6.11 TRAFFIC AND TRANSPORTATION

This section assesses traffic and transportation impacts associated with the construction and operation of the proposed project. The analysis primarily examines impacts on roadway and intersection levels of service expected during both construction and operation of the proposed project. Additional transportation factors examined in this section include parking, pedestrian and bicyclist impacts, safety, goods movement, and any potential impacts to air, rail, and waterborne transportation networks. This section also identifies and reviews applicable laws, regulations, ordinances, and standards (LORS) relevant to traffic and transportation activities.

The Canyon Power Plant (CPP) will consist of a nominal 200-megawatt (MW) simple-cycle plant, using four natural gas-fired General Electric LM 6000PC Sprint combustion turbines and associated infrastructure. The project site is located at 3071 East Miraloma Avenue, in a City of Anaheim (COA)-designated industrial zone.

The CPP and associated construction laydown areas will be located on approximately 10 acres of disturbed land located at 3071 East Miraloma Avenue. Main access to the CPP site will be at the southeast corner of the project site from East Miraloma Avenue. A second gated entrance will be accessible via East Miraloma Avenue with a third gate off the alley to the east of the site. (Total land disturbance will be approximately 10 acres.)

The existing CPP site is predominantly paved (concrete and asphalt). Principal land use for the site was food catering for a fleet of approximately 75 to 100 trucks, formerly operated by Orange County Food Service. Onsite structures include a kitchen/warehouse building, maintenance garage (9 service bays), truck wash facility (5 bays), two ice manufacturing buildings, several storage sheds, and an outdoor truck repair shop which includes storage lockers and petroleum products, all of which will be demolished as a part of the CPP project.

The following activities are not part of the CPP project:

- Three residential houses along East Miraloma Avenue have recently been removed and are not a part of this Application for Certification (AFC). The COA Risk Manager and Fire Department determined that the residential units posed security and fire risks, and therefore they were removed. A letter from the COA Risk Manager to the Public Utilities Department is included in Appendix Q.
- Soil remediation activities associated with Phase I, Phase II, and Supplemental Phase II reports. The COA, now as owner of the property, has determined that it will conduct any soil remediation activities to limit its environmental liability for future uses of the site. These activities will occur regardless of whether the CPP project obtains a CEC license.

- Installation of a temporary, 8-foot-high security fence around the perimeter of the entire 10-acre site.
- General maintenance activities including site cleanup and trash removal.

The project will include the construction and/or installation of the following components:

- **Proposed CPP site.** In addition to the four natural gas-fired GE LM 6000PC Sprint gas turbines, the plant will include generator step-up transformers (GSUs), a 69 kilovolt (kV) switchyard, onsite fuel gas compressors, a gas pressure control and metering station, a packaged chilled water system for combustion turbine engine (CTG) power augmentation with associated heating ventilation and air conditioning (HVAC)-type four-cell cooling tower, selective catalytic reduction system (SCR) emission control systems, and other associated plant infrastructure.
- **Gas pipeline.** Natural gas will be provided via a new 3,240-foot-long, 12-inch, and 350 pounds per square inch gauge (psig) gas line owned and maintained by SoCal Gas Company (SCGC), which will be connected to new onsite fuel gas compressors that will be part of the CPP facility. From the CPP site, this new pipeline will run approximately 580 feet east in East Miraloma Avenue to Kraemer Boulevard, then north 2,660 feet in Kraemer Boulevard to East Orangethorpe Avenue to connect into SCGCs transmission line L-1218 in East Orangethorpe Avenue. (Total land disturbance will be 0.219 acre.)
- **Process water.** Process water for the project will be recycled water supplied from the Orange County groundwater replenishment system (GWRS) via a new 2,185-foot-long, 14-inch pipeline utilizing a new offsite booster pump station. The water pipeline will run east of the site on the north side of East Miraloma Avenue for 1,850 feet to the new pumping station located north of the curb in the COA-owned easement of East Miraloma Avenue, then north 210 feet in new easement from the Orange County Water District (OCWD), then 125 feet easterly in new easement to the GWRS line on the western side of the Carbon Canyon Diversion Channel. There, it will connect to the 60-inch-diameter GWRS recycled water line at an existing 36-inch stub up. (Total land disturbance for both line and pumping station will be 0.246 acre.)
- **Electrical interconnection.** Underground 69 kV cables will connect from GSUs to the onsite switchyard, which will use gas-insulated switchgear (GIS). There will be four new underground 69 kV circuits leaving the site. Two will proceed underneath and to the south side of East Miraloma Avenue approximately 100 feet to rise up and connect to the existing 69 kV overhead Vermont-Yorba lines via two new transition structures. The second two 69 kV underground circuits will proceed eastward approximately 4,000 feet in East Miraloma Avenue, turn south on Miller, then proceed approximately 3,000 feet to connect to the Dowling-Yorba 69 kV line at East La Palma Avenue. (Total land disturbance for both sets of cables will be 0.489 acre.)

- **Communications.** Fiber optic cable will run in a common trench with the approximately 7,000-foot 69 kV electric cables, where it will tie into existing underground fiber optic cable for the supervisory control and data acquisition (SCADA) system.

