C.12 Traffic and Transportation

This section addresses traffic and transportation issues and impacts related to the proposed Project and alternatives. Section C.12.1 provides a description of the affected environment, and the applicable regulatory environment is described in Section C.12.2. Measures proposed by the applicant to prevent or mitigate impacts from the Project are described in Section C.12.3. Impact analyses of the proposed Project and alternatives are presented in Section C.12.4 and the cumulative effects of the Project are described in Section C.12.5.

Because of the relatively passive nature of a transmission line during operation, the primary traffic and transportation issue associated with the proposed Project is the impact to traffic during construction. Although most of the project alignment is located outside the right-of-way (ROW) of a public highway or rail facility, there could potentially be some disruption to traffic or rail operations at locations where the alignment would cross or run adjacent to a roadway or railroad track. In addition to these disruptions, the analysis also addresses the impacts associated with construction workers' vehicles, trucks, construction equipment, and material deliveries including removal of structures and resulting debris.

After construction of the transmission lines is complete, traffic impacts would be minimal and would only become an issue if major repairs or maintenance programs were needed. The emphasis of the traffic analysis will, therefore, be the construction impacts. The primary operational impacts addressed are the impacts of the transmission lines on aviation activities.

C.12.1 Environmental Setting

C.12.1.1 Existing Road Network

Appendix 4, Maps 1 through 10, illustrate the study area roadway network and the proposed transmission line route and substation locations. There are a number of roadway segments that would be directly or indirectly affected by construction of the proposed Project. The major roadways in the Kern County area, Lancaster area, Palmdale area, and Los Angeles County area that would be potentially affected by construction of the proposed Project are described below. There are also a number of other smaller private roads in the general area that would be crossed or be in the vicinity of the proposed transmission line route.

Southern Kern County

The northern portion of Segment 3 of the proposed Project is located in southern Kern County and extends southward toward the Antelope Substation located in the City of Lancaster. Segment 3 would begin at the proposed Substation Two, located at the intersection of Jameson Street and Chantico Road. The nearest State Route to the proposed Project in the Kern County area is SR 58, located approximately one mile north of proposed Substation Two. SR 58 is a 4-lane divided highway and carries an average daily traffic (ADT) level of 19,600 (SCE, 2005). The unincorporated areas of southern Kern County, through which the proposed Segment 3 would pass, are generally rural in nature. Relative to the adjacent lands in Los Angeles County, there is more irrigated agriculture land in Kern County. Hence, the access roads surrounding farm fields are generally more improved. Table C.12-1 summarizes the main roadways in the southern Kern County area that would be near to or crossed by the proposed Project.

Table C.12-1. Kern County area Roadways along the Proposed Project Route			
Roadway	Description	Route Mile	Orientation to Route
Segment 3			
Tehachapi Willow Springs Road	2 lanes, paved	3.8	Crosses
Tehachapi Willow Springs Road	2 lanes, paved	4.5	Crosses
Oak Creek Road	2 lanes, paved	5.2 - 6.0	Parallels
90th Street West	2 lanes, unpaved	S3-9.0	Crosses
Oak Creek Road	2 lanes, paved	7.8 - 9.6	Parallels then crosses
90th Street West	2 lanes, unpaved	10.8	Crosses
100th Street	2 lanes, unpaved	12.2	Crosses
Tehachapi Willow Springs Road	2 lanes, paved	14.2	Crosses
Reed Avenue	2 lanes, unpaved	14.3	Crosses
LA Aqueduct & service road	2 lanes	15.1	Crosses
General Petroleum	2 lanes, unpaved	15.8	Crosses
Backus Road	2 lanes, paved	16.3	Crosses
Champagne Avenue	2 lanes, unpaved	18.3	Crosses
Dawn Road	2 lanes, unpaved	19.4	Crosses
Favorito Avenue	2 lanes unpaved	19.9	Crosses
Hamilton Road / Sweetser Road	2 lanes, paved	20.4	Crosses
Irone Avenue	2 lanes, unpaved	21.4	Crosses
LADWP Easement Road	Unpaved	22.1 - 23.3	Parallels and crosses
West Rosamond Boulevard	2 lanes, paved	22.45	Crosses
Holiday Avenue	2 lanes, unpaved	23.5	Crosses
Gaskell Road	2 lanes, paved	24.5	Crosses
West Avenue A*	2 lanes, unpaved	25.5	Crosses

*County Line between Kern and Los Angeles Counties

Lancaster Area

The southern portion of Segment 3 of the proposed transmission route enters northern Los Angeles County at Avenue A and continues south into the western portion of the City of Lancaster, where it terminates at the Antelope Substation located near the southwest corner of Avenue J and 95th Street. The proposed Project route would cross State Route 138, which is a two lane undivided highway with an ADT volume of 4,200 vehicles (SCE, 2005). This portion of SR 138 is a regionally important east-west route across the Antelope Valley, connecting the north-south corridors of SR-14 on the east with Interstate 5 near Tejon Pass on the West. Segment 2 of the proposed Project begins at the Antelope Substation and travels southwest toward Palmdale. The roadways in the Lancaster area, presented below in Table C.12-2, are two-lane rural roads, or rural collectors, generally carrying less than 2,000 ADT (SCE, 2005).

