyster Point Boulevard and entering a vacant parcel. From this point, the underground alternative route would follow the eastern edge of the UPRR for approximately 1.0 mile into the City of Brisbane to Sierra Point Parkway. Just south of the Sierra Point development, the route would cross a City of South San Francisco drainage structure, using an emergency access road constructed by the City. It would continue north, staying immediately east of the UPRR ROW, then it would turn west into Sierra Point Parkway. At that point, the route would cross below Highway 101, then leave Sierra Point Parkway and with a bored crossing, traverse under the railroad tracks into Van Waters and Rogers Road (private) for 0.2 miles before joining Bayshore Boulevard.

The alternative route would follow the existing 230 kV underground line in Bayshore Boulevard for 1.1 miles, around the east side of San Bruno Mountain. This route would rejoin the Proposed Project route at the corner of Guadalupe Canyon and Bayshore, following the Proposed Project route for the last 0.8 miles into the Martin Substation.

SamTrans provides bus service along El Camino Real (Bus Routes 390 and Express Route MX), San Bruno Avenue (Bus Routes 193 and 40) and Airport Boulevard/Bayshore Boulevard (Bus Routes 292, 397, and 34; SamTrans, 2003). Table D.12-9 provides summary information of the roads that would be affected by the Modified Existing 230 kV Underground ROW Alternative. Refer to Figure C-1 for the specific locations of the subject roadway segments.

Table D.12-9. Summary of Roadway Characteristics Along the Modified Existing 230 kV Underground ROW Alternative

Roadway	Jurisdiction	Classification	Lanes	Traffic Volume			Transmission Line Orientation
				Year	Daily	Peak Hour	
San Bruno Avenue	San Bruno	Arterial	4	N/A ¹	14,596	1,312	longitudinal trench
7th Avenue	San Bruno	Local	1	N/A ¹	351	30	longitudinal trench
Shaw Road	South San Francisco	Collector	2	N/A	N/A	N/A	longitudinal trench
Produce Avenue	South San Francisco	Local	3	N/A	N/A	N/A	longitudinal trench
Airport Boulevard	South San Francisco	Major Arterial	4	1996	26,080	1,541	longitudinal trench
Gateway	South San Francisco	Major Arterial	4	1998	10,720	733	longitudinal trench
Oyster Point Boulevard	South San Francisco	Major Arterial	4	N/A	N/A	N/A	Transverse trench
Sierra Point Parkway	Brisbane	Arterial	2	N/A	N/A	N/A	longitudinal trench
Van Waters and Roger Road	Private	private	1	N/A	N/A	N/A	longitudinal trench
Bayshore Boulevard	Brisbane	Arterial	4	21,958	2001	N/A	longitudinal trench

Sources: Caltrans, 2003; San Bruno, 2003; South San Francisco, 2001 and 2003; Brisbane, 2003.

¹ The year the City of San Bruno traffic counts were collected is unknown, but the City believes it is likely that they were collected in the late 1980s.

Environmental Impacts and Mitigation Measures

The Modified Existing 230 kV Underground ROW Alternative would have impacts similar to those described for the underground segment of the Proposed Project. Construction-generated traffic (Impact T-2), pedestrian and bicycle circulation and safety (Impact T-5), short-term elimination of parking spaces (Impact T-7), and disruption of public transit operations (Impact T-8) would all result in less than significant impacts (Class III) that would not require additional mitigation measures over proposed APMs. However, temporary lane and road closures (Impact T-1) would require implementation of Mitigation Measures T-1a and T-1b, physical impacts to roads (Impact T-3) would require implementation of Mitigation Measure T-3a, blocking of access (Impact T-4) would require implementation of Mitigation Measures L-7a and L-7b, and reduction in emergency response (Impact T-6) would require implementation of Mitigation Measure T-6a to reduce potentially significant impacts to less than significant levels (Class II).

Comparison to Proposed Route Segment

The Modified Existing 230 kV Underground ROW Alternative would require about four miles less of underground road construction than the Proposed Project. Because the amount of underground construction work within roads is directly proportional to the amount and duration of traffic and transportation impacts, the Modified Existing 230 kV Underground ROW Alternative is preferred over the Proposed Project.