The project study area is generally bounded by State Route 91(SR-91) to the south, Kraemer Boulevard to the east, Orangethorpe Avenue to the north, and State Route 57 (SR-57) to the west. As a point of reference and in context to the regional roadway system, Figure 6.11-1, shows the proposed project in context to the regional roadway system. Figure 6.11-2, shows the project site located at the northwest quadrant of the intersection of Kraemer Boulevard and East Miraloma Avenue in the COA.

The extensive transportation circulation network surrounding the project site provides multiple options to access the site from all directions. In consultation, with COA staff, the most direct route for both construction and operation trips from the regional freeway system will be via the SR-91/Kramer Boulevard interchange, north on Kraemer Boulevard, then left on westbound East Miraloma Avenue then right towards the project site at 3071 East Miraloma Avenue and vice versa. Both Kraemer Boulevard and East Miraloma Avenue are designated COA truck routes and therefore do not require additional permitting for transport of heavy hauls.

In consultation with COA staff, two adjacent parking lots (3150 and 3190 East Miraloma Avenue) at the southeast corner of Kraemer Boulevard and East Miraloma Avenue had been identified with sufficient capacity to accommodate construction worker parking. The two parking lots are within walking distance to the project site.

Information sources include new roadway segment and intersection traffic counts collected within the transportation and traffic study area; data collected from the California Department of Transportation (Caltrans) traffic count database; field observations; and communications with local, regional, and federal agencies. URS staff performed a traffic study area reconnaissance and review in August 2007 to document study intersection and roadway characteristics, identify physical constraints, and assess general traffic conditions. The existing traffic counts are provided in Appendix S.

6.11.1 Affected Environment

6.11.1.1 Existing Transportation Facilities

6.11.1.1.1 Regional Roadway Facilities.

State Route 91 Freeway (SR-91). SR-91 is an east-west freeway south of the project site and lies at the northern edge of the COA. It provides regional access westerly to South Bay cities of Los Angeles County, and terminates to the east at SR-60, providing access to Riverside County, San Bernardino County, and points east. SR-91 generally has eight mixed flow lanes

through the COA and has two HOV lanes from the Los Angeles County Line to SR-55. In the vicinity of the proposed project, access to SR-91 is provided via freeway ramp connections at Kraemer Boulevard.

State Route 57 Freeway (SR-57). SR-57 is a north-south freeway originating from its southerly terminus at Orange Crush Interchange with I-5 and SR 22 freeways just south of the Anaheim city limit. It provides regional access between Central Orange via northern Orange County and eastern Los Angeles County. SR-57 is located west of the project site and is a ten-lane freeway, including two high-occupancy vehicle (HOV) lanes. In the vicinity of the proposed project, access to SR-57 is provided via freeway ramp connections at Orangethorpe Avenue and Lincoln Avenue.

Local Roadway Facilities. The primary north-south roadway that provides access to and from the proposed project site is Kraemer Boulevard to the east. East Miraloma Avenue provides local east-west access to the project site. Just south of the proposed project, Coronado Street and La Palma Avenue provides local east-west access. The local roadway characteristics are briefly described below. Figure 6.11-3 shows the roadway circulation network and study intersection lane configurations in the proposed project vicinity.

Kraemer Boulevard. Kraemer Boulevard is a north-south, six-lane primary road to the east of the proposed project site. The posted speed limit is 40 mph. Kraemer Boulevard parallels SR-57 and provides regional freeway access via the SR-91 freeway interchange to south of the project site. Kramer Boulevard is a designated truck from the northern city limits to the SR-91 Freeway Interchange.

East Miraloma Avenue. East Miraloma Avenue is a four-lane, east-west roadway that provides direct access to the proposed project site. East Miraloma Avenue intersects with Kraemer Boulevard and operates as a signalized intersection. The posted speed limit is 45 mph. East Miraloma Avenue parallels Orangethorpe Avenue and intersects La Palma Avenue to the west.

Coronado Street. Coronado Street is a two-lane, east-west roadway to the south of the proposed project site. Coronado Street intersects with Kraemer Boulevard and operates as a signalized intersection. The posted speed limit is 35 mph. Just east of Kraemer Boulevard, Coronado Street ends as a cul-de-sac and to the west it ends as a cul-de-sac adjacent to SR-57 freeway.

La Palma Avenue. La Palma Avenue is an east-west, six-lane primary road to the south of the proposed project site. The posted speed limit is 45 mph. La Palma Avenue intersects with Kraemer Boulevard and operates as a signalized intersection. La Palma Avenue generally parallels SR-91 freeway and serves as an alternate east-west route. La Palma Avenue is a designated truck from Kraemer Boulevard to Imperial Highway.

6.11.1.1.2 Level of Service Concept. Level of service (LOS) is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. These categories can be viewed much like school grades, with A representing the best traffic flow conditions and F representing poor conditions. LOS A indicates free-flowing traffic, and LOS F indicates substantial congestion with stop-and-go traffic and long delays at intersections.

Table 6.11-1 describes the LOS performance designations for signalized intersections. Table 6.11-2 describes the Link/Volume capacity LOS for COA roadways. Freeway segment LOS, were evaluated using Highway Capacity Manual Freeway Segment analysis procedures.

