

## 5.16 Transportation and Traffic

### 5.16.1 Environmental Setting

#### Existing Traffic Volumes and Levels of Service

Roadways and intersections are rated at varying levels of service (LOS). LOS is a measure of roadway operating conditions, ranging from LOS A, which represents the best range of operating conditions, to LOS F, which represents the worst. Basic definitions are presented in Table 5.16-1. LOS can be estimated based on the road's traffic volume-to-road capacity (v/c) ratio or the average delay experienced by vehicles on the roadway.

**Table 5.16-1. Level of Service Criteria for Roadways.**

LOS	V/C	Traffic Flow Characteristics
A	0.00 – 0.60	Free flow; insignificant delays
B	0.61 – 0.70	Stable operation; minimal delays
C	0.71 – 0.80	Stable operation; acceptable delays
D	0.81 – 0.90	Approaching unstable flow; queues develop rapidly but no excessive delays
E	0.91 – 1.00	Unstable operation; significant delays
F	> 1.00	Forced flow; jammed conditions

LOS = level of service; V/C = volume/capacity ratio  
Source: Transportation Research Board, 2000

#### Regional Transportation

The roadway system that would be used for the Proposed Project throughout Merced County consists of an interconnected network of state and county roads.

#### Highways

A summary of the highway characteristics for roads in the vicinity of the project area is provided in Table 5.16-2.

**Table 5.16-2. Summary of Study Area Highway Characteristics.**

Roadway	Jurisdiction	Classification	Lanes	Daily Traffic Volume (veh)	Peak Hour Two-Way Traffic Volume (veh)	Physical Relationship to Power Line
SR-99 (At East Atwater Boulevard Interchange)	Caltrans	Freeway	4	39,000	3,850	Access Road
SR-99 (At West Atwater Boulevard Interchange)	Caltrans	Freeway	6	45,000	4,450	Access Road
SR-99 (At Hammatt Avenue Interchange)	Caltrans	Freeway	4	46,000	4,750	Access Road
SR-99 (At Winton Parkway Interchange)	Caltrans	Freeway	4	46,000	4,750	Access Road
SR-99 (East of Sultana Drive Interchange)	Caltrans	Freeway	4	46,000	4,750	Overhead Crossing

Veh = Vehicles, N/A = Not Available  
Source: Caltrans, 2011; PG&E, 2011

**SR-99.** SR-99 is the major regional transportation route in the project area and would be used to access the site during construction and operations. SR-99 serves as one of California’s primary north-south roadways, linking Bakersfield and Sacramento. Access to SR-99 from the Proposed Project site is via the Hamatt Avenue, Westside Boulevard, or Sultana Drive interchanges. According to traffic counts conducted by Caltrans in 2009, SR-99 carries an average of 46,000 vehicles per day in the vicinity of these interchanges (Caltrans, 2011). The Proposed Project would be strung overhead across SR-99 during construction.

**Local Access**

The local transportation network for the project area is composed of private and two-lane county-maintained roads. Roadway characteristics for county roads in the project area are summarized in Table 5.16-3.

**Table 5.16-3. Summary of Study Area Local Roadway Characteristics.**

Roadway	Jurisdiction	Classification	Lanes	Physical Relationship to Power Line
West Lane	Merced County	Local	2	Access Road
Palm Avenue	Merced County	Local	2	Access Road
Central Avenue	Merced County	Local	2	Access Road
Mercedes Avenue	Merced County	Local	2	Access Road
County Road 37	Merced County	Minor Arterial	2	Overhead Crossing
Cressey Way	Merced County	Minor Collector	2	Overhead Crossing
Arena Way	Merced County	Local	2	Access Road
Eucalyptus Avenue	Merced County	Local	2	Overhead Crossing
Olive Avenue	Merced County	Local	2	Overhead Crossing
Walnut Avenue	Merced County	Major Collector	2	Overhead Crossing
Liberty Avenue	Merced County	Major Collector	2	Overhead Crossing
Magnolia Avenue	Merced County	Local/Collector	2	Access Road
Sultan Drive	Merced County	Collector	2	Overhead Crossing
Dwight Way	Merced County	Local	2	Overhead Crossing
Lincoln Boulevard	Merced County	Minor Arterial	2	Overhead Crossing
Robin Ave	Merced County	Local	2	Overhead Crossing
Washington Boulevard	Merced County	Local	2	Overhead Crossing
Weir Avenue	Merced County	Local	2	Overhead Crossing