Table C.12-2. Lancaster area Roadways along the Proposed Project Route				
Roadway	Description	Route Mile	Orientation to Route	Jurisdiction
Segment 3				
West Avenue A*	2 lanes, unpaved	25.5	Crosses	Los Angeles Counties
West Avenue B	2 lanes, paved	26.6	Crosses	Los Angeles County
West Avenue B-8	2 lanes, unpaved	27.1	Crosses	Los Angeles County
West Avenue C	2 lanes, paved	27.6	Crosses	Los Angeles County
West Avenue C-8	2 lanes, unpaved	28.1	Crosses	Los Angeles County
SR 138	2 lanes, undivided, paved	28.6	Crosses	California DOT
West Avenue D-8	2 lanes, unpaved	29.1	Crosses	Los Angeles County
West Avenue E	2 lanes, unpaved	29.6	Crosses	City of Lancaster
West Avenue E-8	2 lanes, unpaved	30.1	Crosses	City of Lancaster
West Avenue F	2 lanes, unpaved	30.6	Crosses	City of Lancaster

Table C.12-2. Lancaster area Roadways along the Proposed Project Route				
Roadway	Description	Route Mile	Orientation to Route	Jurisdiction
West Avenue G	2 lanes, paved	31.6	Crosses	Los Angeles County
West Avenue H	2 lanes, unpaved	32.6	Crosses	City of Lancaster
105th Street	2 lanes, paved	33.5	Crosses	Los Angeles County
West Avenue I	2 lanes, paved	33.6	Crosses	Los Angeles County
Lancaster Boulevard	Planned	34.2	Crosses	City of Lancaster
100th Street West	2 lanes, unpaved	34.7	Crosses	Los Angeles County
West Avenue J	2 lanes, paved	34.8	Crosses	City of Lancaster
Segment 2				
Several unpaved local streets	2 lanes	0.0 – 0.9	Cross	City of Lancaster
West Avenue K	2 lanes	1.1	Crosses	City of Lancaster
90th Street West	2 lanes	1.55	Crosses	City of Lancaster
Avenue K-8	2 lanes, unpaved	1.7	Crosses	City of Lancaster
Avenue K-12	2 lanes, unpaved	2.0	Crosses	City of Lancaster
West Avenue L	2 lanes	2.3	Crosses	City of Lancaster
80th Street West	2 lanes	3.35	Crosses	City of Lancaster

*County Line between Kern and Los Angeles Counties

Palmdale Area

Segment 2 of the proposed Project enters the City of Palmdale at 80th Street West and generally extends southwest toward unincorporated Los Angeles County. The developed neighborhoods of Palmdale are generally east of the proposed transmission route and north of the California Aqueduct. Areas within the City of Palmdale and south of the aqueduct are more rural in character, and include the Ritter Ranch and Anaverde specific plan areas that are undergoing development. Godde Hill Road serves as a major road connecting Palmdale to Elizabeth Lake Road and the Leona Valley community to the southwest. Elizabeth Lake Road is another major connector through the Leona Valley, between the Elizabeth Lake community to the northwest and Palmdale to the east.

South of Palmdale the proposed transmission route continues southwest through unincorporated Los Angeles County lands to its terminus at the Vincent Substation, which is located on Angeles Forest Highway, just south of SR-14. The area is rural in nature, and crossed by a number of formal and informal paved roads and utility access trails. However, the proposed route would cross SR-14 (and its frontage roads) and Sierra Highway. This portion of SR-14 is a four lane divided highway, and had a 2005 ADT volume of 108,000 vehicles (California DOT, 2006). This is an important travel corridor connecting the greater Los Angeles area and the Santa Clarita Valley from the southwest to the Palmdale and Antelope Valley region to the north. The named and more prominent local roads crossed by the proposed Project route in the Palmdale area, including northern Los Angeles County lands, are summarized below in Table C.12-3.

Table C.12-3. Palmdale area Roadways along the Proposed Project Route				
Roadway	Description	Route Mile	Orientation to Route	Jurisdiction
Segment 2				
75th Street West	2 lanes	4.2	Crosses	Los Angeles County
Poor Road	2 lanes	6.0	Crosses	Los Angeles County
Godde Hill Road	2 lanes	6.5	Crosses	Los Angeles County
Cherry Tree Lane	2 lanes	7.2	0.2 mile north of road	Los Angeles County
Elizabeth Lake Road	2 lanes	7.95	Crosses	Los Angeles County
Anaverde Motorway	2 lanes, unpaved	12.3	Crosses	City of Palmdale
Sierra Pelona Motorway	Unpaved	13.9	Crosses	City of Palmdale
Peaceful Valley Road	2 lanes, unpaved	17.1	Crosses	Los Angeles County

Table C.12-3. Palmdale area Roadways along the Proposed Project Route

Roadway	Description	Route Mile	Orientation to Route	Jurisdiction
Tuckerway Ranch Road	2 lanes, unpaved	18.6	Crosses	Los Angeles County
Peaceful Valley Road	2 lanes, paved	19.9	Crosses	Los Angeles County
Forest View Road	2 lanes	20.4	Crosses	Los Angeles County
State Route 14	4 lanes, divided	20.45	Crosses	California DOT
Sierra Highway	2 lanes	20.5	Crosses	Los Angeles County
Carson Mesa Road	2 lanes	20.7	Crosses	Los Angeles County
Rockyford Road	2 lanes, unpaved	21.1	Crosses	Los Angeles County

C.12.1.2 Transit and Rail Services

Local bus service in the area of the proposed Project is provided by the Antelope Valley Transit Authority (AVTA). AVTA operates 16 routes throughout the cities of Lancaster and Palmdale, and nearby communities. All of the operations of the AVTA are to the east of the proposed Segment 2 transmission route. The proposed transmission line route would not cross any of the AVTA local transit routes (AVTA, 2006). The nearest current AVTA operations are in Lancaster and include Route 7 and Route 5. Route 7 extends westward to 60th Street West where it runs between Avenue H and Avenue L-8. Route 5 extends westward along Avenue L-12 to the Mayflower Gardens convalescent hospital and 67th Street West AVTA, 2006. At its point of closest approach, the Segment 2 transmission route is approximately 1.25 miles to the west of the nearest Route 5 stop.

AVTA also operates a commuter bus service between the Lancaster Transfer Center, where connections with local service are available, and employment centers in Los Angeles. Other park-and-ride facilities and a transfer center are located in Palmdale. Service is provided along routes 785 (to downtown Los Angeles), 786 (to West Los Angeles and Century City), and 787 (to West San Fernando Valley), all of which use SR-14 AVTA, 2006.

The Kern Regional Transit (KRT) service is operated by Kern County. Express bus service is provided from Bakersfield to Tehachapi, Rosamond, and Lancaster. Within Rosamond and Tehachapi, only dial-a-ride service is provided. During the summer months, KRT provides community service throughout Tehachapi.