TABLE 6.11-1
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

LOS	Description of Operation	Volume to Capacity Ratio
A	There are no cycles which are fully loaded, and few are even close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers fine freedom of operation.	0.00 – 0.600
B	Represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within platoons of vehicles.	0.601 – 0.700
C	Stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles.	0.710 – 0.800
D	Encompasses a zone of increasing restriction approaching instability. Delays to approaching vehicles may be substantial during short peaks with the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.	0.801 – 0.900
E	Represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00), there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).	0.901 – 1.000
F	Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.	>1.000

6.11.1.1.3 Existing Freeway/Roadway Levels of Service. Existing LOS analysis was conducted to assess the operational performance of study roadway segments within the traffic study area. Table 6.11-3 provides the number and types of lanes, Average daily traffic (ADT)

TABLE 6.11-2
LINK/VOLUME CAPACITY/LEVEL OF SERVICE FOR ARTERIAL HIGHWAYS

	COA Maximum Traffic Counts for each LOS				
Type of Arterial	A	B	C	D	E
8 Lanes Divided	45,000	52,500	60,000	67,500	75,000
6 Lanes Divided	33,900	39,400	45,000	50,600	56,300
4 Lanes Divided	22,500	26,300	30,000	33,600	37,500
4 Lanes (Undivided)	15,000	17,500	20,000	22,500	25,000
2 Lanes (Undivided)	7,500	8,800	10,000	11,300	12,500

Source: County of Orange. General Plan Transportation Element.

TABLE 6.11-3
FREEWAY/ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING CONDITIONS

Roadway	Segment	Number and Type of Lanes	Existing ADT	Percent Truck	LOS
SR-91	West of Kraemer Ave.	10-Lane Freeway	233,000	8.7%[1]	C
SR-91	East of Kraemer Ave.	10-Lane Freeway	232,000	8.7%[1]	C
E. Miraloma Avenue	West of Kraemer Ave.	4-Lane Undivided	14,300	10%[2]	A
N. Kraemer Boulevard	South of E. Miraloma Ave.	6-Lane Undivided	30,700	5%[2]	A

[1] Source: State of California Business, Transportation and Housing Agency, Department of Transportation, Traffic and Vehicle Data Systems.

[2] COA, October 19, 2007.

volume, and corresponding LOS of the project study roadway segments. Figure 6.11-4 shows the existing freeway and local roadway traffic volumes.

As shown in Table 6.11-3, all traffic study area freeway segments are forecast to operate at acceptable LOS C, while the local roadway study segment of East Miraloma Avenue and Kramer Boulevard are both forecast at LOS A.

6.11.1.1.4 Existing Intersection Levels of Service. Table 6.11-4 presents intersection LOS and volume to capacity (V/C) ratios under existing conditions. The LOS calculation worksheets are provided in Appendix 7.10-2. Figure 6.11-4 shows the existing a.m. and p.m. peak-hour turning movement volumes at each study area intersection.

As shown in Table 6.11-4, all traffic study intersections operate at LOS D or better under existing conditions.

TABLE 6.11-4
PEAK-HOUR INTERSECTION LEVEL OF SERVICE –
EXISTING CONDITIONS

	A.M. Peak Hour		P.M. Peak Hour	
Intersection	Volume to Capacity Ratio (V/C)	LOS	Volume to Capacity Ratio (V/C)	LOS
1. N. Kraemer Boulevard/E. Miraloma Avenue	0.720	C	0.669	B
2. N. Kraemer Boulevard/E. Coronado Street	0.534	A	0.535	A
3. N. Kraemer Boulevard/E. La Palma Avenue	0.760	C	0.855	D
4. N. Kraemer Boulevard/SR-91 Freeway WB Off Ramp	0.668	B	0.541	A
5. N. Kraemer Boulevard/E. Frontera Street	0.641	B	0.624	B

6.11.1.1.5 Other Transportation Elements.

***Parking*.** Where there is adequate shoulder width, on-street parking on local streets is generally allowed within the traffic study area. With the exception of roadway emergencies, parking or stopping is restricted along freeway segments.

***Public Transportation*.** The main public transportation provider within the traffic study area is the Orange County Transportation Authority (OCTA).

OCTA Routes 59 and 213/213A provide north-south bus service on weekdays between the cities of Brea and Irvine via Kraemer Boulevard and Glassell Street. A secondary bus service, Line 410, operates during weekday only from Kraemer Boulevard and La Palma Avenue, then works its way eastbound towards its destination at the Metrolink Station.

Route 167 provides north-south bus service 7 days a week between the cities of Anaheim and Irvine via Tustin Ave, Hewes Street, and Bryan Avenue. On weekdays only it provides bus service from Lincoln Park-and-Ride station to Anaheim Canyon Metrolink Station Area.

***Bicycle and Pedestrian Circulation*.** Within the traffic study area, the segment of East Miraloma Avenue near the vicinity of the project site is a proposed Top Priority Class II Bikeway and a Proposed Off Road Bike Trail. The segment of La Palma Avenue to the south of the project site is also a Proposed Off Road Bike Trail. Kraemer Boulevard has no current or planned bikeway designation. Field review observations showed that there is minimal pedestrian activity observed within the project study area, in particular along East Miraloma Avenue; this could primarily be attributed to the mainly commercial and light industrial uses in this area and distance from major activity centers.

