C.11 TRANSPORTATION AND TRAFFIC

C.11 TRANSPORTATION AND TRAFFIC

C.11.1 ENVIRONMENTAL BASELINE AND REGULATORY SETTING

C.11.1.1 Regional Overview

The proposed project and alternatives would pass primarily through light industrial and undeveloped areas of Fremont, Milpitas, San Jose, and Santa Clara. The proposed project would also traverse areas of San Francisco Bay National Wildlife Refuge and the proposed Pacific Commons Preserve.

The proposed project is located approximately 1 to 2 miles west of I-880, between Auto Mall Parkway and SR 237. The proposed transmission line route runs approximately parallel with a section of the Southern Pacific rail line, which is located from 0.5 to 1.5 miles west of the alignment. From Newark Substation, the transmission line crosses Auto Mall Parkway and a dirt access road, and runs just east of the San Francisco Bay National Wildlife Refuge boundary. The proposed route then travels 3 miles south along the western border of the Bayside Business Park (west of Fremont Boulevard), then near the Newby Island Landfill (at Dixon Landing Road) and then toward the proposed Los Esteros Substation (south and east of the Regional Water Pollution Control Plant).

An upgrade of a portion of a 115kV line along Trimble Road and Montague Expressway is also considered part of the proposed project. Existing wooden poles run on the south side of these major North San Jose roadways (generally between the sidewalks and adjacent buildings/parking lots). The upgrade from wood to steel poles would take place between the Montague substation near the I-880/Montague Expressway interchange and the Trimble/Zanker Roads intersection.

C.11.1.2 Environmental Setting

C.11.1.2.1 *Existing Roadway Network*

The roadway network that could potentially be affected by the proposed project includes the streets and highways in which the transmission lines would be located, the streets and highways that would be crossed by the power lines, and the streets and highways that run parallel and adjacent to the transmission lines. Construction traffic would also use area roadways to access construction sites, particularly new substation locations.

There are numerous roadway segments that would be directly impacted by a transmission line construction project or its alternatives because the transmission lines are located within or adjacent to the right-of-way of the streets or highways. The names and locations of these roadway segments, the general roadway classification, the number of lanes and divider type, peak hour volume, and annual

Average Daily Traffic of each roadway are listed in a Table C.11-1. This table also indicates the physical relationship of the planned transmission lines to the roadway**.**

Table C.11-1 Traffic Volumes Along Proposed Transmission Line Route

Roadway (Location)	Classification	Number of Lanes	Traffic Volume		Physical Relationship to Transmission Line		
			Daily	Peak Hour	Crosses	Adjacent	Access
City of Fremont							
Auto Mall Parkway	Local street near transmission route; Arterial E of I-880	2 lanes/ LT lane dbl yellow	2,327	n/a	X		X
Cushing Road	Collector	Unpaved road, 1 lane	n/a	n/a	X		X
Fremont Blvd.	Arterial	4 lanes with Median LT lane	11,214	n/a	X		X
City of San Jose							
Dixon Landing Road	Local street near transmission route; Arterial E of I-880	2 lanes/ dbl yellow	n/a	n/a	X		X
Montague Expressway (G4)	Expressway	8 lanes/ divided	78,000	n/a		X	X
Trimble Road	Major Arterial	6 lanes/ divided	25,200	n/a		X	X
Harris Way	Local Street	2 lanes/ no lines	n/a	n/a		X	
McCarthy Blvd.	Major Arterial	4 lanes/ LT island; lines	n/a	n/a		X	X
O'Toole Ave.	Collector	2 lanes/ LT lane dbl yellow	n/a	n/a	X		X
Kruse Drive	Collector	2 lanes/ No lines	n/a	n/a	X		X
Junction Road	Collector	4 lanes (1 SBT, 1x NBL, 1x NBT, 1x NBR)	n/a	n/a	X		X
Zanker Road	Major Arterial	4 lanes/ divided	14,000	n/a		X	X

n/a = not available; dbl yellow = double yellow divider line; sgl yellow = single yellow divider line; island = island divider

Sources:

City of San Jose Department of Public Works. 1998. Department of Streets and Traffic Department, Traffic Flow Map.
WWW pages of City of Fremont (data circa 1997).

Some of the major roadways in the project area are described below.

I-880. I-880 is a four to eight-lane freeway that connects San Jose and Oakland. It runs east of the proposed project and alternatives' routes. I-880 is a major Silicon Valley commuter route, (carrying 105,000 daily vehicles north of Montague Expressway) and is heavily congested during peak periods, with level of service (LOS) F conditions (at capacity) during the afternoon peak hour in both directions near Montague Expressway, with average speeds as low as 10 mph. I-880 is the primary access route for inter-city travel to many of the businesses and landmarks in the study area, such as the Bayside Business Park in Fremont, the Newby Island Landfill, Cisco Systems, and high tech employment in Milpitas and Fremont.

The narrowest section (four through lanes) with the worst traffic congestion is just south of the project area, roughly between Montague Expressway and US 101. It is being widened to a minimum of six through lanes. After the completion of the I-880/SR 237 project, I-880 north of SR 237 will be expanded to a ten-lane freeway.

In addition, the I-880/Mission Boulevard interchange improvement project would require right-of-way acquisition and major construction along the I-880-B alternative alignment (as described later in the alternatives section). This project would close the hook ramps (southbound on and off) at Gateway Boulevard and replace the current hook ramps at Warren Avenue with a partial cloverleaf interchange serving all movements on and off at Warren Avenue and Mission Boulevard.

Auto Mall Parkway. The proposed transmission line route starts at the existing Newark Substation near the Tri-Cities Landfill, crossing Auto Mall Parkway at its western end. The Parkway (formerly called Durham Road) is an east-west arterial that connects to both I-880 and I-680. Near the proposed transmission line route, however, it is a two-lane road that primarily provides access to the landfill. According to Tri-Cities Landfill estimates, about 500 to 600 vehicles use the roadway daily, including about 200 garbage trucks and 100 commercial trucks traveling to and from the landfill. The rest of the vehicles are privately owned personal vehicles, mostly pickup trucks.

Cushing Road. Cushing Road provides access along the boundary of the San Francisco Bay National Wildlife Refuge. The section of Cushing Road crossed by the project is not paved and is used only for occasional maintenance. Cushing Road connects with the I-880 freeway indirectly via the Fremont Boulevard interchange.

Fremont Boulevard. Closest to the proposed route, Fremont Boulevard is a three to five-lane road with 11,200 vehicles per day south of Warren Avenue. The Boulevard runs south from I-880 near Cushing Road and is the primary access road to Bayside Business Park. The northern section includes two through lanes in each direction, plus a two-way left turn lane for access to the Business Park. The southern section includes one through lane in each direction, plus a two-way left turn lane. It is signed as a **Class III** bike route[1] While Fremont Boulevard ends near Lakeview Boulevard, an extension has been proposed to Dixon Landing Road to serve a possible extension of the Bayside Business Park.

Gateway Boulevard. Gateway Boulevard is a five-lane arterial (two through lanes in each direction, plus a median two-way left turn lane), with wide curb lanes. It carries about 15,500 daily vehicles. It is signed as a **Class III** bike route. It primarily provides access from I-880 to the Bayside Business Park. However, it also connects to Mission Boulevard, and indirectly connects to I-680.

Lakeview Boulevard. Lakeview Boulevard parallels I-880 from West Warren Avenue to Fremont Boulevard, near the eastern boundary of the Bayside Business Park. It is a two-lane business collector with sidewalks on the western side and a drainage channel on the eastern side.

Dixon Landing Road. Dixon Landing Road is an arterial that connects I-880 to northern Milpitas and the Newby Island Landfill. The I-880 interchange is currently being improved, with construction expected to extend to summer 2002. The U.S. Army Corps of Engineers is currently reviewing plans to

[1] Class III bike ways are signal street routes with out striping.

extend Fremont Boulevard to Dixon Landing Road as part of the final development plans for the Bayside Business Park located adjacent to the Easterly Route Alternative.

Zanker Road. South of SR 237, Zanker Road is a multi-lane, divided arterial road with **Class II**[2] bike ways are striped lanes on the street, serving large office centers for high-technology industry. North of SR 237, near the Los Esteros Substation site, it is a two-lane undivided roadway that primarily provides access to the Regional Water Pollution Control Plan and a landfill. Along this segment, it carries about 3,800 vehicles daily. Zanker Road has an interchange at SR 237.

***State Route* 237**. SR 237 is a six-lane freeway connecting I-880 to Mountain View and providing access to high tech employment centers in North San Jose and Milpitas. SR 237 carries about 132,000 vehicles daily. SR 237 operates at LOS F in the afternoon peak hour in both directions west of I-880, with speeds averaging 10 to 30 MPH.

Trimble Road-Montague Expressway. Near the proposed 115kV upgrade, Trimble Road is a six-lane arterial road with a 24-hour traffic volume of 25,200. Montague Expressway, which connects Trimble Road east of Junction Road, is a six- to eight-lane arterial road, which is considered a principal arterial by the Santa Clara County Congestion Management Program. A plan has been adopted for consistent widening to eight lanes, with interchanges at some major crossings. Industrial expansion in the area has increased traffic substantially, and traffic now exceeds 80,000 vehicles per day.