The main line of the Union Pacific Railroad Line (UPRR) occurs to the east and north of the Segment 3 route. A spur line from the UPRR main line serves the Cal Cement plant southeast of Tehachapi. This spur railroad line would be crossed by the proposed transmission line route.

A combined Amtrak and Metrolink station is located in Lancaster at 44812 North Sierra Highway, approximately seven miles east of the Antelope Substation. Amtrak operates motor coaches that connect between Bakersfield and Palmdale. The proposed transmission line route would not cross any portion of the Amtrak rail line. Metrolink offers commuter rail service to downtown Los Angeles with stops at cities and communities between there and Lancaster. The Vincent Grade/Acton Metrolink Station is located at 730 West Sierra Highway, immediately adjacent to the proposed transmission line route (Metrolink, 2006). The proposed transmission line route would pass immediately to the west of the Metrolink Station parking lot and across the railroad tracks.

The Union Pacific Railroad line is located approximately 10 miles east of the Antelope Substation, and east of SR-14 through Lancaster (SCE, 2005). This line carries freight traffic and the Metrolink commuter trains southward from Lancaster, as described above. Amtrak does not use this segment of rail line. This line is the same one that would be crossed by the proposed transmission line route at the Vincent Grade/Acton Metrolink Station.

C.12.1.3 Bicycle Facilities

The proposed transmission line route traverses through mostly undeveloped and rural areas absent of concentrated urban development. Roads crossed by the proposed Project are generally two-lane rural roads, or rural collectors, generally carrying less than 2,000 ADT, or major collectors or highways, such as Elizabeth Lake Road and SR-14. Designated bicycle lanes do not exist along the proposed Project route.

C.12.1.4 Air Transportation

In the Lancaster area, General William J. Fox Airfield is a regional general aviation airport owned by Los Angeles County, and operated under contract by American Airports Corporation. There is no scheduled air service at this airport, but charter service and pilot support services are available. It is located approximately five miles northeast of the Antelope Substation.

Mojave Airport is located approximately six miles to the east of the northerly portion of Segment 3. Mojave Airport is operated by the East Kern Airport District. Although there is no commercial air service, Mojave Airport is very active and serves general aviation and heavy transport. The airport property is also used by several major airlines to store large aircraft.

Mountain Valley Airport is located approximately two miles west of the proposed location for Substation Two. This is a privately owned airport that is open to public and serves general aviation, but is predominantly used for sailplane operations.

The Tehachapi Municipal Airport is located about three miles to the northwest of the proposed location for Substation Two (or about 2.5 miles west of alternative Substation 2B). This airport is operated by City of Tehachapi, is open to the public and serves general aviation.

There are also three private airstrips located near the project corridor: Fantasy Haven Airport located approximately two miles west of Mile Marker S3-0.5; Lloyd's Landing Airstrip approximately 0.3 mile east of Mile Marker S3-19.4; and Bohunk's Airpark located approximately 1.1 miles northeast of Antelope Substation).

C.12.2 Regulatory Framework

Construction of the proposed Project could affect transportation ROWs, access, traffic flow, and parking on public streets and highways. Therefore, it would be necessary for Southern California Edison (SCE) and/or the construction contractor to obtain encroachment permits or similar legal agreements from the public agencies responsible for each affected roadway or other transportation ROW. Such permits are needed for ROWs that would be crossed by the transmission line as well as for where transmission line construction activities would require the use of a public ROW for a parallel installation. Depending on which route is approved, these encroachment permits would be issued by Caltrans, Kern County, Los Angeles County, the City of Lancaster, and/or the City of Palmdale.

The Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) is a long term vision document that outlines transportation goals, objectives, and policies for the SCAG region. The SCAG 2004 RTP includes an assessment of overall growth and economic trends in the region and provides strategic direction for transportation capital investments. The Los Angeles County Metropolitan Transit Authority (LACMTA) prepared the North County Combined Highway Corridors Study to address short-term and long term requirements to accommodate projected transportation needs in North Los Angeles County. Destination 2030 is a 26-year RTP that establishes a set of regional transportation goals, objectives, policies

and actions intended to guide development of the planned transportation systems in Kern County. Projects implemented in the areas addressed by these plans must be consistent with the policies and objectives of these plans.

Aviation impacts could occur during both construction and operation of a transmission line project because they are caused by physical impediments to the navigable airspace. According to the guidelines of the Federal Aviation Administration (FAA), construction of a project could have a significant impact on aviation activities if a structure or any equipment is 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 helipad. The Project, including any helicopter construction activities, would be required to comply with all appropriate regulations of the FAA.

C.12.3 Applicant-Proposed Measures (APMs)

SCE has committed to implementing the five Applicant-Proposed Measures (APMs) presented in Table C.12-4 to reduce traffic and transportation impacts associated with construction of the Project. The APMs are considered part of the proposed Project and implementation of these measures would be monitored by the CPUC during construction if the proposed Project is approved.

Table C.12-4. Applicant-Proposed Measures – Traffic and Transportation

APM TRA-1	Construction activities would be designed to minimize work on or use of local streets.
APM TRA-2	When local streets must be used for more than normal traffic purposes, an encroachment permit or similar authorization would be obtained from the County (or other agency, as applicable).
APM TRA-3	Any construction or installation work requiring the crossing of a local street, highway, or rail line would incorporate the use of guard poles, netting, or similar means to protect moving traffic and structures from the activity. If necessary on state highways, continuous traffic breaks operated by the CHP would be planned and provided.
APM TRA-4	Traffic control and other management plans will be prepared where necessary to minimize project impacts on local streets.
APM TRA-5	Any damage to local streets would be repaired, and streets would be restored to their pre-project condition.