***Airports*.** John Wayne Airport is the main air transportation facility within the traffic study area. The airport is owned and managed by the County of Orange, with advisory direction provided by the Airport Commission. The airport is located approximately 16 miles to the south of the proposed project. The primary local general aviation facility that serves Anaheim is Fullerton Municipal Airport located approximately 6.5 miles west of the proposed project.

***Safety*.** The local roadways serving the proposed project are generally controlled by traffic signals at major intersections. Near the vicinity of the site, minor streets and alleys crossing East Miraloma Avenue generally stop or yield to major street traffic. The flat terrain and lack of horizontal curves provide sufficient line of sight along the cross streets and no apparent horizontal and vertical road safety hazards were observed.

***Goods Movement*.** According to the City of Anaheim General Plan Circulation Element, "Freight train movements are expected to increase on rail lines through Anaheim, with an expected increase from 50 to 70 trains per day to 135 to 150 trains daily on BNSF's main transcontinental line, which runs through northern segments of the City."

***Freight Rail Service*.** The Southern Pacific Transportation Company (SPTC), Burlington Northern Santa Fe (BNSF), and Atchison Topeka and Santa Fe railroads provide freight service in County of Orange, connecting the County with major markets within California and other destinations north and east. The BNSF line is located north of the traffic study area.

***Passenger Rail Service*.** The Amtrak/Metrolink stations located in Orange County are Anaheim, Buena Park, Fullerton, Orange, Tustin, Irvine, Laguna Niguel/Mission Viejo, San Juan Capistrano, and San Clemente. These stations provide connecting Amtrak service to points west, including Los Angeles, and to points east, including Tucson, Arizona, and El Paso, Texas.

***Truck Access*.** Truck traffic associated with construction and operation of the proposed project will access the proposed project from SR-91 by heading north Kraemer Boulevard, then west on East Miraloma Avenue. Kramer Boulevard is a designated truck route from the northern city limits to the SR-91 Freeway Interchange. La Palma Avenue is a designated truck from Kraemer Boulevard to Imperial Highway.

6.11.1.2 Planned Transportation Improvements

The following planned transportation improvement information was provided by COA staff:

- The Kraemer Boulevard Widening Project is scheduled to begin in October 2007 and be completed prior to power plant construction. It is anticipated that the construction of this widening project will not overlap with the construction of the CPP.

6.11.2 Environmental Consequences

This section discusses potential transportation-related impacts from the construction and operation of the proposed project. A Year 2009 traffic analysis was conducted for project construction traffic impact analysis, and Year 2010 traffic analysis was conducted for project operations traffic impact analysis.

The following improvements are planned and proposed by the Applicant in conjunction with the construction and operation of the proposed project:

- A plant entrance from East Miraloma Avenue will be constructed to applicable COA and County of Orange Standards.
- The proposed project will use a temporary construction laydown area onsite, to the west of the proposed project.
- New gas and potable water lines will be provided.
- Four new 65 kilovolt (kV) circuits, originating from the proposed project, will be connected to existing transmission facilities.

6.11.2.1 Thresholds of Significance

Significance criteria were developed based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, which identifies potentially significant project impacts. A significant traffic-related project impact would occur if the proposed project significantly changed the operating conditions on the surrounding roadway network. A freeway/roadway segment and intersection LOS analysis was conducted to assess operational performance of the traffic study area freeways/roadways and intersections during construction and operation of the project. For LOS, the applicable significance threshold was based on the County of Orange and COA requirements.

6.11.2.1.1 Congestion Management Plan (CMP) Level of Service Standards. The following discussion of LOS standards was excerpted from County of Orange Congestion Management Plan (CMP):

> *"Within the defined CMP highway network, intersections and freeway segments are not allowed to deteriorate to a condition which is worse than LOS E, or the base year LOS if worse than E, without mitigation being prescribed in an acceptable deficiency plan. In the case of base conditions reflecting a LOS worse than E, 'existing LOS' is defined as any increase in V/C ratio of up to 0.10 over the base condition. V/C ratio increases beyond 0.10 above the base condition are considered not to comply with CMP LOS objectives and shall require mitigation or a deficiency plan."*

6.11.2.1.2 State Highway Level of Service Standard. According to the Caltrans Guide for the Preparation of Traffic Impact Studies, "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway Facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the target LOS. If an existing state highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained."

Based on the above requirements, the following conditions apply in the determination of significant State Highway impacts:

- Desired LOS is LOS D
- When pre-project (Base) LOS A, B, C, and D becomes LOS E or F with project
- When pre-project (Base) LOS E becomes LOS F with project

6.11.2.1.3 Local Level of Service Standard. According to the City of Anaheim General Plan Circulation Element and Growth Management Element requirements, a volume/capacity ratio of 0.90 (LOS D) shall be the lowest acceptable Service Level at intersections following implementation of mitigation measures.

Per the COAs "Criteria for Preparation of Traffic Impact Studies," a transportation impact on an intersection shall be deemed significant in accordance with the criteria outlined in Table 6.11-5.