Montague Expressway intersections with Trimble Road and McCarthy Boulevard/O'Toole Avenue have been rated at LOS F (at capacity) for the afternoon peak hour since the early 1990s by County Congestion Management Program monitoring.

The County of Santa Clara Roads and Airports Department in partnership with the Cities of Santa Clara, San Jose, and Milpitas, and the Valley Transportation Authority's Congestion Management Program, have jointly developed a project for the Montague Expressway upgrade. The project is not fully funded nor scheduled, but would include widening and interchanges at selected locations. Along the proposed 115kV upgrade, which occurs on the south side of Montague Expressway, right-of-way acquisition and construction would primarily be on the north side. However, I-880 interchange improvements could conflict with the proposed 115kV upgrade, requiring relocation of the lines. There has also been discussion of a possible interchange at the O'Toole/McCarthy Boulevard intersection, but this is not in the current plans.

C.11.1.2.2 *Existing Traffic Volumes Along Transmission Line Route*

[2] Class II bikeways are striped lanes on the street.

The proposed transmission line would encroach the right-of-way of a number of roadways. As described in Table C.11-1, the number of lanes per street varies widely. As illustrated in Figure C.11-1, the traffic volumes along the subject roadways range widely. In addition to ADT volumes, Table C.11-1 lists morning and evening peak hour volumes for selected streets. Peak hour data for the other streets was not available and are listed as "n/a."

C.11.1.2.3 *Existing Transit Operations*

The primary public transportation service along the proposed transmission line route are bus lines operated by the Santa Clara County Valley Transit Authority (VTA) and the Alameda-Contra Costa (AC) Transit District. Public transit service is generally limited along roadways paralleling or crossed by the transmission lines. Table C.11-2 lists the existing bus routes in the study area.

In addition, the Guadalupe Corridor light rail line runs along Tasman Drive, crossing Lafayette Street and the possible NRS Substation Alternative line. The Tasman East light rail extension is now being constructed, which would run from North First Street, over Coyote Creek and through Milpitas crossing I-880. This line would potentially cross the Barber 115 kV Alternative route.

C.11.1.2.4 *Existing Rail Facilities*

As illustrated in Figure C.11-1, the proposed transmission line route would run near a Union Pacific rail line. The rail line passes at about 1/3 of a mile west of the existing Newark Substation. It runs south through Alviso, then parallels Lafayette Street in Santa Clara. The Union Pacific Railroad currently operates approximately six to eight daily freight trains along the rail line. It is also used by six daily Altamont Commuter Express (ACE) trains and 10 Amtrak passenger trains daily (Coast Starlight and Sacramento – San Jose Capitol Corridor).

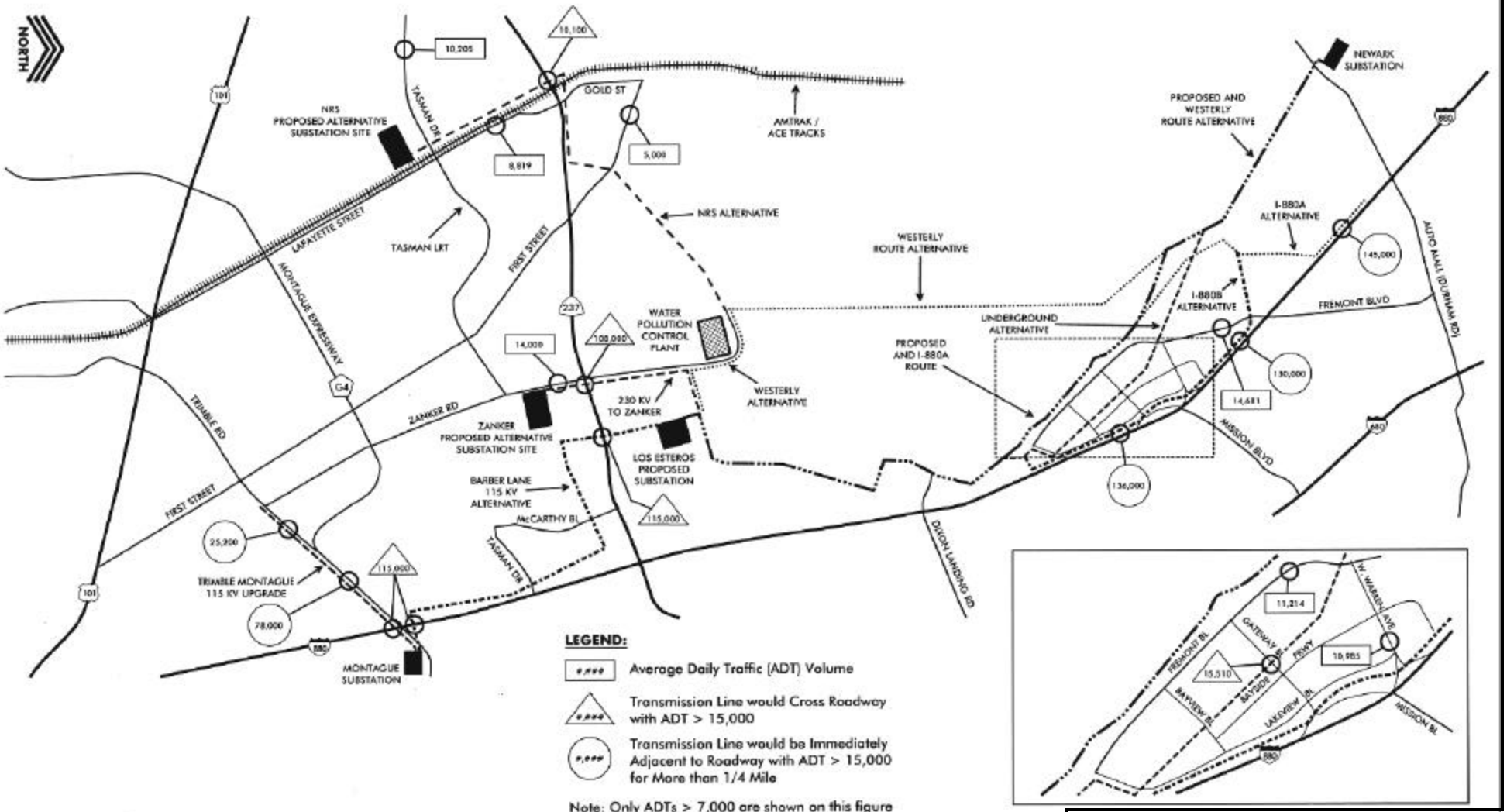
C.11.1.2.5 *Existing Bike and Pedestrian Facilities*

The proposed project crosses several bike lanes along roadways in the study area. SR 237 includes a **Class I**[3] bicycle path from North First Street to I-880, and the Montague Expressway allows for bicycling. There are also bike lanes on Trimble Road near Zanker Road and on Zanker Road south of SR 237. The proposed project runs along an existing section of the San Francisco Bay Trail (from northwest end to southwest end of the Bayside Business Park), and a proposed section of that trail (a section of levee along Coyote Creek), from southwest of the Bayside Business Park to the vicinity of the proposed Los Esteros Substation. Note that recreation and trail use is discussed in more detail in Section C.7, Land Use and Public Recreation.

[3] Class I bikeways are paths or streets separated from the road or street.

C.11.1.2.6 *Existing Aviation Facilities*

The San Jose International Airport is the closest aviation facility that would generate air traffic which would potentially be affected by the proposed project. The northern end of runway is about one mile southwest of the proposed Trimble-Montague Upgrade Alternative.



Source: WilburSmithAssociates,2000

Northeast San Jose Transmission Reinforcement Project EIR

Figure C.11-1

Average Daily Traffic Volumes WithinStudy Area

Aspen EnvironmentalGroup

Table C.11-2 Public Bus Service Near Proposed Transmission Line Routes

Segment Affected	Bus Route	Weekday Peak Hour Headways	Schedule
PROPOSED PROJECT –230 kV & 115kV			
I-880 at Montague Expressway	SCVTA Express 180 (SJ Diridon Station to Fremont BART)	15-20 minutes	Every day, at least 7:30 A.M. to 11:30 P.M.
Montague Expressway & Trimble Rd. (between I-880 and Zanker Rd.)	SCVTA Limited stop 345 (Eastridge to Mountain View Caltrain Station)	2 trips per day each direction	Weekday peak periods only
I-880-A & I-880-B Alternatives			
Fremont Blvd. (between I-880 and Gateway Blvd.)	AC Transit 22 (Fremont BART to Dixon Landing Rd.)	30 minutes	Weekdays 5 A.M. to 7:30 P.M.
NRS Substation Alternative			
Los Esteros Rd., N 1st St. (Alviso)	SCVTA 58 (W. Valley College to Alviso)	30 minutes	Weekdays 5:30 A.M. to 10:30 P.M. and weekends 8 A.M. to 9 P.M.
SR 237	SCVTA Express buses 104 (Piedmont Hills – Palo Alto), 141 (Fremont BART – Great America), 520 (Fremont BART to Moffett Park)	104 and 520: 30+ min. 141: Only operates on weekends	104 and 520: weekday peak periods only 141: only operates during spring/summer weekends
Barber Lane 115kV Alternative			
McCarthy Lane, Bellew	SCVTA 56 (Sunnyvale to Milpitas)	30-40	Weekdays only: 5:30 A.M. to 6:30 P.M.