Veh = Vehicles, N/A = Not Available  
Source: PG&E, 2011

**Alternative Transportation**

**Bicycle Facilities**

According to the *Merced County Regional Bicycle Transportation Plan*, the City of Livingston, the closest city to the project, currently has no existing bikeways, though bicycles are occasionally used by commuters and school children. There are also no existing bikeways near the project area in the unincorporated areas of the County (Merced County Association of Governments, 2008).

**Transit and Rail Services**

Public transit options in the project region include bus and train systems. “The Bus” is the primary public transport provider within Merced County. The Bus services the City of Merced and surrounding cities

and communities near the project area, including Livingston and Winton. Dial-A-Ride service is also available within Merced County (The Bus, 2012). Regional bus service is provided by Greyhound in the City of Merced.

The Yosemite Area Regional Transportation System (YARTS) also provides service within Merced County. YARTS provides service between the City of Merced and Yosemite Valley via SR-140. All YARTS stop locations in the vicinity of the project are located within the City of Merced (YARTS, 2012).

Amtrak’s “San Joaquin” route offers train service between Oakland and Bakersfield with stops in Merced, Turlock and Madera (Amtrak, 2012).

**Air Traffic**

Three airstrips are located within five miles of project components. Castle Air Force Base (KMER) is the nearest air traffic facility to the project and is located 3.8 miles southeast of Cressey Substation. The Turlock Municipal Airport (015) is located 4.6 miles northwest of Cressey Substation, and Stevinson Strip (CA45), a privately owned runway, is located 4.9 miles southwest of Gallo Substation (AirNav.com 2011a-c).

**Applicant Proposed Measures**

PG&E proposes to implement measures during the design, construction, and operation of the Proposed Project to ensure it would occur with minimal environmental impacts in a manner consistent with applicable rules and regulations. Applicant Proposed Measures (APMs) are considered part of the Proposed Project in the evaluation of environmental impacts. CPUC approval would be based upon PG&E adhering to the Proposed Project as described in this document, including this project description and the APMs, as well as any adopted mitigation measures identified by this Initial Study (see Table 5.16-4).

**Table 5.16-4. Applicant Proposed Measures (APMs) Related to Transportation and Traffic**

APM Number	Issue Area
<b>Transportation and Traffic</b>	
APM TT-1	<b>Traffic Management Implementation.</b> PG&E will follow its standard safety practices, including installing appropriate barriers between work zones and transportation facilities, posting adequate signs, and using proper construction techniques. PG&E will coordinate construction traffic access at Gallo Substation with Gallo Winery during the E. & J. Gallo Winery Eastside Expansion Project construction. PG&E is a member of the California Joint Utility Traffic Control Committee, which published the <i>California Joint Utility Traffic Control Manual</i> (2010). PG&E will follow the recommendations in this manual regarding basic standards for the safe movement of traffic on highways and streets in accordance with Section 21400 of the CVC. PG&E will comply with all notification requirements as prescribed by County of Merced and Caltrans encroachment permits.

**5.16.2 Environmental Impacts and Assessment**

<b>TRANSPORTATION AND TRAFFIC</b>		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
<b>Would the project:</b>					
a.	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**TRANSPORTATION AND TRAFFIC**

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

**a. Would the project cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?**

*LESS THAN SIGNIFICANT IMPACT – CONSTRUCTION.* At the peak month of project construction, during the PM peak hour, it is estimated that 10 trucks would be required for equipment and materials and 10 construction worker vehicles would be required for transmission line construction. The measured “trips” for transportation generally are discussed in terms of passenger car equivalent trips. Larger vehicles and equipment, such as dump trucks and semitrailers, are measured as 2.5 trips to account for the larger size. Thus the total equivalent number of trips during PM peak hour for transmission line construction is 35.