TABLE 6.11-5
SIGNIFICANCE CRITERIA FOR TRAFFIC IMPACTS

Level of Service	Final V/C Ratio	Project-related Increase in V/C
C	> 0.700 – 0.800	Equal to or greater than 0.050
D	> 0.800 – 0.900	Equal to or greater than 0.030
E, F	> 0.900	Equal to or greater than 0.010

Significance issues for other transportation elements include:

- Additional Vehicular Traffic: Would the additional traffic generated by the proposed project adversely affect operating conditions (i.e., LOS) on local and regional roadways?
- Public Transit: Would the additional traffic generated by the proposed project impede public transit operations in the vicinity of the project?
- Bicycle and Pedestrian Circulation: Would the additional traffic generated by the proposed project obstruct bicycle and pedestrian access to and from the project site or along adjacent bicycle and pedestrian routes?

- Parking Facilities: Would the additional traffic generated by the proposed project consume parking in proximity to the project site?
- Goods Movement: Would the additional traffic generated by the proposed project hinder goods movement along local and regional roadways?
- Safety: Would the traffic generated by the proposed project impose any safety concerns, such as a significant increase in crashes?
- Air, Rail, and Waterborne Traffic: Would the traffic generated by the proposed project interfere with air, rail, or waterborne traffic, or access to these transportation modes?

6.11.2.2 Construction Impacts

6.11.2.2.1 Construction Activities and Traffic Forecast. Mobilization of the proposed project is expected to ensue immediately upon receipt of certification. Onsite construction will commence in the First Quarter of 2009 and be completed by Second Quarter of 2010. Construction of the generating facility—from site preparation, demolition, and grading, to commercial operation—is expected to take approximately 12 months. Normal construction will most likely be scheduled between 6:00 a.m. and 8:00 p.m., Monday through Friday. During construction and startup of the project, some activities may continue 24 hours per day, 7 days per week. However, longer work days or work weeks may be necessary to make up schedule deficiencies or to complete critical construction activities.

The onsite workforce will consist of laborers, craftspeople, supervisory personnel, support personnel, and construction management personnel. The onsite workforce is expected to reach its peak of 225 workers during the peak month of construction. The construction traffic analysis for this study assumed a very conservative worst-case scenario with no worker carpooling. Construction access to the proposed project will be primarily via SR 91 to Kraemer Boulevard, and East Miraloma Avenue. Truck deliveries will normally be on weekdays between 7:00 a.m. and 5:00 p.m.

As described earlier in Section 3.0, electrical generation will be at 13.8 kV, which will be stepped up with 69 kV GSUs. Underground cables will connect from the GSUs to the switchyard which will use GIS. There will be four new underground 69 kV circuits leaving the site. Two will proceed approximately 100 feet underneath and to the south side of East Miraloma Avenue to rise up and connect to the existing 69 kV overhead lines via two new transition structures. The second two 69 kV underground circuits will proceed eastward approximately 4,000 ft in East Miraloma Avenue, and turn south on Miller proceeding approximately 3,000 ft to connect to the Dowling-Yorba 69 kV line at East La Palma Avenue.

Natural gas for the facility will be delivered through a new 12-inch-diameter pipeline that will connect to SCGCs existing gas transmission line. The existing gas transmission line is

located at the intersection of East Orangthorpe Avenue and Kraemer Boulevard. This service will be connected to new onsite fuel gas compressors that will be part of the CPP facility.

Plant process wastewater such as blowdown from the chilled water system cooling tower, reject water from the demineralization (DI) system and domestic sanitary wastewater will be combined to discharge into the sewer system connection located on East Miraloma Avenue.

Construction of the transmission lines and natural gas pipeline would require trenching, and when crossing roadways, could potentially require alternating partial closure of the traveled roadway while trenching work is conducted on the other half of the roadway. Specifically, the proposed natural gas pipeline will involve the use of jack and bore construction techniques under Carbon Canyon diversion channel, with the construction of one pit on each side of the creek to facilitate the operation of the jack and bore equipment. These pits will involve encroachment on the east side of Kraemer Boulevard. The proposed jack and bore launching pit is approximately 15 feet wide by 50 feet long and the receiving pit is approximately 15 feet wide by 20 feet long. Both pits are approximately 26.5 feet deep to place the casing 5 feet below the culvert base. This crossing is expected to be on east side of Kraemer Boulevard and would require the closure of the northbound exclusive right turn lane at the intersection of Kramer Boulevard and Orangethorpe Avenue. The remainder of the route will be open trench construction and will be mitigated using cut and cover techniques including the use of steel plates. Temporary street lane closures associated with the construction of the transmission and natural gas lines will be included as key elements in the development of the Traffic Control Plan.

All construction activities shall comply with COA and County of Orange requirements, including securing the necessary permits. Offsite construction activities will be coordinated with adjoining jurisdictions and provisions for detour and alternate routes might be required to alleviate traffic.

During construction, all traffic signs, equipment, and control measures shall conform to the provisions specified in the Caltrans Traffic Manual (Red Book) and the California Manual of Uniform Traffic Control Device (CAMUTCD). Specific requirements will be identified during permit application process.