D.12.6 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, the proposed transmission line would not be constructed; therefore, no direct or cumulative construction related or operational traffic or aviation impacts would occur. The No Project Alternative scenario includes utility upgrades and construction of new generation within the CCSF, resulting in potential impacts to traffic and transportation during construction. Specific potential impacts would have to be assessed at the time other projects were proposed. In the short-term, improvements would be made to the existing electrical supply system, which would result in minor temporary traffic impacts at each construction site.

D.12.7 Mitigation Monitoring, Compliance, and Reporting Table

Table D.12-10 presents the mitigation monitoring, compliance, and reporting information for Transportation and Traffic.

Table D.12-10. Mitigation Monitoring Program – Transportation and Traffic

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
T-1 Temporary Road and Lane Closures (Class II)	T-1a: Prepare Transportation Management Plans. Prior to the start of construction, PG&E shall submit Traffic Management Plans (TMPs) to all agencies with jurisdiction of public roads that would be affected by overhead and underground construction activities as part of the required traffic encroachment permits. TMPs shall define the locations of all roads that would need to be temporarily closed due to construction activities, including aerial hauling by helicopter, hauling of oversized loads by truck, and due to conductor stringing activities. Input and approval from the responsible public agencies shall be obtained; copies of approval letters from each jurisdiction must be provided to the CPUC prior to the start of construction within that jurisdiction. The TMPs shall define the use of flag persons, warning signs, lights, barricades, cones, etc. according to standard guidelines outlined in the Caltrans Traffic Manual, the Standard Specifications for Public Works Construction, and the Work Area Traffic Control Handbook (WATCH). Documentation of the approval of these plans and issuance of encroachment permits shall be provided to the CPUC prior to the start of construction activities that require temporary closure of a public roadway. (Supersedes APM 13.3)	All locations where temporary road or lane closures would be required	Review documentation of: PG&E coordination with affected public agencies; and PG&E confirmation to all required conditions.	If traffic flows are generally maintained without severe congestion.	CPUC and the applicable local jurisdictions	Prior to and during construction.
T-1, cont.	T-1b: Restrict Lane Closures. PG&E shall restrict all necessary lane closures or obstructions on major roadways associated with overhead or underground construction activities to off-peak periods in urbanized areas to mitigate traffic congestion and delays. Lane closures in urbanized areas must not occur between 6:00 and 9:30 a.m. and between 3:30 and 6:30 p.m., or as directed in writing by the affected public agency in the encroachment permit.	All locations where temporary road or lane closures would be required	Review documentation of: PG&E coordination with affected public agencies; and PG&E confirmation to all required conditions.	If traffic flows are generally maintained without severe congestion.	CPUC and the applicable local jurisdictions	Prior to and during construction.

Table D.12-10. Mitigation Monitoring Program – Transportation and Traffic (cont.)

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
T-1, cont.	<p>APM 13.1: PG&E will maintain the maximum possible amount of travel lane capacity on roads during non-construction periods and will provide traffic control (using flags) at all construction sites.</p> <p>APM 13.2: During construction, PG&E will limit the work zone to a width that, at a minimum, maintains alternate one-way traffic flow past the construction zone. Alternatively, PG&E will post detour signs on alternate access streets, where available, in the event that complete temporary street closures are required. Detour plans would be submitted to the cities and Caltrans as part of the permit requirements.</p> <p>APM 13.3: Required permits for temporary lane closures will be obtained from the City of San Bruno, Town of Colma, Daly City, City of South San Francisco, City of Hillsborough, San Mateo County, and Caltrans. Before obtaining roadway encroachment permits from the cities and counties, PG&E will submit a TMP, subject to the local jurisdiction's review and approval. As part of the TMP, traffic control measures and construction vehicle access routes will be identified. The TMP will also include discussion of haul routes, limits on the length of open cuts, and resurfacing requirements. The TMP will address work zone hours; construction of the underground portion of the transmission line will occur between 8:00 a.m. and 5:00 p.m., Monday through Friday, unless otherwise permitted by the local jurisdiction. All property owners and residents on streets where construction will occur will be notified prior to the start of construction. Advance public notification will include postings of notices and appropriate signs.</p>					

Table D.12-10. Mitigation Monitoring Program – Transportation and Traffic (cont.)