C.11.1.3 Applicable Laws, Regulations, and Standards

Construction of the Northeast San Jose Transmission Line could potentially affect roadway conditions, 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. Such permits are needed for roads that would be crossed by the transmission line as well as for the parallel roads where transmission line construction activities would require the use of public right-of-way. These encroachment permits would be issued by the U.S. Army Corps of Engineers, Santa Clara County City of Fremont, Santa Clara County, and the City of San Jose. Alternative transmission line routes would require permits from the U.S. Army Corps of Engineers, Caltrans, Santa Clara County, and the Cities of Fremont, San Jose, Milpitas, and Santa Clara.

Transportation management plans would be required for each location where a roadway would be directly affected by transmission line construction activities, and such plans would be subject to approval by the responsible jurisdictions. These transportation management plans would be required to incorporate the standards and techniques presented in such references as the Caltrans' *Traffic Manual*, Chapter 5, "Manual of Traffic Controls for Construction and Maintenance Work Zones," the *Work Area Traffic Control Handbook*, and/or the *Standard Specifications for Public Works Construction*, and/or the *Manual on Uniform Traffic Control Devices* (MUTCD), Part VI, "Traffic Controls for Street and Highway Construction, Maintenance, Utility and Emergency Operations," (U.S. Department of Transportation – Federal Highway Administration). The transportation plans would include traffic control measures, methods of advance notification for businesses along the route,

telephone numbers to call if there are problems during construction, and other procedures that may be necessary during the construction phase.

The proposed project and support structures do not appear to encroach upon air space. However, as described further under Aviation Impacts, if necessary, the project shall comply with all appropriate regulations of the Federal Aviation Administration (FAA), and a Notice of Proposed Construction or Alteration (Form 7460-1) would be required of the applicant pursuant to Federal Aviation Regulations, Part 77.

C.11.2 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT

C.11.2.1 Introduction

A transmission line is inherently more likely to affect the ground transportation facilities (roadways and railroads) during construction than during operation, because there is typical only a minimal amount of surface activity required to operate a transmission line after construction is completed. Consequently, the bulk of the ground transportation analysis is devoted to the potential impacts during the construction phase. The aviation impacts, however, could occur during both construction and operation as these impacts are caused by physical impediments to the navigable airspace. The following sections present the construction discussion, which is followed by a description of the 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 C.1. The phrase "affected public agencies" used throughout the discussion refers to the state and local agencies responsible for the roadways and air space that would be impacted by the project; i.e., Federal Aviation Administration, U.S. Army Corps of Engineers, Caltrans, County of Santa Clara, and Cities of Fremont, Milpitas, San Jose, and Santa Clara.

C.11.2.2 Definition and Use of Significance Criteria

The traffic/transportation impacts of the proposed project would be considered significant if one or more of the following conditions were to occur as a result of transmission line or substation construction or operation. These criteria are based on 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 under the following conditions:

- 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 or operation of the project would result in safety problems for vehicular traffic, pedestrians, transit operations, or trains.

C.11.2.3 Applicant Proposed Measures

The *Proponent's Environmental Assessment (PEA, 1998)* includes several measures to reduce project impacts. These are called "Applicant Proposed Measures" (APMs) and are described in Table C.11-3 below. Most of these refer to the Trimble-Montague upgrade alternative portion of the proposed project.

Table C.11-3 Applicant Proposed Measures for Impacts to Traffic/Transportation

Issue	APM Text
Traffic Control Plans	PG& E proposes as part of the Trimble-Montague Upgrade Alternative project "to submit traffic control plans to the City of San Jose Public Works Department and the Santa Clara County Roads and Airport Department as part of the required traffic encroachment permits. If lane closures are necessary, the encroachment permit will set conditions for restricting construction working hours.[1]
Relocation of Power Lines for Roadway Widening	PG&E CO. also proposes that "if the 115kV power line construction along Montague Expressway proceeds in advance of the roadway widening, relocation of the line would be required at the time of widening and would be PG&E Co.'s responsibility. An encroachment permit is required for work within the County's right-of-way. To prevent conductors from falling onto the roadway during conductor stringing, PG&E Co. will install safety nets where appropriate.[2]
	PG&E Co. also proposes to place temporary poles and netting across I-880 to ensure that conductors will not fall onto the roadway during the conductor stringing phase.
Damage to Roads and Sidewalks	If physical damage occurs, "PG&E Co. will coordinate repairs with the local Department of Public Works to ensure that any impacts to area roads are minimized.[3]

[1] PG&E, Northeast Sanjose Transmission Reinforcement Project PEA, 1988, p. 9-3.
[2] PEA, p. 9-3.
[3] PEA, p. 9-4

C.11.2.4 Proposed 230 kV Transmission Line Route: Environmental Impacts and Mitigation Measures

C.11.2.4.1 *Transmission Line Construction: Overview*

The project construction will not conflict with existing transportation policies, result in significant increases to traffic levels, or interfere with emergency access. A maximum of 45 employees will be driving to any single construction site. Since these trips would generally be dispersed, the small amount of traffic would not generally be noticeable.

Construction of the proposed route would not affect waterborne, rail or air traffic because no such traffic is within the project area. The only major rail line in the project vicinity is the Union Pacific railroad line located to the west of the San Francisco Bay National Wildlife Refuge. Because the project will not cross the rail line, impacts to rail traffic will not occur. The proposed route would not require the removal of parking spaces at the Bayside Business Park because towers would be located at the edge of the property.

If the 115kV power line construction along Montague Expressway proceeds in advance of the roadway widening, relocation of the line would be required at the time of widening and would be PG&E Co.'s responsibility. According to the Santa Clara County Department of Roads and Airports, the Montague Expressway Improvement Project is tentatively scheduled to start in 2002 if funding can be secured. Therefore it is most likely that the construction of the proposed project will happen before the Montague Expressway Improvement Project. An encroachment permit is required for work within the County's right-of-way. To prevent conductors from falling onto the roadway during conductor stringing, PG&E Co. will install safety nets where appropriate.

C.11.2.4.2 *Lane Closures*

There are two ways that transmission line construction activities would interface with the roadway network. Construction would either cross a roadway or it would run parallel to a roadway within or adjacent to the public right-of-way. At the locations where the transmission line would run parallel to and/or longitudinally within a roadway, portions of the roadway that are currently used for traffic circulation and/or parking would be temporarily displaced. Detouring around each construction zone would be necessary.

The majority of transmission line construction will occur in roadless areas and will likely not require lane closures. Construction of towers for the proposed route or Westerly Route alternative will not require road closures, nor will construction of the Newark Substation modification or Los Esteros Substation. Sufficient area is present near Auto Mall Parkway and Zanker Road to allow construction away from traffic lanes.

Impact 1: Lane Closures along 230 kV Transmission Route. Any roadway closures due to the 230 kV transmission line itself will likely be limited, outside of the peak traffic periods, and therefore considered less than significant (**Class III).** No mitigation measures are needed.

The impact of lane closures along Trimble Road and Montague Expressway are discussed in a later section focusing on the 115 kV upgrade project.

C.11.2.4.3 *Additional Traffic from Construction Crews and Haul Tucks*

Another traffic impact would be the generation of additional traffic on the roadways in the project area as construction workers, equipment delivery trucks, and construction vehicles travel to and from the transmission line construction zone.

Crews commuting to construction sites will slightly increase traffic in the project area. The daily project workforce will consist of no more then 93 workers.[4] Approximately 30 workers are expected to be working on the Los Esteros Substation site, approximately 55 workers are planned to be working on the transmission lines and approximately 8 workers are planned to be working on the Newark Substation. Workers will drive personal vehicles to assembly points and from these points, drive or ride in project vehicles to the work areas along the transmission lines. The Los Esteros Substation site is planned to be the assembly point for workers working on the 230 kV transmission lines as well as workers involved with the Newark Substation modification. Transmission line workers will also assemble at PG&E Co.'s material facility located at 680 Dado Street near the intersection of Dado Street with Junction Avenue in San Jose. This small workforce will be dispersed throughout the project area and will not typically be working at the same place at any one time. Even assuming that each worker commutes to the work site in a personal vehicle and that several construction vehicles will also use the primary roadways in the project area every day, only minimal traffic increases will result. (Even if all employees drove alone, the total amount of traffic inbound at any assembly site will probably be only about 3 percent of the capacity of a typical signalized roadway lane.)

Haul truck traffic will include trucks carrying equipment and materials, debris for disposal, and crushed rock or gravel for insulation at the substation site. Trips will be made to and from various points along the transmission line route, especially substation sites. The exact routes and scheduling of truck trips are not known at this point.