C.12.4 Environmental Impacts and Mitigation Measures

C.12.4.1 Criteria for Determining Significance

The traffic/transportation impacts are characterized based on criteria established in Appendix G of the CEQA Guidelines and criteria used in environmental documentation for other utility projects in California. Traffic/transportation impacts would be significant if:

- Criterion TRA1: A major roadway (arterial or collector classification) or travel lanes would be closed to through traffic as a result of construction activities without a suitable alternative route or during the peak traffic periods, resulting in a temporary substantial disruption to traffic flow and/or substantial increased traffic congestion.
- Criterion TRA2: 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.
- Criterion TRA3: Construction activities would temporarily restrict access to or from adjacent land uses without suitable alternative access.

- Criterion TRA4: Construction activities or operations would restrict the movements of emergency vehicles (police cars, fire trucks, ambulances, paramedic units) without reasonable alternative access routes.
- Criterion TRA5: Construction activities would disrupt bus transit service without suitable alternatives.
- Criterion TRA6: Construction activities within, adjacent to, or across a railroad right-of-way would result in a temporary disruption of rail traffic.
- Criterion TRA7: Construction activities would impede pedestrian or bicycle movement without suitable alternative pedestrian/bicycle access routes.
- Criterion TRA8: Construction activities or staging activities would increase the demand for and/or reduce the supply of parking spaces without accommodating the resulting parking deficiencies.
- Criterion TRA9: Construction activities would conflict with planned transportation projects in the Project area.
- Criterion TRA10: An increase in roadway wear would occur as a result of construction traffic or equipment movements, resulting in noticeable deterioration of a roadway surface or other features in the road ROW.
- Criterion TRA11: An aviation safety hazard would be created by a project structure, crane, or wires.
- Criterion TRA12: Consistency with regional and local transportation plans.
- Criterion TRA13: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

C.12.4.2 Impact Analysis

Construction Overview

Construction of the proposed Project would include preparing and constructing access roads, marshalling yards, installing the new supporting structure foundations, removal of and/or relocating existing facilities, erecting new support structures, stringing of the new conductor, modifying Antelope and Vincent substations, constructing proposed Substation 1 and proposed Substation 2, and cleanup. Project construction activities are estimated to last for approximately 16 months. Approximately 117 separate construction crews, each comprised of between 2 to 61 workers, would work on the various aspects of the proposed Project. It is estimated that between 50 and 300 workers would commute to various locations along the proposed route ROW each workday.

Most of the proposed tower sites are accessible from existing access and spur roads. However, some tower sites would require construction of new access roads or spurs. Depending on their condition, existing access roads would be cleared of vegetation, re-graded, recompacted and possibly widened to provide a surface capable of supporting heavy equipment. Erosion control measures would be installed where appropriate. Construction equipment such as graders, back-hoes, and crawler tractors would need to be hauled to various portions of the proposed route for access road construction and reconstruction work. Depending on the accessibility solution for tower erection site access, helicopter erection may be required. During helicopter operations, road closures and traffic detours would be used to restrict public access to defined areas.

For installation of new lattice and pole structures as well as the removal of the existing 66- and 220-kV structures, SCE estimates that approximately 50 to 60 haul trips would be required to deliver and remove construction equipment (e.g., backhoes, crawlers, drill, front-end loader) and materials (e.g., concrete, rebar cages, lattice steel, etc.) to and from each of the proposed and existing tower sites. In addition, excavated soils would likely need to be hauled off site.

During wire-stringing activities, SCE proposes to install temporary structures referred to as guard poles at all road crossings to stop the downward motion of conductor wire should it drop below a conventional stringing height. The use of guard poles reduces traffic impacts at crossing locations. Guard poles would likely require the temporary closure of roads at crossing locations for their installation. In addition, specific requirements of the applicable transportation agency may require other methods at crossing locations, including detouring all traffic off the roadway at the crossing location or implementing a controlled continuous traffic break while stringing operations are performed. The specific agency requirements would be included as stipulations in the required encroachment permits.

The Project would require a primary and several secondary marshalling yards at which to stage materials and equipment and to temporarily store materials associated with the removed 66- and 220-kV lines. The primary marshalling yard would be located adjacent to the Antelope Substation off Avenue J in Lancaster. The secondary marshalling yards would be located near paved roads approximately every five to ten miles along the proposed ROW depending on topography.

C.12.4.2.1 Impact and Mitigation Summary

This section summarizes the conclusions of the impact analysis and associated mitigation measures presented in Section C.12.4.2.2. Table C.12-5 lists each impact identified for the proposed Project, along with the significance of each impact. Impacts are classified as Class I (significant, cannot be mitigated to a level that is less than significant), Class II (significant, can be mitigated to a level that is less than significant), Class III (adverse, but less than significant), or Class IV (beneficial). Detailed discussions of each impact and the specific locations where each is identified are presented in the following sections.

Table C.12-5. Impact and Mitigation Summary – Traffic and Transportation

Impact	Impact Significance	Mitigation Measures*
T-1: Closure of roads to through traffic or reduction of travel lanes would result in substantial congestion.	Class II	T-1a, T-1b
T-2: Construction traffic would result in substantial congestion on area roadways.	Class II	T-2
T-3: Construction activities would temporarily interfere with emergency response.	Class II	T-1a, T-1b
T-4: Construction activities would temporarily disrupt transit bus routes.	Class II	T-1a, T-1b, T-4
T-5: Construction activities would temporarily disrupt rail traffic.	Class II	T-5
T-6: Construction activities would temporarily impede pedestrian movements and bike paths.	Class III	None required.
T-7: Construction activities would conflict with planned improvements to SR-14.	Class II	T-7
T-8: Construction vehicles and equipment would damage road ROWs.	Class II	T-8
T-9: Transmission structures could present an aviation hazard.	Class III	None required.
T-10: Construction activities would be inconsistent with transportation plans.	Class II	T-7

* Applicable to significant impacts only (i.e., Class I and Class II).