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
T-3: Physical Impacts to Roads and Sidewalks (Class II)	T-3a: Repair Damaged Roadways. If damage to roads and sidewalks occurs, PG&E will coordinate repairs with the affected public agencies to ensure that any impacts to area roads are adequately repaired. Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces. Care shall be taken to prevent damage to roadside drainage structures. Roadside drainage structures and road drainage features (e.g., rolling dips) shall be protected by regrading and reconstructing roads to drain properly. Said measures shall be incorporated into an access agreement/easement with the applicable governing agency prior to construction.	Roads used to access the construction sites and roads in which the transmission line is buried	Review documentation that PG&E obtained permits for construction within each road ROW prior to construction; and that each affected roadway has been satisfactorily restored and/or constructed within 30 days of roadway damage.	Restoration/maintenance of roads to pre-construction conditions as determined by the affected public agency.	CPUC, affected local jurisdictions, and Caltrans	After construction is completed on each affected roadway.
T-4: Restricted Access to Properties (Class II)	L-7a and L-7b (See Section D.2, Land Use)	(See Section D.2, Land Use)				
T-4, cont.	APM 13.6: As part of a TMP for the Project, PG&E will identify all access restrictions expected to occur during construction. PG&E will develop a plan for notifying the affected businesses, homes, and other facilities, and prepare a plan to ensure adequate access at all times. This plan may involve alternate access, detours, or other temporary mitigations.	All locations where access restrictions are expected during construction of the project	Review and approve restricted access plan prepared by PG&E	If access to businesses, homes, and other facilities is maintained during construction	CPUC	Prior to and during construction
T-5: Interference with Pedestrian/Bicycle Circulation and Safety (Class III)	APM 13.8: Where construction will result in temporary closures of sidewalks and other pedestrian facilities, PG&E will provide temporary pedestrian access, through detours or safe areas along the construction zone. Any affected pedestrian facilities and the alternative facilities or detours that will be provided will be identified in the TMP. Where construction activity will result in bike lane closures, appropriate detours and signs will be provided. Where trenching will affect bicycle travel on streets without bicycle facilities, requirements for plates to cover trenches will be in accordance with the permit requirements of the local jurisdiction.	All locations where closures of sidewalks and other pedestrian facilities are expected during construction of the project	Review and approve TMP for identified affected pedestrian facilities and the alternative facilities or detours that will be provided	If pedestrian/bicycle circulation is not interfered.	CPUC and locally affected jurisdictions	Prior to and during construction

Table D.12-10. Mitigation Monitoring Program – Transportation and Traffic (cont.)

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
T-6: Emergency Response (Class II)	<p>T-6a: Ensure Emergency Response Access. PG&E shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services shall be notified in advance by PG&E of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. Traffic Control Plans (T-1a) shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service providers. Documentation of coordination with service providers shall be provided to the CPUC prior to the start of construction.</p> <p>APM 13.4: All construction activities will be coordinated with local law enforcement and fire protection agencies. Emergency service providers will be notified of the timing, location, and duration of construction activities. [This measure is superseded by Mitigation Measure T-6a above.]</p>	All locations along the underground ROW.	Review PG&E notification and coordination with emergency service providers. Review PG&E demonstration of capability to provide immediate access across excavations, subject to approval by affected police, medical, and fire agencies.	If the construction activities do not totally preclude access to any area emergency vehicles.	CPUC and affected emergency service providers (fire, police, sheriff, CHP and ambulance services).	Prior to and during construction.
T-7: Loss of Parking (Class III)	<p>APM 13.7: As part of the TMP, PG&E will develop for residential areas a notification process for temporary parking impacts and appropriate sign postings. PG&E will minimize the length of any temporary parking restrictions, develop appropriate sign postings, and specify the process for communicating with affected residents.</p>	All locations adjacent to underground line construction in residential areas	Review and approve TMP notification process for temporary parking impacts and appropriate sign postings	If the length of temporary parking restrictions are minimized and affected residents are notified	CPUC	Prior to and during construction

Table D.12-10. Mitigation Monitoring Program – Transportation and Traffic (cont.)

