

O. TRANSPORTATION AND TRAFFIC

SETTING

This section describes the nature of the existing major transportation networks, and responsible transportation authorities and/or congestion management agencies (CMAs) throughout the project area. For all state and federal highways in the state of California, the California Department of Transportation (Caltrans) would be the agency responsible for granting access to facilities' rights-of-way (ROW), as well as approving construction traffic plans that would affect the operations of state and federal facilities. Access to, and/or the approval of construction traffic operations on local and regional routes of significance would be granted and approved by either the affected county's engineering department, or the local city's engineering department. SCG/SDG&E would be required to cooperate with Caltrans, county agencies and local incorporated cities before construction begins.

TRANSPORTATION SYSTEM

The SCG/SDG&E service territories in Southern California are served by a well-developed network of freeways, regional arterials, and local streets, as well as mass transit systems. State highways serving these areas consist of U.S. highways and interstates, so designated for their statewide and/or national importance, and state routes, whose purpose is to provide intrastate and interstate travel. County roads serving the project area are roadways so designated for their importance for intracounty travel.

ROADWAY OPERATIONS

The operation of a local roadway network is commonly measured and described using a grading system called Level of Service (LOS). The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long queues and delays). This LOS grading system applies to roadway/freeway segments and intersections. For most local jurisdictions (local City and County roadways and intersections) LOS A, B, and C are generally considered satisfactory service levels, while the influence of congestion becomes more noticeable (though still considered acceptable) at LOS D. LOS E and F are generally considered to be unacceptable. For roadways and intersections with regional significance, or those facilities that fall within the jurisdictions of regional CMAs, LOS A through E are generally considered satisfactory service levels. LOS F is generally considered to be unacceptable for regional facilities (unless they are currently operating at that level). **Table 3.O-1** provides descriptions of each service level.

**TABLE 3.O-1
LEVEL OF SERVICE DEFINITIONS**

Level of Service	Description
A	Describes completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.
B	Also indicates free-flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.
C	The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. On multilane highways with a free-flow speed above 50 miles per hour (mph), the travel speeds reduce somewhat. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant disruption.
D	The ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	Represents operations at or near capacity, an unstable level. The densities vary, depending on the free-flow speed. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS F.
F	Represents forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages. Note that the term LOS F may be used to characterize both the point of the breakdown and the operating condition within the queue.

SOURCE: Transportation Research Board, *Highway Capacity Manual (HCM2000)*, 2000.

REGULATIONS, APPROVALS, AND PERMITS APPLICABLE TO TRANSPORTATION

The California Department of Transportation requires an encroachment permit to perform construction activities in the state highway rights-of-way throughout the project. Some of the affected local agencies may require local encroachment permits or conditional-use permits for activities within public road rights-of-way. Encroachment permit requirements vary from agency to agency. As conditions of encroachment permits, measures are required to be implemented for transportation and traffic control.

IMPACT AND MITIGATION MEASURES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
TRANSPORTATION AND TRAFFIC—				
Would the project:				
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Assessment of impacts related to the proposed project involved evaluating the effects of FIG installation on traffic and circulation resulting from increases in traffic, loss of travel lanes and/or parking areas, disruptions to public transit, and potential safety effects associated with construction. Construction characteristics, including proposed manpower and equipment, location of construction and rate of construction were determined on the basis of information provided by SCG/SDG&E. Conservative assumptions were used to determine the potential number of vehicles that could be required for FIG installation.

APPROACH TO ANALYSIS

Assessment of impacts related to construction of project components involved evaluating the effects of the project on traffic and circulation resulting from project increases in traffic, loss of travel lanes and/or parking areas, disruptions to public transit, and potential safety effects associated with construction. Construction characteristics, including proposed manpower and equipment, location of construction and rate of construction were determined on the basis of

information provided by SCG/SDG&E. Conservative assumptions were used to determine the potential number of vehicles that would be required for project construction.

CRITERIA FOR DETERMINING SIGNIFICANCE

Appendix G of the CEQA Guidelines states that a project would normally result in an impact to transportation and traffic if it would:

- 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).
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
- 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.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Result in inadequate parking capacity.
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

IMPACT ASSESSMENT

- a. 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)? OR***
- b. 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?***

Impact TRA-1: Pipeline access points for FIG installation within streets would reduce the number of, or the available width of, travel lanes on roads, resulting in temporary disruption of traffic flows and increases in traffic congestion.

Installation of the FIG technology in an urban environment would eliminate or substantially reduce environmental impacts that occur with other methods of installing fiber optic cable underground; however, some short-term impacts may occur. While placing conduit in existing

gas pipelines minimizes impacts to traffic from construction activities, the following activities have the potential to interfere with traffic operations during the construction/installation process.