C.12.4.2.2 Project Impacts and Mitigation Measures

Closure of Major Roadways or Travel Lanes as a Result of Construction Activities Resulting in Substantial Disruptions to Traffic Flow or Increased Congestion (Criterion TRA1)

Impact T-1: Closure of roads to through traffic or reduction of travel lanes would result in substantial congestion. (Class II)

Construction of the proposed Project would result in temporary road closures during transmission line stringing activities. Temporary and intermittent traffic detours or implementation of controlled continuous traffic breaks would be required at these road crossing locations.

SCE has committed to APMs TRA-2, TRA-3, and TRA-4 (see Table C.12-4), which respectively require: encroachment permits or similar authorization to be obtained from the applicable jurisdictions when streets are used for more than normal traffic purposes; use of guard poles, netting or other measures to protect moving traffic from activity; and preparation of a traffic control plan for all work requiring a permit from a local jurisdiction. However, required temporary road closures would substantially disrupt traffic flow and substantially increase traffic congestion, resulting in significant impacts under criterion TRA 1. Therefore, to ensure that the traffic control plans required under APM Traffic-4 address temporary road and lane closures that would be required during construction of the proposed transmission line, Mitigation Measures T-1a (Prepare Traffic Control Plans) and T-1b (Restrict Lane Closures) are proposed. These measures are proposed to ensure that significant impacts associated with short-term lane and road closures during overhead construction are reduced to less-than-significant levels (**Class II**).

Mitigation Measures for Impact T-1

T-1a **Prepare Traffic Control Plans.** Prior to the start of construction, SCE shall submit Traffic Control Plans (TCPs) to all agencies with jurisdiction over public roads that would be affected by overhead construction activities as part of the required traffic encroachment permits. TCPs shall define the locations of all roads that would need to be temporarily closed due to construction activities, including aerial hauling by helicopter and conductor stringing activities. The TCPs shall define the use of flag persons, warning signs, lights, barricades, cones, etc. to provide safe work areas and to warn, control, protect, and expedite vehicular, bicycle, and pedestrian traffic. The measures included in the TCP shall be consistent with the standard guidelines outlined in the Caltrans Traffic Manual, the Standard Specifications for Public Works Construction, and the Work Area Traffic Control Handbook (WATCH). Copies of the TCPs shall be sent to the responsible agencies for review. Tables C.12-1 through C.12-3 present the appropriate responsible jurisdictions for review of the TCPs.

TCPs shall also include measures to avoid disruptions or delays in access for emergency service vehicles and to keep emergency service agencies fully informed of road closures, detours, and delays. Police departments, fire departments, ambulance services, and paramedic services shall be notified at least one month in advance by SCE of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. Provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, short detours, and alternate routes developed in conjunction with local agencies. TCPs shall also identify all emergency service agencies, include contact information for those agencies, assign responsibility for notifying the service providers, and specify coordination procedures. Copies of the TCPs shall be provided to all affected police departments, fire departments, ambulance and paramedic services. Documentation of coordination with service providers shall be provided to the CPUC prior to the start of construction

T-1b **Restrict Lane Closures.** To mitigate traffic congestion and delays during construction, SCE shall restrict all necessary lane closures or obstructions on major roadways, as designated by applicable County or City General Plans, associated with overhead construction activities to off-peak periods only. Lane closures must not occur between the peak hours of 6:00 and 9:30 a.m. and between the peak hours of 3:30 and 6:30 p.m., or as directed in writing by the affected public agency in the encroachment permit.

Option A

Option A would result in identical impacts to road closures and roadway conditions as described above for the proposed Project. Implementation of APMs TRA-2, TRA-3, and TRA-4 as well as Mitigation Measures T-1a (Prepare Traffic Control Plans) and T-1b (Restrict Lane Closures) would ensure that the significant impacts associated with short-term lane and road closures during overhead construction are reduced to less-than-significant levels (**Class II**).

Option B

Option B would be sited across the planned residential communities of Ritter Ranch and Anaverde, in areas that have been graded for housing development. As such, this alternative would result in at least one more road crossing than the proposed Project. As described for the proposed Project, construction activities for Option B would result in temporary road closures during transmission line stringing activities. There is also a possibility that traffic detours or implementation of controlled continuous traffic breaks may be required at these road crossing locations. Temporary road closures would substantially disrupt traffic flow and substantially increase traffic congestion, resulting in significant impacts. However, implementation of Mitigation Measures T-1a (Prepare Traffic Control Plans) and T-1b (Restrict Lane Closures) would ensure that significant impacts associated with short-term lane and road closures during overhead construction are reduced to less-than-significant levels (**Class II**).

Unacceptable Level of Service Reduction to Vicinity Roads (Criterion TRA2)

Impact T-2: Construction traffic would result in substantial congestion on area roadways. (Class II)

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

Workers commuting to construction sites would increase traffic in the Project area. It is estimated that the daily Project workforce would consist of 50 to 300 workers over a 16-month period. Transmission line workers would be dispersed in groups throughout the Project area and would not typically be working at the same place at any one time. Haul truck traffic would include trucks carrying equipment and materials, spoils for disposal, and new and old tower support pieces. Trips would be made to and from various points along the transmission line route intermittently throughout the entire construction duration. The exact routes and scheduling of truck trips are not known at this time, however it is assumed they would be scheduled such that truck trips would not adversely affect traffic volumes or flow along streets within the area of the proposed Project.

The Project-related commute traffic and construction truck/equipment activity is expected to be dispersed over the entire Project area and dispersed over time. Although traffic volumes on study area roadways are generally

low to moderate, the Project-related construction traffic would contribute to congestion at heavily traveled and/or narrow roadway segments and would result in a significant impact. To ensure that Project-related construction traffic does not contribute to unacceptable levels of service on area roadways, Mitigation Measure T-2 (Prepare Construction Transportation Plan) is proposed. This measure will ensure that significant impacts from construction traffic to roadway congestion are reduced to less-than-significant levels (**Class II**).