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
T-8: Disruption of Public Transit (Class III)	APM 13.5: PG&E will consult with the San Mateo County Unified School District at least one month prior to construction to coordinate construction activities adjacent to school bus stops. If necessary, school bus stops will be temporarily relocated or buses will be rerouted until construction in the vicinity is complete. PG&E will also consult with SamTrans and Caltrain at least one month prior to construction to reduce potential interruption of transit services.	All locations where construction activities are adjacent to school bus stops and transit services.	Review PG&E coordination with the San Mateo County Unified School District and SamTrans.	If the Proposed Project does not disrupt public or school transit	CPUC, San Mateo County Unified School District, and SamTrans	Prior to and during construction
T-9: Conflict with Planned Transportation Projects (Class II)	T-9a: Grade Separation Avoidance. To avoid conflicts with the City of San Bruno's San Bruno Avenue Grade Separation Conceptual Plan project, the Proposed Project underground route shall turn north on El Camino Real from San Bruno Avenue, proceed north to Sneath Lane, turn northeast in Sneath Lane through Huntington Avenue to the BART ROW, where the line would rejoin the proposed route. This reroute shall also be implemented if PG&E Route Option 1B is selected. If the Modified Underground 230 kV Alternative is selected for use with either the proposed route along San Bruno Avenue or PG&E Route Option 1B, the grade separation project shall be avoided by the same reroute, except that the underground route shall continue east past the end of Sneath Lane, under the railroad tracks, into Tanforan Drive and to Shaw Drive, where this reroute would join the Modified Underground 230 kV Alternative as originally defined.	The corner of El Camino Real and San Bruno Avenue in the City of San Bruno	Modify the Proposed Project as indicated to avoid conflicts	If the Proposed Project does not conflict with the Grade Separation Conceptual Plan project	CPUC and the City of San Bruno	Prior to and during construction
T-9, cont.	T-9b: If Route Option 1B is approved and the method of crossing the Crystal Springs Dam area would affect the bridge over the dam, PG&E shall coordinate the timing of its transmission line project with San Mateo County so the transmission line project can avoid conflict with, or be incorporated into, the County's bridge replacement project plans. PG&E shall reimburse the County for all cost that the County occurs associated with incorporating the transmission line project with the bridge replacement project.	Skyline Boulevard at the Crystal Springs Dam Bridge if PG&E Route Option 1B Alternative is used	Review PG&E coordination with San Mateo County. Review and verify PG&E and the County have a contact requiring PG&E to reimburse the County.	If the Proposed Project does not conflict with the Crystal Springs Dam Bridge Replacement Project	CPUC and San Mateo County	Prior to, during, and after construction along the bridge

Table D.12-10. Mitigation Monitoring Program – Transportation and Traffic (cont.)

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Helicopter Construction Safety (Class III)	<p>APM 11.7: A Lift Plan will be prepared and approved by the FAA prior to all “skycrane” construction helicopter operations. As noted above, PG&E does not presently anticipate that residents will be required to temporarily vacate their homes. In the unlikely event that final construction plans and Lift Plan require otherwise, PG&E will coordinate with potentially affected residents (providing a minimum of 30 days notice) to minimize the duration of the necessary work and any resultant inconvenience.</p> <p>The need for highway, roadway, and trail closures will be identified in the Lift Plan and will be coordinated with the appropriate jurisdictions as described in Chapter 13, Traffic/Transportation. Notification to the public of those temporary closures will be provided as described in APMs 13.3 and 13.8.</p>	All locations where helicopter construction techniques will be utilized	Review Lift Plan and documentation that indicates that FAA approved the Plan	If helicopter construction activities are conducted safely	CPUC and FAA	Prior to and during construction