Construction of the new facilities at Cressey and Gallo Substations would require a total of 11 one-way vehicle trips in the PM peak hour. There would be six one-way trips for Cressey Substation and five one-way trips for Gallo Substation. All vehicle trips during the PM peak hour for project work at the substations would be passenger vehicle trips by workers leaving the respective substation sites.

To conduct a conservative analysis it was assumed that the power line and modifications at the interconnecting substations would be constructed concurrently. This results in a total of 46 PM peak hour passenger car equivalents. It is estimated that all workers would access the project sites from SR-99, with half coming from the north and half from the south, generating approximately 23 trips each for northern and southern access points on SR-99. However, in a worst case scenario, all trips might come from one direction, adding 46 trips.

Table 5.16-5 summarizes the estimated impacts of construction traffic to the existing traffic volume on local highways. Based on the additional trips required for the construction, the v/c ratios for the projected construction period would not change or would increase by only 0.01. These impacts would be less than significant. For SR-99 crossings, the California Highway Patrol and Caltrans would be contacted to organize five- to ten-minute rolling stops. These rolling stops would typically occur on Sundays between 6:00 AM and 8:00 AM. Any necessary encroachment permits would be obtained from the affected agencies. As noted in APM TT-1, PG&E would follow the *California Joint Utility Traffic Control Manual* (2010) recommendations regarding basic standards for the safe movement of traffic on highways and streets. The manual includes early coordination with officials having jurisdiction over the affected cross streets and providing emergency services prior to roadway or ramp closures (see *Cal-*

fornia Joint Utility Traffic Control Manual, page 11). Potential short-term impacts associated with these traffic issues would be less than significant.

**Table 5.16-5. Summary of Projected Study Area Roadway Characteristics During Project Construction**

Roadway	Jurisdiction	Peak Hour Traffic Volume (veh)	Construction Traffic Added	Existing Peak Hour V/C	Construction Peak Hour V/C	Existing/Projected Peak Hour LOS
SR-99 (At East Atwater Boulevard Interchange)	Caltrans	3,850	46	0.51	0.52	A/A
SR-99 (At West Atwater Boulevard Interchange)	Caltrans	4,450	46	0.39	0.39	A/A
SR-99 (At Hammatt Avenue Interchange)	Caltrans	4,750	46	0.63	0.64	B/B
SR-99 (At Winton Parkway Interchange)	Caltrans	4,750	46	0.63	0.64	B/B

A Passenger Car Equivalent factor of 2.5 is applied to the number of trucks trips.  
LOS = level of service; V/C – volume/capacity ratio  
For LOS definitions, see Table 5.16-1.

The roads listed in Table 5.16-3 as potential access roads would not see a significant increase in their traffic volumes because no more than two five-person crews are anticipated at a pole location at any given time (PG&E, 2012). Temporary road closures (rolling stops) are anticipated when certain sections of the line are being constructed at the road overhead crossings listed in Table 5.16-3. Road closures on private and county roads are not expected to exceed five minutes in duration.

Implementation of APM TT-1 would further minimize impacts to traffic volumes, traffic flow, LOS ratings, and v/c ratios.

*NO IMPACT – OPERATIONS AND MAINTENANCE.* The Proposed Project would be operated using a Supervisory Control and Data Acquisition (SCADA) system to monitor equipment and control breakers at Cressey and Gallo Substations. Therefore, no additional operating and maintenance staff would be required after construction is completed. Existing operations and maintenance (O&M) crews would operate and maintain the new equipment as part of their current O&M activities. Consequently, operation of the project would not result in traffic and transportation impacts.