Mitigation Measure for Impact T-2

T-2 **Prepare Construction Transportation Plan.** To reduce the number of Project-related vehicles traveling on roads within the Project area, site construction workers shall be staged off site at marshalling yards or near paved intersections and workers will be shuttled to construction sites in groups in crew vehicles. ~~As part of the construction contract, SCE shall require bidders to submit a construction transportation plan describing how workers would travel to the job site.~~

Option A

Option A would result in identical impacts to road closures and roadway conditions as described above for the proposed Project. Impacts would be significant but would be reduced to less-than-significant levels with implementation of Mitigation Measure T-2 (Prepare Construction Transportation Plan) (**Class II**).

Option B

Option B would be sited across the planned residential communities of Ritter Ranch and Anaverde, in areas that have been graded for housing development. Consequently, construction traffic associated with Option B would contribute to congestion on at least one more local roadway compared to the proposed Project. Impacts would be significant but would be reduced to less-than-significant levels with implementation of Mitigation Measure T-2 (Prepare Construction Transportation Plan) (**Class II**).

Restricted Access to Properties (Criterion TRA3)

Construction of the proposed Project would not restrict access to driveways or otherwise affect access and parking for the adjacent residences, institutions, businesses, and other uses. The proposed Project would not include any trenching or other excavation in road ROWs that would impede access to adjacent uses. Therefore, there would be no impact associated with restricted access to properties.

Option A

The 2.1-mile portion of Option A that deviates from the proposed Project would not restrict access to driveways or otherwise affect access and parking for the adjacent residences, institutions, businesses and other uses. This option would not include any trenching or other excavation in road ROWs that would impede access to adjacent uses. Therefore, there would be no impact associated with restricted access to properties.

Option B

The 3.1-mile portion of Option B that deviates from the proposed Project would not restrict access to driveways or otherwise affect access and parking for the adjacent residences, institutions, businesses and other uses. This option would not include any trenching or other excavation in road ROWs that would impede access to adjacent uses. Therefore, there would be no impact associated with restricted access to properties.

Restrict the Movements of Emergency Vehicles (Criterion TRA4)

Impact T-3: Construction activities would temporarily interfere with emergency response. (Class II)

Construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles. The temporary road closures that would be required during stringing activities and during helicopter transport activities could lengthen the response time required for emergency vehicles passing through the construction zone, which would result in a significant impact. Mitigation Measures T-1a (Prepare Traffic Control Plans) and T-1b (Restrict Lane Closures) include measures to reduce significant impacts from construction activities on emergency response to less-than-significant levels (**Class II**).

Option A

Option A would result in identical impacts to emergency response as the proposed Project. As described above, Mitigation Measure T-1a (Prepare Traffic Control Plans) and T-1b (Restrict Lane Closures) include measures to reduce significant impacts from construction activities on emergency response to less-than-significant levels (**Class II**).

Option B

Option B would result in identical impacts to emergency response as the proposed Project. As described above, Mitigation Measure T-1a (Prepare Traffic Control Plans) and T-1b (Restrict Lane Closures) include measures to reduce significant impacts from construction activities on emergency response to less-than-significant levels (**Class II**).

Disruption to Bus Transit Service (Criterion TRA5)

Impact T-4: Construction activities would temporarily disrupt transit bus routes. (Class II)

The proposed Project route would not interrupt AVTA local transit routes serving the Lancaster and Palmdale areas. However, AVTA operates three commuter service routes, Routes 785, 786, and 787, to the Los Angeles Metropolitan Area that utilize SR-14. The proposed Project route would cross SR-14 south of Palmdale in Vincent. Overhead stringing activities that would require short-term road closures associated with construction of the proposed transmission route could result in temporary delays of any or all three of the AVTA commuter routes. Implementation of Mitigation Measures T-1a (Prepare Traffic Control Plans) and

T1-b (Restrict Lane Closures), as well as APM TRA-3 and APM TRA-4, would reduce impacts to AVTA commuter routes to less-than-significant levels (**Class II**). Additionally, construction activities in Kern County could disrupt the KRT dial-a-ride service. Impacts would include transit delays and temporary reroutes, which would be considered significant. Mitigation Measure T-4 (Avoid Disruption of Transit Service) is proposed to reduce significant impacts to public transit in Kern County to less-than-significant levels (**Class II**).

Mitigation Measure for Impact T-4

T-4 **Avoid Disruption of Transit Service.** SCE shall coordinate with Kern Regional Transit at least one month prior to construction to reduce potential interruption of dial-a-ride service in Kern County.

Option A

The re-routed portion of Option A is located in Palmdale and would not interrupt AVTA local transit routes but, like the proposed Project could impact commuter routes 785, 786, and 787. Therefore, Option A would result in identical impacts to bus transit service as the proposed Project. As described above, APM TRA-3 and APM TRA-4, as well as Mitigation Measures T-1a (Prepare Traffic Control Plans), T1-b (Restrict Lane Closures), and T-4 (Avoid Disruption of Transit Service) includes measures to reduce significant impacts from construction activities on transit service to less-than-significant levels (**Class II**).

Option B

The re-routed portion of Option B is located in Palmdale and would not interrupt AVTA local transit routes but, like the proposed Project could impact commuter routes 785, 786, and 787. Therefore, Option B would result in identical impacts to bus transit service as the proposed Project. As described above, APM TRA-3 and APM TRA-4, as well as Mitigation Measures T-1a (Prepare Traffic Control Plans), T1-b (Restrict Lane Closures), and T-4 (Avoid Disruption of Transit Service) includes measures to reduce significant impacts from construction activities on transit service to less-than-significant levels (**Class II**).

Disruption to Rail Traffic (Criterion TRA6)

Impact T-5: Construction activities would temporarily disrupt rail traffic. (Class II)

The proposed Project route would cross a UPRR railroad spur that serves the Cal Cement plant southeast of Tehachapi. The proposed project route would also cross the UPRR main line in Vincent near the Vincent Grade/Acton Metrolink Station which is utilized by both freight and Metrolink passenger trains. Overhead stringing activities that would require short-term closures of these lines would disrupt rail traffic. Significant impacts would include schedule delays and interrupted service. Mitigation Measure T-5 (Avoid Disruption of Rail Traffic) is proposed to reduce these impacts to less-than-significant levels (**Class II**).