PG&E Co. estimates that the total number of equipment/material haul trips will be about 400 round trips[5]. These trips will be spread out over approximately one year of construction, so will represent only about two or three round trips on a typical day. There could also be a smaller number of debris

[4] PG&E Co., *Supplemental Proponent's Environmental Assessment*, 1999.

[5] PG&E Co., Data Request Responses to the CPUC, November 18, 1998.

removal trips from along the transmission lines. This truck traffic would be less than 1 percent of truck traffic volumes on study area roadways and would not be noticeable. More substantial haul truck traffic to and from the proposed substation site is addressed later in this section.

Impact 2: Construction Worker and Vehicle Traffic. Any increase will be temporary and is considered insignificant **(Class III)**. Because no significant impacts have been identified, mitigation measures are not required.

C.11.2.4.4 *Physical Impacts to Roads and Sidewalks*

Equipment used during the project is designed for urban construction, and PG& E does not expect to cause any physical damage to public roads or sidewalks. However, there is the potential for damage that can be mitigated by the following measure that expands on an APM proposed by PG&E Co..

Impact 3. Physical Damage to Roads and Sidewalks. The impacts would be potentially significant, but reduced to non-significant levels with implementation of Mitigation Measure T-1 below **(Class II).**

Mitigation Measures for Physical Damage to Roads and Sidewalks

T-1 If damage to roads and sidewalks occurs, PG&E Co. 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.

C.11.2.4.5 *Impacts of Construction on Property Access*

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 businesses, residences, and institutions.

Impact 4. Restricted Access to Properties. In most of the affected areas, impacts would not be significant due to the temporary nature of construction and the location of much of the construction away from public roadways. There is the potential for significant effects on property access, but this can be reduced to non-significant levels with implementation of Mitigation Measures T-2 and T-3 **(Class II)**.

Mitigation Measures for Impacts on Property Access

T-2 PG&E Co. shall notify affected parties of potential obstructions and make provisions for alternative access. Alternative access provisions and parking will be provided by PG&E Co. where feasible, with guide signs to inform the public.

PG&E Co. shall give written notification to all landowners, tenants, business operators, and residents along the right-of-way of the construction schedule, and shall explain the exact location and duration of the transmission line and construction activities within each street (e.g., which lane/s will be blocked, at what times of day, and on what dates). PG&E Co. shall identify any potential obstructions to their access, and shall make alternative access provisions. The written notification shall include a toll-free telephone number for PG&E Co.'s Business Coordinator and shall encourage affected parties to discuss their concerns with PG&E Co. prior to the start of construction so individual problems and solutions can be identified. Alternative access provisions shall include PG&E Co.-provided signage and alternate parking as provided and approved by local agencies.

T-3 PG&E Co. shall schedule construction on or adjacent to sensitive land uses (hospitals, schools, residences, major employers, recreational areas, etc.) so that at least one access driveway is left unblocked during all business hours or hours of use. This scheduling shall be provided by PG&E Co. to the landowners or tenants so they can inform residents or customers. If access problems can be avoided by scheduling night construction in non-residential areas, this option should be considered.

C.11.2.4.6 *Impacts of Construction on Pedestrian/Bicycle Circulation and Traffic Safety*

Pedestrian/bicycle circulation would be affected by the transmission line construction activities if pedestrians were unable to pass through the construction zone or if established bike routes are blocked. This impact affects pedestrian/bicycle routes that cross the alignment as well as those that are parallel to the alignment (i.e., sidewalks, shoulders, unpaved paths, and bike trails). In particular, the proposed route would be immediately adjacent to the existing Bay Trail west of the Bayside Business Park in Fremont. Also, the Bay Trail is proposed to parallel Zanker Road along an alternative 230 kV route. In general, the level of interference with pedestrian and bicycle activity is expected to be minimal, and alternative routes should be feasible. For example, Fremont Boulevard, which parallels the Bay Trail south of Warren Avenue is a **Class III** (signed) bicycle route.

Impact 5. Pedestrian/Bicycle Circulation. Disruptions to pedestrian and bicycle circulation are expected to be less than significant **(Class III).** Therefore, no mitigation measures are required.

Impact 6. Traffic and Bicycle/Pedestrian Safety. 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. This impact is considered to be significant, but mitigable **(Class II)** through the implementation of Mitigation Measure T-4 below.

Mitigation Measures for Impacts on Pedestrian/Bicycle Circulation and Traffic Safety

T-4 PG&E Co. shall provide alternative pedestrian/bicycle access routes to avoid obstruction to pedestrian/bicycle circulation. PG&E Co. has proposed maintaining a minimum 36 inch sidewalk during construction.[6] Where existing pedestrian circulation routes or bike trails would be obstructed by transmission line construction, alternative access routes shall be developed and signed/marked appropriately, in conjunction with local agencies.

C.11.2.4.8 *Impact of Construction on Emergency Response*

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.

Impact 7: Emergency Response. This impact is considered to be significant, but mitigable **(Class II)** with implementation of Mitigation Measure T-5.

Mitigation Measure for Impact on Emergency Response

T-5 PG&E Co. 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 Co. 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 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.

[6] PG&E Co., *Data Request Response to the California Public Utilities Commission*, November 18, 1998.

C.11.2.4.9 *Impact of Construction on Storage Space, Staging Areas and Parking Spaces*

There would be a need for PG&E Co. to store equipment, such as trucks, auger, dozers, cranes, tractor, skiff, and pumps, at or near the construction sites. The trucks and active equipment would likely be parked near the construction zone off-street or in private parking lots, by arrangement with the owner. As the location of the proposed route is primarily away from public roadways, the impact on public (municipal) parking should be minimal.

Impact 8. Construction Storage Space and Parking. This impact is considered adverse, but not significant **(Class III)**. There is no need for mitigation.

C.11.2.4.10 *Impact of Construction on Public Transit*

The primary impact regarding public transit is the effect of transmission line construction on buses, which travel on the roadways that will be physically blocked by construction activities. There is also the potential for temporary loss of access to bus stops for up to one to two weeks.

Impact 9. Public Transit. Considering the relatively limited encroachment of the proposed route on public roadways, the limited bus service in the study area, and the potential for alternative bus stop locations, impacts are expected to be adverse, but less than significant **(Class III).** There is no need for mitigation.

C.11.2.4.11 *Impact of Construction on Rail Operations*

The preferred route does not cross or closely parallel any rail lines. Therefore, there is no impact.

C.11.2.4.12 *Aviation Activities*

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. As the maximum height of a crane would be approximately 165 feet, and of a transmission tower about 130 feet, these project components would not extend into navigable airspace unless they were within the restricted area of a designated airport or helipad.

The FAA restrictions apply to the only public airport within the study area, the San Jose International Airport. (The Fremont Airport is no longer in operation.) The proposed project was analyzed to determine if a 130-foot structure, the wires between the structures, or a 165-foot crane would protrude into the navigable airspace around the airports, either permanently or temporarily, as defined by the

FAA. No portion of the proposed project comes within one mile of the airport runways. The closest portion of the Trimble-Montague 115kV upgrade alternative (at Trimble and Zanker Roads) is not oriented along flight paths. Based on San Jose International Airport planning staff experience with other projects in the general area, the proposed project alignment would have not have height constraints near the San Jose International Airport, and there would be no general aviation impact.

Since the airspace around private landing strips is not subject to the FAA restrictions, private landing strips and heliports were not identified or analyzed. Although the wires and structures may create a safety hazard for crop sprayers and other private aircraft, the impacts would not be significant according to the FAA guidelines.

C.11.2.4.13 *Impacts of Operation of Transmission Lines and Substations*

Operation of transmission and distribution lines will have no appreciable impact on traffic, as maintenance will be limited to periodic inspections and repairs as necessary. Any impacts would be negligible and no mitigation is required.

C.11.2.5 Proposed Substation Site and 115 kV Lines: Environmental Impacts and Mitigation Measures

The proposed project includes construction of a new 24-acre combined transmission/distribution substation (Los Esteros) and connection of this facility with the existing 115 kV transmission system via four 115 kV power lines (as shown in Figure B.3-3). PG&E Co. plans to follow existing power lines and use double-circuit steel poles in order to minimize the creation of new power line corridors as much as possible. Most of the 115 kV power line construction to connect the Los Esteros Substation to other substations will be performed under the North San Jose Area Capacity Increase Project, which has undergone separate environmental review. The new 115 kV connections evaluated as part of this project do not cross any public roads.

The Los Esteros Substation will be located on undeveloped property (now used for agriculture), approximately 1500 feet north of SR 237. It will have access to Zanker Road, approximately 1500 feet to the west. Modification of the Newark Substation will not result in additional onsite employees, nor will it increase the frequency of maintenance at the substation. Therefore, no traffic impacts will result.

The proposed Los Esteros Substation will be unmanned and will require only occasional maintenance. No permanent employees will be commuting to the site, and vehicle traffic for maintenance will be minimal. Consequently, no impact will result.

Construction impacts of substation and 115 kV improvements will be similar to, and generally less than, those described above for the transmission line.