The analysis of signalized intersections utilized the analysis procedure as outlined in the City of Anaheim Criteria for Preparation of Traffic Impact Studies. This procedure is known as Intersection Capacity Utilization (ICU) methodology and defines LOS in terms of Volume-to-Capacity (V/C) ratio. This technique uses 1,700 vehicles per hour per lane (VPHPL) and 3,400 (VPHPL) for dual left turn lanes as the maximum saturation volume of intersections. The LOS criteria used for this technique are described in Table 6.11-1. The computerized intersection analysis was performed with the Traffix 7.6 R1 software package (Dowling Associates, 2003).

6.11.2.2.2 Trip Generation.

Construction Workers. To evaluate the worst-case scenario, the traffic analysis took into consideration that the 225 peak worker trips (with no worker carpooling) generated by construction personnel during the peak construction month would arrive during the morning peak period (7:00 a.m. to 9:00 a.m.) and depart during the evening peak period (4:00 p.m. to 6:00 p.m.). Typically, construction workers commute prior to the morning peak period and leave construction sites during the evening peak period after a 10-hour work schedule.

Construction Truck Deliveries. Because truck deliveries will likely arrive and depart throughout the day, half of the daily truck trips were conservatively assumed to occur during the a.m. and p.m. peak hours. During project construction, both light and heavy truck trips are anticipated to serve the project site.

Construction Equipment Deliveries. The majority of the construction equipment is assumed to be already positioned onsite during the peak construction in 2009. Heavy equipment such as the CTGs and chillers will be delivered pursuant to a heavy-haul plan developed in coordination with the COA Public Works Department.

The above assumptions allow for a worst-case assessment of the potential project-related traffic impacts. The estimated project construction trips projected to be generated by the proposed project during the a.m. and p.m. peak hour traffic analysis scenarios are presented in Table 6.11-6.

TABLE 6.11-6
PROJECT CONSTRUCTION TRIP GENERATION

Vehicle Type	Peak Daily Round Trips	A.M. Peak Trips			P.M. Peak Trips		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Construction Worker Vehicles[1]	450	225	0	225	0	225	225
Light Trucks[2,3]	90	5	5	10	0	5	5
Heavy Trucks[2,4]	18	5	0	5	0	5	5

[1] Peak workforce was conservatively analyzed at 225 worker trips. Conservatively assumed to drive alone during both a.m. (7:00 to 9:00) and p.m. (4:00 to 6:00) peak hours.

[2] Light and heavy trucks were adjusted into Passenger Car Equivalent (3 PCE) vehicle in the traffic impact analysis.

[3] Light trucks = 15 trips per day.

[4] Heavy trucks = 3 trips per day.

The project trip generation data in Table 6.11-6 show the resultant trips that would be generated by construction personnel and delivery trucks. The estimation of the project trip generation was based on the following key assumptions:

- Project construction hours = 6:00 a.m. to 8:00 p.m.
- Passenger car equivalent (PCE) per delivery truck = 3 PCE
- Total peak workforce = 225 workers (potential carpooling not included)

6.11.2.2.3 Trip Distribution and Assignment. During project construction, the majority of the construction workforce is anticipated to be sourced locally and from the surrounding communities near the proposed project. Some non-local specialty trades supporting proprietary plant equipment/components and construction processes are also expected, but only on a short-term basis. Locally sourced workers could potentially use surface streets to commute to the project site. For traffic impact analyses purposes, and in consultation with COA staff, a worst-case traffic distribution pattern assumed for the peak construction workforce is as follows:

- 50 percent from the west via SR-91
- 50 percent from the east via SR-91

To access the proposed project site and construction laydown area, the recommended route for construction traffic will be via SR-91, then north on Kraemer Boulevard, west on East Miraloma Avenue, then north towards the project site.

To access the proposed remote construction worker parking located southeast of the project site, the recommended route for incoming workers will be via SR-91, then north on Kraemer Boulevard, west on East Miraloma Avenue, then right towards the proposed construction parking lots at 3150 and 3190 East Miraloma Avenue.

Since the project site is located in a COA-designated industrial zone, construction-related heavy haul truck traffic is generally allowed as they will primarily use Kraemer Boulevard, which is a designated truck route from the northern city limits to the SR-91 Freeway Interchange. To operate or move a vehicle or combination of vehicles or special mobile equipment or a size or weight of vehicle or load exceeding the maximums specified in the California Vehicle Code (C.V.C.), a Transportation Permit shall be obtained from the COA.

6.11.2.2.4 Freeway and Roadway Level of Service During Project Construction. Table 6.11-7 presents the Average Daily Traffic (ADT) freeway/local roadway segment LOS under Year 2009 No Project conditions. Figure 6.11-5 shows Year 2009 No Project traffic study area and project vicinity freeway/roadway segment traffic volumes.

Similar to existing conditions and as shown in Table 6.11-7, all study freeway segments are forecast to operate at acceptable LOS C while the local roadway study segments are forecast to operate at LOS B (East Miraloma Avenue) and LOS A (N. Kraemer Boulevard) respectively.