Mitigation Measure for Impact T-5

T-5 **Avoid Disruption of Rail Service.** SCE shall coordinate with UPRR and Metrolink at least one month prior to construction to reduce potential interruption of rail service.

Option A

There are no railroad lines within the vicinity of the re-routed portion of Option A. Therefore, Option A would result in identical impacts to rail traffic as the proposed Project. As described above, Mitigation Measure T-5 (Avoid Disruption of Rail Service) includes measures to reduce significant impacts from construction activities to rail traffic to less-than-significant levels (**Class II**).

Option B

There are no railroad lines within the vicinity of the re-routed portion of Option B. Therefore, Option B would result in identical impacts to rail traffic as the proposed Project. As described above, Mitigation Measure T-5 (Avoid Disruption of Rail Service) includes measures to reduce significant impacts from construction activities to rail traffic to less-than-significant levels (**Class II**).

Impediment of Pedestrian Movements or Bike Paths (Criterion TRA7)

Impact T-6: Construction activities would temporarily impede pedestrian movements or bike paths. (Class III)

The proposed transmission line route traverses through mostly undeveloped and rural areas absent of concentrated urban development. Roads crossed by the proposed Project are generally two-lane rural roads, or rural collectors, generally carrying less than 2,000 ADT, or major collectors or highways, such as Elizabeth Lake Road and SR-14. As such, these roads do not experience regular pedestrian or bike traffic. Construction of the proposed project would involve temporary lane and road closures involved with transmission line stringing activities. Given the short term and temporary nature of such closures and the low volume of pedestrian and bike traffic, it is unlikely that pedestrian and bike traffic would occur at the same time and location as road and lane closures associated with the proposed Project. As such, impacts would be less than significant (**Class III**). In the event that pedestrian or bike traffic does occur and would be impeded by construction activities, Mitigation Measures T-1a (Prepare Traffic Control Plans) and T-1b (Restrict Lane Closures) include provisions to warn, control, protect, and expedite bicycle and pedestrian traffic.

Option A

Option A would result in identical less-than-significant impacts to pedestrian movements and bike baths as the proposed Project (**Class III**).

Option B

Option B would result in identical less-than-significant impacts to pedestrian movements and bike baths as the proposed Project (**Class III**).

Reduction in the Supply of Parking Spaces (Criterion TRA8)

Construction activities associated with the proposed Project would not result in a reduction of the local parking space supply. Proposed construction activities would not temporarily eliminate existing parking spaces that would result in parking deficiencies. In addition, as detailed in Mitigation Measure T-2 (Prepare Construction Transportation Plan), construction workers would park personal vehicles at the substation and marshalling yard sites. Therefore, there would be no impact on parking supplies associated with the construction of the proposed Project.

Option A

Construction activities associated with Option A would not result in a reduction of the local parking space supply. Proposed construction activities would not temporarily eliminate existing parking spaces that would result in parking deficiencies. In addition, as detailed in Mitigation Measure T-2 (Prepare Construction Transportation Plan), construction workers would park personal vehicles at the substation and marshaling yard sites. Therefore, there would be no impact on parking supplies associated with the construction of Option A.

Option B

Construction activities associated with Option B would not result in a reduction of the local parking space supply. Proposed construction activities would not temporarily eliminate existing parking spaces that would result in parking deficiencies. In addition, as detailed in Mitigation Measure T-2 (Prepare Construction Transportation Plan), construction workers would park personal vehicles at the substation and marshaling yard sites. Therefore, there would be no impact on parking supplies associated with the construction of Option B.

Conflicts with Planned Transportation Projects (Criterion TRA9)

Impact T-7: Construction activities would conflict with planned improvements to SR-14. (Class II)

The proposed transmission route would cross SR-14 in the Vincent/Acton area. In its North County Combined Highway Corridors Study, LACMTA presents a long range plan including several alternatives to improve SR-14. One alternative under consideration is to construct a new travel lane within the SR-14 ROW. As a result, North County cities' General Plans are being amended to incorporate corridor improvements as part of their official map, and require developers to dedicate ROW along the alignment. The proposed Project would conflict with the new travel lane and cause a significant impact if LACMTA were to place structures within the existing or planned SR-14 ROW. Mitigation measure T-7 (Avoid Conflicts with Planned Improvements to SR-14) is proposed to reduce impacts to less than significant levels. Based on information received from Kern County (2006), City of Lancaster (2006), City of Palmdale (2006), and Los Angeles County (2006), the proposed transmission line route would not cross or otherwise conflict with any other planned local transportation projects (**Class II**).

Mitigation Measure for Impact T-7

T-7 **Avoid Conflicts with Planned Improvements to SR-14.** SCE shall coordinate project design with California Department of Transportation and the Los Angeles County MTA to ensure that proposed Project structures are appropriately placed to avoid conflict with potential expansion of SR-14.

Option A

The re-routed portion of Option A would not conflict with planned transportation projects. Therefore, Option A would result in identical impacts related to planned transportation projects as the proposed Project. As described above, Mitigation Measure T-7 (Avoid Conflicts with Planned Improvements to SR-14) includes measures to reduce significant impacts from construction activities to rail traffic to less-than-significant levels (**Class II**).

Option B

The re-routed portion of Option B would not conflict with planned transportation projects. Therefore, Option B would result in identical impacts related to planned transportation projects as the proposed Project. As described above, Mitigation Measure T-7 (Avoid Conflicts with Planned Improvements to SR-14) includes

measures to reduce significant impacts from construction activities to rail traffic to less-than-significant levels (**Class II**).

Noticeable Deterioration of Road Surfaces (Criterion TRA10)

Impact T-8: Construction vehicles and equipment would damage road ROWs. (Class II)

SCE does not expect to cause any physical damage to roads, sidewalks, medians, etc., within public roads or sidewalks. However, there is the potential for unexpected damage to occur on features in road ROWs due to the operation of construction vehicles and equipment. This would be a significant impact, but would be reduced to less-than-significant levels with implementation of Mitigation Measure T-8 (Repair Damaged Road ROWs) (**Class II**), which expands on SCE's proposed local and road repair requirements included in APM TRA-5.