Haul truck travel to the proposed Los Esteros Substation site would include about 38 equipment/material round trips, 230 debris removal round trips, and 1,800 round trips to deliver crushed rock or gravel. Most of these trips would be made during approximately three months for demolition and initial construction. This would average roughly 35 round trips or 70 one-way trips per day. While these truck trips could occasionally slow traffic flows, overall, this level of truck traffic would not significantly impact traffic flow on study area roadways.

C.11.2.6 Proposed Trimble-Montague Upgrade: Environmental Impacts and Mitigation Measures

An upgrade to the existing 115 kV wooden pole circuit along Trimble Road and Montague Expressway is proposed as part of the project. This upgrade would allow connection for the Montague Substation with the proposed Los Esteros Substation. This portion of the project is most likely to cause adverse traffic impacts, due to its location adjacent to major arterial roadways. Table C.11-3 summarizes the Applicant Proposed Measures that PG&E Co. has proposed to implement for this portion of the project.

C.11.2.6.2 *Impacts of Lane Closures*

Impact 10. Lane Closures along Trimble Road/Montague Expressway. Lane closure will be required along the south side of Trimble Road/Montague Expressway during replacement of the existing single-circuit wood pole transmission line. Since these roadways are critical arterial links to the North San Jose employment centers, and currently operating near capacity, there is the potential for significant, adverse impacts (although temporary) on traffic levels of service. PG&E Co. indicated that the lane closure would be limited to a single lane during daylight hours between 9 a.m. and 3:30 p.m. Line stringing would likely be done at night or on weekends.[7]

Transmission line construction along Montague Expressway and Trimble Road would temporarily block traffic lanes, causing traffic congestion and a potential increase in traffic accidents, but could be mitigated with implementation of Mitigation Measures T-6 through T-8 (**Class II**).

Mitigation Measure for Impacts of Lane Closures

T-6 Prior to the start of construction, PG&E Co. shall submit traffic control plans to the City of San Jose Public Works Department and the Santa Clara County Roads and Airport Department as

[7] PG&E Co., *Data Request Response to the CPUC*, November 18, 1998.

part of the required traffic encroachment permits. Documentation of the approval of these plans and issuance of encroachment permits shall be provided to the CPUC prior to the start of construction on Trimble Road or Montague Expressway. If lane closures are necessary, the encroachment permit will set conditions for restricting construction working hours.

T-7 PG&E Co. shall restrict all necessary lane closures or obstructions on major roadways to off-peak period in urbanized areas to mitigate traffic congestion and delays that would be caused by lane closures during construction and by exploratory excavations. Lane closures 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.

T-8 PG&E Co. shall develop and implement detailed Traffic Control Plans (TCPs), prepared by a registered Traffic Engineer, for the entire route at all locations where construction activities would interact with the existing transportation system. 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 TCP shall define the use of flaggers, 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).

Impact 11. Crossing of I-880. The Los Esteros to Montague 115 kV power line will need to be constructed over I-880 along Montague Expressway, along the south side of the interchange. This has the potential to interfere with traffic on the freeway mainline or ramps, but impacts would not be significant (**Class III**) assuming that PG&E Co. complies with their APM and Caltrans permit requirements. PG&E Co. proposes to place temporary poles and netting across I-880 to ensure that conductors will not fall onto the roadway during the conductor stringing phase. Work would be performed at night or early morning during Saturday or Sunday, in compliance with a Caltrans permit.

C.11.2.6.3 *Impacts on Bicycle and Pedestrian Circulation and Safety*

Pedestrian/bicycle circulation would likely be affected by the transmission line construction activities, as the proposed route would be immediately adjacent to the sidewalk and roadway on Trimble Road and Montague Expressway. This impact affects pedestrian/bicycle routes that cross the alignment as well as those that are parallel to the alignment (i.e., sidewalks, shoulders, unpaved paths, and bike trails). Parallel routes are at some distance.

Impact 12A. Pedestrian/Bicycle Circulation. Disruptions to pedestrian and bicycle circulation are potentially significant, but mitigable to non-significant levels with implementation Mitigation Measure T-9 below **(Class II).**

Impact 12B. Traffic and Bicycle/Pedestrian Safety. 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. This impact is considered to be potentially significant, but mitigable **(Class II)** through the implementation of Mitigation Measure T-9.

Mitigation Measure for Impacts on Pedestrian/Bicycle Circulation and Traffic Safety

T-9 PG&E Co. shall provide alternative pedestrian/bicycle access routes to avoid obstruction to pedestrian/bicycle circulation. Where existing pedestrian circulation routes or bike trails would be obstructed by transmission line construction, alternative access routes shall be developed and signed/marked appropriately, in conjunction with local agencies.

C.11.2.6.4 *Other Potential 115kV Project Impacts*

Other potential impacts to traffic and circulation along the Trimble-Montague Upgrade Alternative were reviewed in the categories listed above for the 230 kV transmission line project. Impacts and mitigation measures are the same as for the 230 kV transmission line project. Any mitigation measures listed above should be considered to apply also to the 115 kV upgrade project, as appropriate.

C.11.2.7 Cumulative Impacts and Mitigation Measures

Traffic from new land uses and from construction projects may exacerbate the construction impacts described above. However, the incremental impacts of cumulative development projects will be limited and not significant (**Class III**).

C.11.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES: ALTERNATIVE TRANSMISSION LINE ALIGNMENTS AND SUBSTATION SITES

This section describes the transportation impacts for each alternative route and substation site. Table C.11-4 presents traffic data for all alternatives.

C.11.3.1 Underground Through Business Park

Environmental Setting. The underground route through the business park would follow the route of the PG&E Co.'s existing 115kV lines. It replaces the portion of the proposed route between Mile Post (MP) 1.8 and 4.1. The overhead lines would turn southeast at MP 1.8 and follow a straight line to a location adjacent to the existing Newark-Milpitas/Dixon Landing and Newark-Montague 115kV lines. At this location the transition structure at the back of the parking lot would take the lines underground before entering the business park, where they would travel primarily under parking lots located behind industrial buildings. At the south end of the business park the underground line would turn west on

Lakeview Boulevard, then south on Fremont Boulevard. Transition structures at the eastern corner of the current end of Fremont Boulevard would take the lines aboveground.

Table C.11-4 Traffic Volumes Along Alternative Routes

Roadway (Location)	Jurisdiction	Classification	Number of Lanes	Traffic Volume		Physical Relationship to Transmission Line		
				Daily	Peak Hour	Crosses	Adjacent	Access
Underground Through the Business Park								
Auto Mall Parkway	Fremont	Local street near transmission route; Arterial E of I-880	2 lanes/ LT lane dbl yellow	2,327	n/a	X		X
Cushing Road	Fremont	Collector	Unpaved road, 1 lane	n/a	n/a	X		X
Fremont Blvd.	Fremont	Arterial	4 lanes with Median LT lane	11,214	n/a	X		X
Gateway Blvd.	Fremont	Major Collector	4 lanes/sgl yellow Median LT lane	15,510	n/a	X		X
Bayview Drive	Fremont	Local Street	2 lanes/ dbl yellow Median LT lane	n/a	n/a	X		
Lakeview Blvd.	Fremont	Local Street	2 lanes/ dbl yellow	n/a	n/a	X		
Dixon Landing Road	San Jose	Local street near transmission route; Arterial E of I-880	2 lanes/ dbl yellow	n/a	n/a	X		X
Montague Expressway (G4)	San Jose	Expressway	8 lanes/ divided	78,000	n/a		X	X
Trimble Road	San Jose	Major Arterial	6 lanes/ divided	25,200	n/a		X	X
Interstate 880	Caltrans	Freeway	6-8 lanes/ divided	157,000	12,600		X	X
Harris Way	San Jose	Local Street	2 lanes/ no lines	n/a	n/a		X	
McCarthy Blvd.	San Jose	Major Arterial	4 lanes/ LT island; lines	n/a	n/a		X	X
O'Toole Ave.	San Jose	Collector	2 lanes/ LT lane dbl yellow	n/a	n/a	X		X
Kruse Drive	San Jose	Collector	2 lanes/ No lines	n/a	n/a	X		X
Junction Road	San Jose	Collector	4 lanes (1 SBT, 1x NBL, 1x NBT, 1x NBR)	n/a	n/a	X		X
Zanker Road	San Jose	Major Arterial	4 lanes/ divided	14,000	n/a		X	X
I-880-A Alternative								
Interstate 880	Caltrans	Freeway	6-8 lanes/ divided	157,000	12,600		X	
Cushing Road	Fremont	Collector	Unpaved road, 1 lane	n/a	n/a	X		X
Fremont Blvd.	Fremont	Arterial	4 lanes with Median LT lane	11,214	n/a	X		X
Dixon Landing Road	San Jose	Local street near transmission route; Arterial E of I-880	2 lanes/ dbl yellow	n/a	n/a	X		X
Montague Expressway (G4)	San Jose	Expressway	8 lanes/ divided	78,000	n/a		X	X
Trimble Road	San Jose	Major Arterial	6 lanes/ divided	25,200	n/a		X	X
Interstate 880	Caltrans	Freeway	6-8 lanes/ divided	157,000	12,600		X	X
Harris Way	San Jose	Local Street	2 lanes/ no lines	n/a	n/a		X	
McCarthy Blvd.	San Jose	Major Arterial	4 lanes/ LT island; lines	n/a	n/a		X	X
O'Toole Ave.	San Jose	Collector	2 lanes/ LT lane dbl yellow	n/a	n/a	X		X
Kruse Drive	San Jose	Collector	2 lanes/ No lines	n/a	n/a	X		X
Junction Road	San Jose	Collector	4 lanes (1 SBT, 1x NBL, 1x NBT, 1x NBR)	n/a	n/a	X		X
Zanker Road	San Jose	Major Arterial	4 lanes/ divided	14,000	n/a		X	X