TABLE 6.11-7
FREEWAY/ROADWAY SEGMENT LEVEL OF SERVICE –
YEAR 2009 NO PROJECT CONDITIONS

Roadway	Segment	Number and Type of Lanes	2009 No Project ADT	Percent Trucks	LOS
SR-91	West of Kraemer Ave.	10-Lane Freeway	237,700	8.7%	C
SR-91	East of Kraemer Ave.	10-Lane Freeway	236,700	8.7%	C
E. Miraloma Ave.	West of Kraemer Ave.	4-Lane Undivided	14,600	10%	A
N. Kraemer Ave.	South of E. Miraloma Ave.	6-Lane Undivided	31,300	5%	A

Table 6.11-8 presents the ADT freeway/local roadway segment LOS under Year 2009 Project Construction conditions. Figure 6.11-6 shows Year 2009 Project Construction roadway segment traffic volumes.

TABLE 6.11-8
FREEWAY/ROADWAY SEGMENT LEVEL OF SERVICE –
YEAR 2009 PROJECT CONSTRUCTION CONDITIONS

Roadway	Segment	Number and Type of Lanes	2009 + Project ADT	Project Added ADT	LOS
SR-91	West of Kraemer Ave.	10-Lane Freeway	237,980	279	C
SR-91	East of Kraemer Ave.	10-Lane Freeway	236,980	279	C
E. Miraloma Ave.	West of Kraemer Ave.	4-Lane Undivided	15,160	558	B
N. Kraemer Ave.	South of E. Miraloma Ave.	6-Lane Undivided	31,860	558	A

Under Year 2009 Project Construction conditions, the study freeway segments are forecast to continue operating at LOS C and the local roadway study segments are also forecast to remain at LOS A. As shown in Table 6.11-8, none of the study freeway/local roadway segments' LOS would deteriorate to impacted levels; therefore, significant impacts are not expected. The incremental change in directional traffic volume associated with trips added by project construction at the study freeway/local roadway segments will not cause traffic impacts according to the COAs significant impact criteria.

6.11.2.2.5 Intersection Level of Service During Project Construction (2009). Table 6.11-9 presents peak hour intersection LOS and average vehicle delay results under Year 2009 No Project conditions. The LOS Calculation worksheets are provided in Appendix L. Figure 6.11-5 shows Year 2009 No Project a.m. and p.m. peak-hour turning movement volumes at each study area intersection. As shown in Table 6.11-9, all study intersections are forecast to operate at LOS C or better under Year 2009 No Project conditions.

TABLE 6.11-9
PEAK-HOUR INTERSECTION LEVEL OF SERVICE –
YEAR 2009 NO PROJECT CONDITIONS

	A.M. Peak Hour		P.M. Peak Hour	
Intersection	Volume to Capacity Ratio (V/C)	LOS	Volume to Capacity Ratio (V/C)	LOS
1. N. Kraemer Boulevard/E. Miraloma Avenue	0.733	C	0.682	B
2. N. Kraemer Boulevard/E. Coronado Street	0.544	A	0.544	A
3. N. Kraemer Boulevard/E. La Palma Avenue	0.674	B	0.737	C
4. N. Kraemer Boulevard/SR-91 Freeway WB Off Ramp	0.680	B	0.551	A
5. N. Kraemer Boulevard/E. Frontera Street	0.653	B	0.635	B

Table 6.11-10 presents peak hour intersection LOS and average vehicle delay results under Year 2009 project construction conditions. The LOS Calculation worksheets are provided in Appendix L. Figure 6.11-6 shows Year 2009 Project Construction conditions a.m. and p.m. peak-hour turning movement volumes at each study area intersection. As shown in Table 6.11-10, all study intersections are forecast to operate at LOS C or better under Year 2009 Project Construction conditions.

TABLE 6.11-10
PEAK-HOUR INTERSECTION LEVEL OF SERVICE – YEAR 2009 PROJECT CONSTRUCTION CONDITIONS

	A.M. Peak Hour		P.M. Peak Hour	
Intersection	Volume to Capacity Ratio (V/C)	LOS	Volume to Capacity Ratio (V/C)	LOS
1. N. Kraemer Boulevard/E. Miraloma Avenue	0.740	C	0.763	C
2. N. Kraemer Boulevard/E. Coronado Street	0.545	A	0.553	A
3. N. Kraemer Boulevard/E. La Palma Avenue	0.675	B	0.784	C
4. N. Kraemer Boulevard/SR-91 Freeway WB Off Ramp	0.740	C	0.576	A
5. N. Kraemer Boulevard/E. Frontera Street	0.653	B	0.635	B

The study intersections are anticipated to experience short-term increases in construction traffic during the peak construction period. However, traffic volume is expected to return to pre-project levels upon completion of construction.

6.11.2.2.6 Parking Facilities. As described earlier, two offsite construction worker and staff parking areas located at two adjacent parking lots (3150 and 3190 East Miraloma Avenue) at

the southeast corner of Kraemer Boulevard and East Miraloma Avenue had been identified with sufficient capacity to accommodate construction worker parking. The parking lots once served warehouse facilities which are currently unoccupied. Each lot can accommodate up to 200 vehicles. The two proposed parking lots are within walking distance to the project site.