The construction activities required for SCG/SDG&E's conduit installation do not require activities that are different from those undertaken for standard pipeline work undertaken on a daily basis. No special construction access is required because the pipeline is in existing roads or reached by existing access roads. Any additional work needed, such as construction staging or material storage, would be conducted in previously disturbed areas that, particularly in urban areas, are readily available. The construction activities conducted by SCG/SDG&E would include:

- Installation of the conduit at an entry point on the pipeline by use of a tractor feeder. Extraction is accomplished with retrieval tools at the conduit exit point of the pipeline. The conduit would be routed to a handhole located in the sidewalk, and capped until the fiber optic cable is installed.
- Installation of an estimated average of up to 1.5 miles of conduit per day.
- Installation of the conduits at the exit and re-entry points around all operational SCG/SDG&E gas pipeline valves, before re-entry to SCG/SDG&E's pipelines. Two entries and two exits can be accomplished in eight hours.

Mitigation Measure TRA-1a: Obtain and comply with local and state road encroachment permits, and railroad encroachment permits.

SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan could include the following requirements:

- Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
- Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
- Schedule truck trips outside of peak morning and evening commute hours.
- Limit lane closures during peak hours to the extent possible.
- Use haul routes minimizing truck traffic on local roadways to the extent possible.
- Include detours for bicycles and pedestrians in all areas potentially affected by project construction.
- Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.

- Develop, and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, ask affected jurisdictions to identify detours, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
- Store construction materials only in designated areas.
- Coordinate with local transit agencies for temporary relocation of routes or bus stops in works zones, as necessary

Significance After Mitigation: Less than significant.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The proposed project would only involve installation of conduit within existing underground natural gas pipelines. Therefore, there would be no impacts to air traffic patterns or increase in safety risks as a result of the proposed project.

d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Impact TRA-2: FIG installation within or adjacent to roadways would temporarily increase the potential for accidents.

Heavy equipment operating adjacent to or within road rights-of-way would increase the risk of accidents. Construction-generated trucks on project area roadways would interact with other vehicles. Potential conflicts could occur between construction traffic, bicyclists and pedestrians, particularly in the urban areas and residential neighborhoods.

As specified under **Mitigation Measure TRA-1a**, above, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction, including compliance with roadside safety protocols, so as to reduce the risk of accident. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Thus, implementation of **Mitigation Measure TRA-1a** would ensure temporary increases in the potential for accidents would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.

e. Result in inadequate emergency access?

Impact TRA-3: FIG installation within or adjacent to streets would affect emergency access.

As discussed in **Impact TRA-2**, the proposed project would have temporary effects on traffic flow, particularly with conduit installation as proposed within road right-of-ways. FIG installation within streets and temporary reduction in travel lanes could result in delays for emergency vehicle access in the vicinity of the work sites.

As specified under **Mitigation Measure TRA-1a**, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan would require the construction contractor to establish methods for maintaining traffic flow in the project vicinity and minimizing disruption to emergency vehicle access to land uses along the alignment. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Implementation of **Mitigation Measure TRA-1a** would ensure potential impacts associated with temporary effects on emergency access would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.

f. Result in inadequate parking capacity?

Impact TRA-4: Construction required for FIG installation would generate a temporary demand for parking spaces for construction worker vehicles; in addition, FIG installation would temporarily displace existing on-street parking on a number of streets.

The proposed project would create a limited, new temporary parking demand for construction workers and construction vehicles as crews move to the pipeline access point locations. As discussed in **Impact TRA-1**, the project would not generate a substantial number of construction workers at any one location; therefore, the amount of parking required would not be significant. Construction would also temporarily displace existing on-street parking on a number of streets. However, given the proposed rate of new conduit installation, impacts to on-street parking would be relatively brief at any one location.

As specified under **Mitigation Measure TRA-1a**, above, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan would require the construction contractor to establish

methods for minimizing construction effects on parking. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Implementation of **Mitigation Measure TRA-1a** would ensure potential impacts associated with potential temporary displacement of on-street parking would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.

g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Impact TRA-5: FIG installation could temporarily disrupt bus service near pipeline access points.

The proposed project will have no lasting impact on demand for alternative transportation or on alternative transportation facilities. However, FIG installation could disrupt access to bus stops and park and ride lots near pipeline access points, as well as slow bus movements. Bus routes on streets may need to be temporarily detoured, and bus stops temporarily relocated.

As specified under **Mitigation Measure TRA-1a**, above, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan would require the construction contractor to establish methods for minimizing construction effects on transit service. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Implementation of **Mitigation Measure TRA-1a** would ensure potential impacts associated with temporary disruptions to transit service would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.