Mitigation Measure for Impact T-8

T-8 **Repair Damaged Road ROWs.** If damage to roads, sidewalks, and/or medians (including irrigation systems for landscaped medians) occurs as a result of construction activities for the proposed Project, SCE will be responsible for ensuring repairs are implemented within two months of completion of construction activities at the affected location. Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces.

Option A

The re-routed portion of Option A would not cross any different or additional streets than the route of the proposed Project. Therefore, Option A would result in identical impacts related to damage to road ROWs as the proposed Project. As described above, APM TRA 5 and Mitigation Measure T-8 (Repair Damaged Road ROWs) includes measures to reduce significant impacts from construction activities to less-than-significant levels (**Class II**).

Option B

Option B would be sited across the planned residential communities of Ritter Ranch and Anaverde, in areas that have been graded for housing development. Consequently construction traffic associated with Option B would contribute to damage in at least one more local ROW than the proposed Project. Though this option includes at least one more location for impacts to occur, the type of impacts would be identical to those identified for the proposed Project. As described above, APM TRA 5 and Mitigation Measure T-8 (Repair Damaged Road ROWs) includes measures to reduce significant impacts from construction activities to less-than-significant levels (**Class II**).

Adverse effects to Aviation Activities (Criterion TRA11)

Impact T-9: Transmission structures would present an aviation hazard. (Class III)

According to FAA guidelines, a project could have a significant impact on aviation activities if any structure or equipment is 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 helipad. The tallest structures associated with the proposed Project would be towers that extend 188 feet above the ground surface. There are no public airports in the immediate vicinity of the proposed Project. As such,

operation of the proposed Project would have no impact on aviation activities. Construction of the proposed Project could involve the use of helicopters for equipment transport and/or tower erection and could affect aviation activities. However, pursuant to FAA guidelines, SCE would be required to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager of the FAA Air Traffic Division for review and approval of the project. Adherence to FAA guidelines would ensure that construction and operation of the proposed Project would not cause a significant impact to aviation activities. Impacts would be less than significant (**Class III**).

Option A

Option A would involve the same type of construction methods and the same sized towers as the proposed Project. Therefore, Option A would result in identical less-than-significant impacts on aviation activities as the proposed Project (**Class III**).

Option B

Option B would involve the same type of construction methods and the same sized towers as the proposed Project. Therefore, Option B would involve the same type of construction methods and equipment as the proposed Project. Therefore, Option B would result in identical less than significant impacts on aviation activities as the proposed Project (**Class III**).

Inconsistency with Regional and Local Transportation Plans (Criterion TRA12)

Impact T-10: Construction activities would be inconsistent with transportation plans. (Class II)

The Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) is a long term vision document that outlines transportation goals, objectives, and policies for the SCAG region. "Destination 2030" is a 26-year RTP that establishes a set of regional transportation goals, objectives, policies and actions for the planned transportation systems in Kern County. Current and future projects included in these plans would not conflict with the proposed Project. Therefore the proposed Project would not be inconsistent with these transportation plans.

The proposed transmission route would cross SR-14 in Vincent. In its North County Combined Highway Corridors Study, LACMTA presents a long range plan including several alternatives to improve SR-14. One alternative under consideration is to construct a new travel lane within the SR-14 ROW. As a result, North County cities' General Plans are being amended to incorporate corridor improvements as part of their Official Map, and require developers to dedicate ROW along the alignment. The proposed Project would be inconsistent with the LACMTA plan if it were to place structures within the existing or planned SR-14 ROW. Mitigation Measure T-7 (Avoid Conflicts with Planned Improvements to SR-14), described above, would reduce significant impacts related to conflicts with the LACMTA North County Combined Highway Corridors Study (**Class II**).

Option A

The re-routed portion of Option A would not conflict with local or regional transportation plans. Therefore, Option A would result in identical impacts related to conflicts with local or regional transportation plans as the proposed Project. As described above, Mitigation Measure T-7 (Avoid Conflicts with Planned Improvements to SR-14) includes measures to reduce significant impacts to less-than-significant levels (**Class II**).

Option B

The re-routed portion of Option B would not conflict with local or regional transportation plans. Therefore, Option B would result in identical impacts related to conflicts with local or regional transportation plans as the proposed Project. As described above, Mitigation Measure T-7 (Avoid Conflicts with Planned Improvements to SR-14) includes measures to reduce significant impacts to less-than-significant levels (**Class II**).

Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). (Criterion TRA13)

The proposed Project would not result in design changes to existing roads or place structures within existing roadways, and therefore would not increase hazards on existing roads. Depending on final design of the proposed Project, new access and spur roads may be constructed; however, such roads would be utilized exclusively for construction and maintenance of the proposed Project and would not be intended for public use or travel. Moreover, new access and spur roads would be built based on the site topography such that they would be safely accessible to all construction equipment. New roads would be built such that existing roads near and within the new ROW would be utilized. These new roads would be built with gradients and curvatures that would permit heavy equipment usage and maneuvering. New roads would be built according to SCE's Transmission Construction Standards, which would preclude hazardous design features. Furthermore, the proposed Project would be constructed within or adjacent to existing electric transmission ROW. Therefore, the proposed Project would be compatible with existing uses. As such, the proposed Project would have no impact to increased hazards or incompatible uses due to design features.

Option A

Option A would not result in design changes to existing roads or place structures within existing roadways, and therefore would not increase hazards on existing roads. As with the proposed Project, Option A would have no impact to increased hazards or incompatible uses due to design features.

Option B

Option B would be sited across the planned residential communities of Ritter Ranch and Anaverde, in areas that have been graded for housing development. Option B would not result in design changes to existing roads or place structures within existing roadways, and therefore would not increase hazards on existing roads. As with the proposed Project, Option B would have no impact to increased hazards or incompatible uses due to design features.