Roadway (Location)	Jurisdiction	Classification	Number of Lanes	Traffic Volume		Physical Relationship to Transmission Line		
				Daily	Peak Hour	Crosses	Adjacent	Access
I-880-B Alternative								
Auto Mall Parkway	Fremont	Local street near transmission route; Arterial E of I-880	2 lanes/ LT lane dbl yellow	2,327	n/a	X		X
Cushing Road	Fremont	Collector	Unpaved road, 1 lane	n/a	n/a	X		X
Fremont Blvd.	Fremont	Arterial	4 lanes with Median LT lane	11,214	n/a	X		X
West Warren Ave.	Fremont	Collector	4 lanes/ dbl yellow	10,985	n/a	X		X
Landing Parkway	Fremont	Local Street	2 lanes/ median LT lane	3.172	n/a		X	X
Interstate 880	Caltrans	Freeway	6-8 lanes/ divided	157,000	12,600		X	
Gateway Blvd.	Fremont	Major Collector	4 lanes/ sgl yellow Median LT lane	15,510	n/a	X		X
Bayview Drive	Fremont	Local Street	2 lanes/ dbl yellow Median LT lane	n/a	n/a	X		
Lakeview Blvd.	Fremont	Local Street	2 lanes/ dbl yellow	n/a	n/a	X		
Dixon Landing Road	San Jose	Local street near transmission route; Arterial E of I-880	2 lanes/ dbl yellow	n/a	n/a	X		
Montague Expressway (G4)	San Jose	Expressway	8 lanes/ divided	78,000	n/a		X	X
Trimble Road	San Jose	Major Arterial	6 lanes/ divided	25,200	n/a		X	X
Interstate 880	Caltrans	Freeway		157,000	12,600		X	X
Harris Way	San Jose	Local Street	2 lanes/ no lines	n/a	n/a		X	
McCarthy Blvd.	San Jose	Major Arterial	4 lanes/ LT island; lines	n/a	n/a		X	X
O'Toole Ave.	San Jose	Collector	2 lanes/ LT lane dbl yellow	n/a	n/a	X		X
Kruse Drive	San Jose	Collector	2 lanes/ No lines	n/a	n/a	X		X
Junction Road	San Jose	Collector	4 lanes (1 SBT, 1x NBL, 1x NBT, 1x NBR)	n/a	n/a	X		X
Zanker Road	San Jose	Major Arterial	4 lanes/ divided	14,000	n/a		X	X
Westerly Route Alternative								
Auto Mall Parkway	Fremont	Local street near transmission route; Arterial E of I-880	2 lanes/ LT lane dbl yellow	2,327	n/a	X		X
Cushing Road	Fremont	Collector	Unpaved road, 1 lane	n/a	n/a	X		X
Los Esteros Road	San Jose	Local Street	2 lanes/ dbl yellow	3,800	n/a		X	
Zanker Road (N of SR 237)	San Jose	Local Street	2 lanes/ dbl yellow	3,800	n/a		X	
Montague Expressway (G4)	San Jose	Expressway	8 lanes/ divided	78,000	n/a		X	X
Trimble Road	San Jose	Major Arterial	6 lanes/ divided	25,200	n/a		X	X
Harris Way	San Jose	Local Street	2 lanes/ no lines	n/a	n/a		X	
McCarthy Blvd.	San Jose	Major Arterial	4 lanes/ LT island; lines	n/a	n/a		X	X
O'Toole Ave.	San Jose	Collector	2 lanes/ LT lane dbl yellow	n/a	n/a	X		X
Kruse Drive	San Jose	Collector	2 lanes/ No lines	n/a	n/a	X		X
Junction Road	San Jose	Collector	4 lanes (1 SBT, 1x NBL, 1x NBT, 1x NBR)	n/a	n/a	X		X

Roadway (Location)	Jurisdiction	Classification	Number of Lanes	Traffic Volume		Physical Relationship to Transmission Line		
				Daily	Peak Hour	Crosses	Adjacent	Access
Zanker Road	San Jose	Major Arterial	6 lanes/ divided	14,000	n/a		X	X
Substation Alternatives								
SR 237	Caltrans	Freeway	6-8 lanes/ divided	132,000	9,300	X		X
Holger Way	San Jose	Local Street	2 lanes/ dbl yellow	n/a	n/a	X		
Zanker Road	San Jose	Major Arterial	6 lanes/ divided	14,000	n/a		X	X
NRS Alternatives								
Los Esteros Road	San Jose	Local Street	2 lanes/ dbl yellow	3,800	n/a		X	
North First Street	San Jose	Local Street	2 lanes/ dbl yellow	5,000	n/a	X		
School St. (aka Tony P. Santos)	San Jose	Local Street	2 lanes/ No lines	n/a	n/a		X	
Nortech Parkway	San Jose	Local Street	2 lanes/ dbl yellow	n/a	n/a	X		
Gold Street	San Jose	Collector	2 lanes/ Island LT Bay	n/a	n/a	X		
SR 237	Caltrans	Freeway		132,000	9,300	X		X
Buena Vista Way	Santa Clara	Arterial	2 lanes/ Median2x dbl lines	4,077	410	X		X
Lafayette Street	Santa Clara	Arterial	4 lanes/ divided	8,819	EB=875 WB=245		X	X
Tasman Drive	Santa Clara	Arterial	6 lanes/ divided	10,205	EB=787 WB=481		X	X
230kV to Zanker								
SR 237	Caltrans	Freeway	6-8 lanes/ divided	132,000	9,300	X		X
Holger Way	San Jose	Local Street	2 lanes/ dbl yellow	n/a	n/a	X		
Zanker Road	San Jose	Major Arterial	6 lanes/ divided	14,000	n/a		X	X
Trimble-Montague 115kV Upgrade Alternatives								
Montague Expressway (G4)	San Jose	Expressway	8 lanes/ divided	78,000	n/a		X	X
Trimble Road	San Jose	Major Arterial	6 lanes/ divided	25,200	n/a		X	X
Interstate 880	Caltrans	Freeway	6-8 lanes/ divided	157,000	12,600		X	X
Harris Way	San Jose	Local Street	2 lanes/ no lines	n/a	n/a		X	
McCarthy Blvd.	San Jose	Major Arterial	4 lanes/ LT island; lines	n/a	n/a		X	X
O'Toole Ave.	San Jose	Collector	2 lanes/ LT lane dbl yellow	n/a	n/a	X		X
Kruse Drive	San Jose	Collector	2 lanes/ No lines	n/a	n/a	X		X
Junction Road	San Jose	Collector	4 lanes (1 SBT, 1x NBL, 1x NBT, 1x NBR)	n/a	n/a	X		X
Zanker Road	San Jose	Major Arterial	4 lanes/ divided	14,000	n/a		X	X
Barber 115kV Alternative								
SR 237	Caltrans	Freeway	6-8 lanes/ divided	132,000	9,300	X		X
Technology Drive	Milpitas	Collector	2 lanes/ LT Bay, dbl yellow	n/a	n/a		X	X
Bellow Drive	Milpitas	Collector	2 lanes/ LT Bay, dbl yellow	12,667	n/a		X	X
McCarthy Blvd.	Milpitas	Major Arterial	4 lanes/ LT island; lines	n/a	n/a	X		X
Barber Lane	Milpitas	Collector	2 lanes/ dbl yellow	5,577	n/a		X	