***b. Would the project cause, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways to be exceeded?***

*LESS THAN SIGNIFICANT IMPACT – CONSTRUCTION.* Caltrans considers LOS D or better on state highway segments to be acceptable for planning purposes. All local highways in the project area are currently operating at an acceptable LOS. The maximum number of trips generated by a construction activity on local highways would be 46. This slight increase in traffic levels would not change existing LOS as shown in Table 5.16-5.

Although data for non-state roadways is not currently available, these roadways are generally low-volume rural roads that are expected to continue to operate at an acceptable LOS given the small amount of incremental traffic attributable to the Proposed Project. Impacts to existing LOS ratings of all project roadways would be less than significant.

*NO IMPACT – OPERATIONS AND MAINTENANCE.* The Proposed Project would be operated using a SCADA system to monitor equipment and control breakers at Cressey and Gallo Substations. Therefore, no additional operating and maintenance staff would be required after construction is completed. Existing O&M

crews would operate and maintain the new equipment as part of their current O&M activities. Consequently, operation of the project would not result in any changes to roadway LOS.

**c. *Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?***

*NO IMPACT.* The nearest airport facility would be 3.8 miles from the Proposed Project site. No change in air traffic patterns would occur as a result of the project.

**d. *Would the project substantially increase hazards because of a design feature or incompatible uses?***

*LESS THAN SIGNIFICANT IMPACT – CONSTRUCTION.* Construction activities could temporarily interfere with the normal function of the roadways and could increase traffic safety hazards. Implementation of APM TT-1 would reduce traffic safety hazards by use of traffic control devices and methods and creation of a barrier between traffic and project activities. PG&E would consult with the CHP and Caltrans for any sections of the power line alignment needing closure over SR-99.

When the project route is located in orchard areas, the power poles would be placed to avoid affecting farm equipment routes. PG&E would coordinate with landowners to avoid impact as discussed in APM LU-1 in Section 5.10. Oversize trucks may be used to deliver poles along the project route during construction. These trucks may not be able to turn at some intersections without special maneuvers and may drive slowly. These deliveries would typically be coordinated and met in the field by PG&E personnel to maximize safety to the public and vendor delivering the poles; potential impacts would be less than significant. Impacts associated with road hazards would be reduced to a less than significant level with the implementation of APM TT-1.

*NO IMPACT – OPERATIONS AND MAINTENANCE.* The Proposed Project would be operated using a SCADA system to monitor equipment and control breakers at Cressey and Gallo Substations. Therefore, no additional operating and maintenance staff would be required after construction is completed. Existing O&M crews would operate and maintain the new equipment as part of their current O&M activities. Consequently, operation of the project would not increase hazards.

**e. *Would the project result in inadequate emergency access?***

*LESS THAN SIGNIFICANT IMPACT – CONSTRUCTION.* Routes for emergency vehicles would be maintained throughout Proposed Project construction. The Proposed Project activities could have the potential, in rare circumstances, to slow emergency response vehicles (for example, a rolling stop or slow-moving pole delivery truck occurring simultaneously with the need for emergency vehicle access); Given the frequency with which such occurrences would take place and the brevity of such a delay, this potential impact would be less than significant. This impact would be further minimized with implementation of APM TT-1 which requires early coordination with officials providing emergency services prior to roadway or ramp closures.

*NO IMPACT – OPERATIONS AND MAINTENANCE.* The Proposed Project would be operated using a SCADA system to monitor equipment and control breakers at Cressey and Gallo Substations. Therefore, no additional operating and maintenance staff would be required after construction is completed. Existing O&M crews would operate and maintain the new equipment as part of their current O&M activities. Consequently, operation of the project would not result in inadequate emergency access.

**f. Would the project result in inadequate parking capacity?**

*NO IMPACT.* Construction workers would park all personal and project vehicles in project ROW (PG&E, 2011); therefore, there would be no impacts to parking capacity.

**g. Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?**

*NO IMPACT.* The Proposed Project would not conflict with plans, policies, or programs supporting development of alternative transportation. The Proposed Project would not permanently remove bicycle lanes or conflict with alternative transportation routes. Impacts would not result from project activities.

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