Roadway (Location)	Jurisdiction	Classification	Number of Lanes	Traffic Volume		Physical Relationship to Transmission Line		
				Daily	Peak Hour	Crosses	Adjacent	Access
Tasman Drive	Santa Clara	Urban Major Arterial	6 lanes/ divided	10,205	EB=787 WB=481	X		X
Alder Drive	Milpitas	Local Street	4 lanes/ Median LT lane	n/a	n/a	X		
Sycamore Drive	Milpitas	Local Street	2 lanes/ sgl yellow	n/a	n/a	X		
Cottonwood Drive	Milpitas	Local Street	2 lanes/ sgl yellow	n/a	n/a	X		
Montague Expressway (G4)	San Jose	Expressway	8 lanes/ divided	78,000	n/a		X	X
Harris Way	San Jose	Local Street	2 lanes/ no lines	n/a	n/a		X	
Interstate 880	Caltrans	Freeway	6-8 lanes/ divided	157,000	12,600	X		X
Underground Trimble-Montague 115kV Alternative								
Montague Expressway (G4)	San Jose	Expressway	8 lanes/ divided	78,000	n/a		X	X
Trimble Road	San Jose	Major Arterial	6 lanes/ divided	25,200			X	X
Interstate 880	Caltrans	Freeway	6-8 lanes/ divided	157,000	12,600		X	X
Harris Way	San Jose	Local Street	2 lanes/ no lines	n/a	n/a		X	
McCarthy Blvd.	San Jose	Major Arterial	4 lanes/ LT island; lines	n/a	n/a		X	X
O'Toole Ave.	San Jose	Collector	2 lanes/ LT lane dbl yellow	n/a	n/a	X		X
Kruse Drive	San Jose	Collector	2 lanes/ No lines	n/a	n/a	X		X
Junction Road	San Jose	Collector	4 lanes (1 SBT, 1x NBL, 1x NBT, 1x NBR)	n/a	n/a	X		X
Zanker Road	San Jose	Major Arterial	4 lanes/ divided	14,000	n/a		X	X

n/a = not available; dbl yellow = double yellow divider line; sgl yellow = single yellow divider line; island = island divider
LT = left turn; SBT = southbound through lane; NBL = northbound left lane; NBR = northbound right lane
Sources:
Chris Fernandez, City of Santa Clara Department of Public Works. April 2000.
City of San Jose Department of Public Works. 1998. Department of Streets and Traffic Department, Traffic Flow Map.
Jimmy Nguyen City of Milpitas, Department of Public Works, Engineering Section, April 2000.
WWW pages of City of Fremont.

Environmental Impacts and Mitigation Measures. The trenching needed to construct this alternative is expected to have a more substantial and prolonged impact on the physical condition of the roadways and on traffic flows. The total workforce would be larger than for the proposed project (about 163 instead of 93), and therefore construction worker traffic would be incrementally increased. Construction activities and vehicles could damage road surfaces and disrupt traffic flows, but can be mitigated by appropriate measures (T-1 through T-5, T-7 and T-8) described for the proposed project (**Class II).** However, considering the temporary nature of construction and the dispersal of construction sites, the worker traffic impacts are not expected to be substantially different from the proposed project.

C.11.3.2 I-880-A Alternative

Environmental Setting. The I-880A alternative would replace the first 2.7 miles of the proposed route. Rather than starting at the Newark Substation, it would start about a mile east of the substation at a tap

off PG&E Co.'s existing Newark-Metcalf 230kV line, which crosses Auto Mall Parkway (in a northwest to southeast direction) at a point about 1,000 feet west of I-880. This alternative would then follow the west side of I-880 (along the eastern edge of soon-to-be-created Pacific Commons Preserve) for about 0.75 mile. Just north of Cushing Parkway, the line would turn south and be located in the salt ponds. At MP 2.7, Alternative I-880A would re-connect with the proposed route. (Note that if this alternative were connected with the Underground Alternative described above, the I-880-A route would connect to the Underground Alternative in the northern end of the salt ponds).

Environmental Impacts and Mitigation Measures. The transportation impacts of this alternative would be essentially the same as the proposed project. It would run nearer to (but still west of) the I-880 right-of-way, but this is not expected to make a significant difference in the transportation impacts. Mitigation measures applicable to this alternative include T-1 through T-5.

C.11.3.3 I-880-B Alternative

Environmental Setting. The I-880-B alternative would replace the first 4.3 miles of the proposed route. Up to the crossing of Cushing Road, this alternative is the same as I-880-A (above). When the line reached Cushing Parkway, it would make a sharp turn east on Cushing Parkway. The line would follow Cushing Parkway on the south side of the street to the point where the Parkway on-ramp meets the I-880 freeway. At that point, the route would turn south, immediately west of the freeway and behind the new hotels that are located south of Cushing Road, east of Fremont Boulevard, and west of I-880. Between Cushing Parkway and West Warren Avenue, the line would be primarily in parking lots behind buildings on Landing Drive. After crossing West Warren Avenue, the line would be located in parking lots behind buildings on Lakeview Drive, as close as possible to the freeway. The parking lots are separated by an Alameda County Flood Control drainage channel from the freeway right-of-way.

South of Gateway Boulevard, the transmission line would be located in the landscaped area just west of the street. Where Lakeview Drive turns west, the alternative route would continue south along the freeway to the end of the business park property, where it would turn west to Fremont Boulevard, then it would turn south, reconnecting with the proposed route at MP 4.3, just south of the end of Fremont Boulevard and the Bayside Business Park.

The route for this alternative potentially conflicts with Caltrans plans for upgrading the I-880/Mission Boulevard interchange complex. This project would close the hook ramps (southbound on and off) at Gateway Boulevard and replace the current hook ramps at Warren Avenue with a partial cloverleaf interchange serving all movements on and off at Warren Avenue and Mission Boulevard.

Environmental Impacts and Mitigation Measures. This alternative would likely have greater adverse transportation impacts than the proposed project, as it would increase the number of roadway crossings

significantly. (Additional crossings would be located at Fremont Boulevard, Warren Avenue, and Gateway Boulevard.) Furthermore, the proposed route would potentially conflict with plans for a partial cloverleaf interchange at West Warren Avenue/Mission Boulevard. Caltrans has indicated that it prefers that any new transmission lines be constructed completely out of the planned freeway right-of-way and has suggested that the alignment be moved to the west side of Lakeview Boulevard (Zhang, 2000). These additional impacts are potentially significant but avoidable with the implementation of Mitigation Measure T-10 (**Class II**).

T-10 In order to avoid conflict with Caltrans plans to construct a partial cloverleaf interchange at I-880 and West Warren Avenue/Mission Boulevard, the alignment should be moved to the west side of Lakeview Boulevard between West Warren Avenue and Gateway Boulevard. Transmission lines would be placed along the sidewalk/lawn border of the businesses along the west side of Lakeview Boulevard.

C.11.3.4 Westerly Route Alternative

Environmental Setting. The Westerly Route alternative would start at the Newark Substation and run on the same route as the proposed project, but diverge near the Bayside Business Park. There it would use an existing 115 kV route across the San Francisco Bay Natural Wildlife Refuge. It would then travel around the Regional Water Pollution Control Plant on Los Esteros and Zanker roads to the proposed Los Esteros Substation. Construction would be outside the right-of-way of these roads. In general, this route would be furthest from urbanized areas of the alternatives.

Environmental Impacts and Mitigation Measures. There would be no significant difference between this alternative and the proposed project in transportation impacts or required mitigation measures. The Westerly Route avoids a proposed route crossing at Dixon Landing Road. Also, it does not travel immediately adjacent to a pedestrian/bike trail near the Bayside Business Park. However, it would involve construction adjacent to (but outside of the right-of-way of) Los Esteros and Zanker Roads, which would not occur with the proposed project.

C.11.3.5 Westerly Upgrade Alternative

Environmental Setting. The Westerly Upgrade alternative would replace the two westernmost existing 115kV lines, the Newark-Scott and Newark-Trimble/ Kifer lines with two new double circuit 230kV lines. Two new sets of poles would be installed west of the existing poles, and the old 115kV towers would be removed after the completion of construction.

Environmental Impacts and Mitigation Measures. There would be no significant difference between the Westerly Upgrade alternative and the Westerly Route alternative described above.

C.11.3.6 Zanker Road Substation Alternative

Environmental Setting. This site is located on Zanker Road between the road and Coyote Creek, just south of the Santa Clara Valley Transportation Authority's (VTA) maintenance facility (which is on the southeast corner of Zanker Road and SR 237), and immediately north of the Cisco Systems campus. The property is owned by the VTA. A transmission line extension of approximately one mile is also included in this alternative, which would run down the east side of Zanker Road, from either the Proposed/Easterly or the Westerly corridor.

Environmental Impacts and Mitigation Measures. The Zanker Road Substation alternative (which could be employed with various 230 kV route alternatives) could potentially increase the significant adverse impacts of the project, and would not have any transportation advantages. Two potential transportation impacts are:

- The need to cross the SR 237 freeway
- The construction of a substation adjacent to a VTA bus maintenance facility, with potential impacts on bus operations, particularly during construction.

These impacts are significant but could be mitigated (**Class II**) with Mitigation Measure T-2, T-3, and the following measure:

T-11 PG&E Co. shall place temporary poles and netting across SR 237 to ensure that conductors will not fall onto the roadway during the conductor stringing operation.

Construction of the transmission line across SR 237 would require an Encroachment Permit from Caltrans. Stringing power lines over the roadway would require lane closures during installation of a safety net and stringing of the lines. Construction of the route along roadways could also require lane closures. These potential impacts would not be significant with PG&E Co.'s compliance with procedures described for the crossing of I-880 above (Impact T-11).

The substation would require occasional maintenance. No permanent employees would be commuting to the site, and vehicle traffic for maintenance would be minimal. Impacts would be temporary and less than significant (**Class III**).

C.11.3.7 Northern Receiving Substation Alternative

Environmental Setting. The Northern Receiving Station (NRS) alternative would use any of the 230kV transmission line routes described above. The 230kV route to NRS would follow Los Esteros Road to the southeast, continuing in the same direction (southeast) where the road turns due west, to the point where that line would intersect SR 237.

Because the City of Santa Clara and PG&E Co. have over-built the two existing 115kV lines between SR 237 and the substation location, it is assumed that the 230 kV line south of SR 237 could be replaced on the existing taller poles. Therefore, the only transmission line construction south of SR 237 would be conducting on existing poles and connection to the substation.

Environmental Impacts and Mitigation Measures. The NRS alternative (which could be employed with various 230 kV line options) would likely have increased adverse transportation impacts compared to use of the new Los Esteros Substation. These impacts include additional roadway crossings for installation of 230kV conductors (North First Street in Alviso, SR 237, and Tasman Drive) as well as the need for re-conductoring parallel to existing Union Pacific tracks paralleling Lafayette Street. These impacts would be significant but could be mitigated **(Class II**) with implementation of mitigation measures T-1 through T-8 and T-11. In addition, Mitigation Measure T-12 is recommended to reduce the potential for conflicts with adjacent railroad operations; the impact would be reduced to a non-significant level (**Class II**) with implementation of this measure.

T-12 PG&E Co. shall coordinate with the railroad to obtain the necessary railroad crossing easements. PG&E Co. would need to coordinate issues of construction compatibility of rail operations with Union Pacific, Amtrak, ACE Commuter Rail and other rail operators as applicable. Railroad representatives shall be on site at all times during construction along active rail lines. PG&E Co. shall submit documentation of coordination with rail operators to the CPUC prior to construction.

C11.3.8 Trimble-Montague 115kV Upgrade Alternatives

C11.3.8.1 *Barber 115kV Alternative*

The Los Esteros to Montague 115 kV power line alternative would leave the Montague Substation, cross I-880 from the southeast to the northwest, and then parallel the freeway to the proposed Los Esteros Substation via the west side of Barber Lane, the south side of Bellew Drive/Technology Drive, finally crossing Coyote Creek and SR 237. This alternative is largely within the City of Milpitas.

This alternative would require more roadway crossings than the Trimble-Montague 115kV upgrade (including an additional freeway crossing at SR 237). It would also cross the Tasman East light rail line (currently under construction), and a bicycle trail paralleling SR 237. There would be numerous crossings of driveways to Milpitas businesses, potentially affecting property access. These impacts would be potentially significant but could be reduced to non-significant levels by Mitigation Measures discussed above for the proposed project **(Class II).**

As for the proposed project's 115kV segment, PG&E Co. would obtain an Encroachment Permit from Caltrans for the freeway crossings. The installation of a safety net and stringing of the lines would require temporary lane closures.

C.11.3.8.2 *Underground Trimble-Montague 115kV Alternative*

In this alternative, the Trimble-Montague 115kV line would be installed underground along the same route as the proposed route. A trench would be dug along Trimble Road and Montague Expressway between Zanker Road and I-880, between transition structures at each end. The crossing of I-880 would be similar to the proposed project.

The impacts would be similar to those of the proposed (above-grade) Trimble-Montague 115kV upgrade, but there would be more extensive and prolonged adverse effects on motor vehicle, pedestrian/bicycle circulation, and property access due to the need for trenching within the roadway. However, these potentially significant **(Class II)** impacts could be reduced to non-significant levels with implementation of mitigation measures described above for the proposed project.

C.11.4 THE NO PROJECT ALTERNATIVE

Under the No Project Alternative, the transmission line would not be constructed; therefore, no adverse construction-related or operational traffic or aviation impacts would occur. If the demand for electrical power exceeded the capacity of the existing system, as anticipated, the No Project Alternative could result in other construction projects. In the short-term, improvements would be made to the existing system, which would result in minor temporary traffic impacts at each construction site. In the long-term, it may be necessary to construct another transmission line, which would likely result in traffic and aviation impacts similar to those of the proposed project.

C.11.5 MITIGATION MONITORING PROGRAM

Table C.11-5 presents the mitigation measures recommended in this section and outlines the location, responsible party, required monitoring activities, effectiveness criteria, and timing of each monitoring activity.

C.11.6 REFERENCES

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Table C.11-5 Mitigation Monitoring Program

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
T-3. Physical damage to roads and sidewalks (**Class II**)	**T-1** Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces; road maintenance program shall be established and implemented.	Construction access roads & roads in which pipeline is buried	Review documentation that PG&E Co. 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**)	**T-2** PG&E Co. should notify affected parties of potential obstructions and make provisions for alternative access. Alternative access provisions and parking will be provided by PG&E Co. where feasible, with guide signs to inform the public.	Along the ROW, and all locations where access to adjacent land use is blocked.	Review documentation identifying land uses, and consultation efforts of PG&E Co. with all affected owners and tenants.	If access and parking needs of the adjacent land uses are met.	CPUC and local jurisdictions.	Prior to finalization of construction plans.
	T-3 PG&E Co. shall schedule construction on or adjacent to sensitive land uses (hospitals, schools, residences, major employers, recreational areas, etc.) so that at least one access driveway is left unblocked during all business hours or hours of use.	Above	Above	Above	Above	Above
T-5 & T-6. Disruption to Pedestrian/Bicycle (**Class III)** and Disruption to Traffic and Bicycle/Pedestrian Safety (**Class II**)	**T-4** Provide alternative pedestrian and bicycle access routes with appropriate signs and markings, subject to approval by the affected public agency.	All locations where a designated public pedestrian route is obstructed (sidewalks, recreational paths, etc.).	Review documentation of: PG&E Co. coordination with affected public agencies; and PG&E Co. conformation to all required conditions.	If construction activities do not totally block or unreasonably impair pedestrian movements or safety, as determined by the affected public agencies.	CPUC and local jurisdictions.	Prior to and during construction.
T-7. Emergency response vehicles could be blocked or impeded by construction activities (**Class II**)	**T-5** Advance notification and coordination with emergency service providers. Remain prepared to immediately provide emergency access for any property isolated by construction activities.	All locations.	Review PG&E Co. notification and coordination with emergency service providers. Review PG&E Co. 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.

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Trimble-Montague 115kV Upgrade						
T-10. Construction of the Proposed Trimble-Montague 115kV Upgrade would require lane closures on these major arterials (**Class II**).	**T-6** PG&E Co. shall submit traffic control plans to City of San Jose and Santa Clara County and obtain traffic encroachment permits. Construction will be done outside peak traffic hours. **T-7** PG&E Co. shall restrict all necessary lane closures or obstructions on major roadways to off-peak period in urbanized areas to mitigate traffic congestion and delays that would be caused by lane closures during construction and by exploratory excavations **T-8** PG&E Co. shall develop and implement detailed Traffic Control Plans (TCPs), prepared by a registered Traffic Engineer, for the entire route at all locations where construction activities would interact with the existing transportation system	Along Trimble Road and Montague Expressway right-of-way	Review documentation of: PG&E Co. coordination with affected public agencies; and PG&E Co. conformation to all required conditions.	If traffic flows are generally maintained without severe congestion.	CPUC, City of San Jose Public Works Dept. and Santa Clara County Roads and Airport Department.	Prior to and during construction.
T-12A and B. Impacts to Pedestrian/Bicycle Circulation (**Class II**) and Traffic and Bicycle/Pedestrian Safety (**Class II**)	**T-9** PG&E Co. shall provide alternative pedestrian/bicycle access routes in conjunction with local agencies.	Along Trimble Road and Montague Expressway right-of-way	Review documentation of: PG&E Co. coordination with affected public agencies; and PG&E Co. conformation to all required conditions.	If construction activities do not totally block or unreasonably impair pedestrian movements or safety, as determined by the affected public agencies.	CPUC, City of San Jose Public Works Dept., and Santa Clara County Dept. of Roads and Airports.	Prior to and during construction.
I-880-B Alternative						
Conflict with Caltrans construction (**Class II**)	**T-10** The alignment should be moved to the west side of Lakeview Boulevard between West Warren Avenue and Gateway Boulevard.	I-880 and West Warren Avenue/ Mission Blvd.	Review project plans to verify pole locations	Caltrans activities will not be affected by project	CPUC, Caltrans	Prior to construction
Zanker Road Substation Alternative						
Potential impact to SR 237 (**Class II**)	**T-11** PG&E Co. shall place temporary poles and netting across SR 237 to ensure that conductors will not fall onto the roadway during the conductor stringing operation. **T-2** and **T-3** (see above)	Zanker Road and SR 237	On-site monitor to observe and verify compliance, or report documenting compliance to be reviewed	Conductors do not fall onto Highway 237	CPUC, Caltrans	During construction
NRS Alternative						

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Potential impacts to railroad (**Class II**)	**T-12** PG&E Co. shall coordinate with the railroad to obtain necessary crossing easements and coordinate construction timing with rail use. **T-1** through **T-8, T-11** (see above)	Alviso, Santa Clara	CPUC to review PG&E CO.'s documentation of coordination	Railroad use is not affected by project construction	CPUC	Before and during construction