6.11.2.2.7 Public Transportation. The following public transportation providers traverse the study area or indirectly serve the proposed project site:

- **OCTA Routes 59 and 213/213A.** These routes provide north-south bus service on weekdays between the cities of Brea and Irvine via Kraemer Boulevard and Glassell Street. A secondary bus service, Line 410, operates during weekdays only from Kraemer Boulevard and La Palma Avenue, then works its way eastbound towards its destination at Metrolink Station. Route 167 provides north-south bus service 7 days a week between the cities of Anaheim and Irvine via Tustin Avenue, Hewes Street and Bryan Avenue. On weekdays only it provides bus service from Lincoln Park-and-Ride station to Anaheim Canyon Metrolink Station Area.
- **Metrolink.** The Anaheim Canyon Metrolink Station is located near La Palma Avenue. The Fullerton Amtrak/Metrolink Station is located near Harbor Boulevard. The Metrolink train serves Orange, Los Angeles, San Bernardino, Riverside, San Diego, and Ventura Counties. The Amtrak Sunset Limited train serves Orlando-New Orleans-Houston-San Antonio-Tucson-Los Angeles.

Based on the limited conflicts with transit and rail crossings, the proposed project is not anticipated to cause significant impacts to public transportation.

6.11.2.2.8 Bicycle and Pedestrian Circulation. Based on the minimal pedestrian and bicycle activity observed within the project study area, both East Miraloma Avenue (proposed Top Priority Class II Bikeway and a Proposed Off Road Bike Trail) and the segment of La Palma Avenue (Proposed Off Road Bike Trail) to the south of the project site are anticipated to have minimal conflicts with planned construction activities at the project site. Dedicated pedestrian crosswalks at the intersection of Kraemer Boulevard and East Miraloma Avenue will be used by construction workers parking offsite and going to and from the project site.

6.11.2.2.9 Goods Movement. The short-term construction-related activities during project construction will not significantly affect goods movement on the local circulation system serving the study area. The surrounding roadway circulation system, including SR-91 and Kraemer Boulevard, is anticipated to accommodate the delivery of goods and equipment to the proposed project site.

6.11.2.2.10 Safety. The roadways in the vicinity of the proposed project have adequate sight distance. The roadways' vertical profile, primarily East Miraloma Avenue and Kraemer

Boulevard, is generally flat with no sharp curves that would affect driver perception and reaction time. The short-term increase in construction traffic is not expected to significantly increase the risk of traffic accidents in the area.

6.11.2.2.11 Air, Rail, and Waterborne Traffic. The proposed project will have no adverse impacts on air, rail, or waterborne traffic.

Air Traffic. The nearest airport facility is Fullerton Municipal Airport, located approximately 6.5 miles west of the proposed project. John Wayne Airport is located approximately 16 miles to the south of the proposed project.

The proposed project will have no effect on air traffic patterns. The operation of the proposed project is not dependent upon air transport-related materials, manpower, and services and will therefore not result in increases of air traffic levels. Project design features such as stacks (86 feet above ground) will not obstruct air traffic patterns because other structures such as transmission towers and buildings currently operating and in-place within the project vicinity have historically posed no constraints to normal airport operations. Based on these existing physical features, it can be concluded that the proposed project will also not create any new constraints to existing and future air traffic patterns.

Rail Traffic. Within the vicinity of the project study area, the Southern Pacific Transportation Company (SPTC), BNSF, and Atchison Topeka and Santa Fe Railroads provide freight service in County of Orange, connecting the County with major markets within California and other destinations north and east. The BNSF line is located north of the traffic study area.

Based on the proposed project construction and delivery routes, construction activities will not adversely conflict with the current rail traffic.

Waterborne Traffic. The project study area does not have significant waterborne features.

6.11.2.3 Operations Impacts

The project is projected to begin operations in 2010. During the normal operational phase of the project, a planned 9-employee workforce will oversee its operation and maintenance. Occasional deliveries and maintenance-related trips are anticipated as part of the normal operations of the plant.

Based on the minimal operational added trips, the proposed plant operations will not substantially change the LOS of the roads and intersections in the study area. Therefore, no significant traffic impacts during project operations are anticipated.

6.11.2.3.1 Freeway/Roadway Level of Service During Project Operations (2010). Table 6.11-11 presents the ADT freeway/roadway segment LOS under Year 2010 No Project conditions. Figure 6.11-7 shows Year 2010 No Project freeway/roadway segment traffic volume.

TABLE 6.11-11
FREEWAY/ROADWAY SEGMENT LEVEL OF SERVICE –
YEAR 2010 NO PROJECT CONDITIONS

Roadway	Segment	Number and Type of Lanes	2010 No Project ADT	Percent Truck	LOS
SR-91	West of Kraemer Ave.	10-Lane Freeway	240,100	8.7%	C
SR-91	East of Kraemer Ave.	10-Lane Freeway	239,100	8.7%	C
E. Miraloma Ave.	West of Kraemer Ave.	4-Lane Undivided	14,800	10%	A
N. Kraemer Ave.	South of E. Miraloma Ave.	6-Lane Undivided	31,700	5%	A

As shown in Table 6.11-11, all study freeway segments are forecast to operate at acceptable LOS C while the local roadway study segments are forecast at LOS A.

Table 6.11-12 presents the ADT freeway/roadway segment LOS under Year 2010 Project Operations conditions. Figure 6.11-8 shows Year 2010 Project Operations freeway/roadway segment traffic volume.

TABLE 6.11-12
FREEWAY/ROADWAY SEGMENT LEVEL OF SERVICE –
YEAR 2010 PROJECT OPERATIONS CONDITIONS

Roadway	Segment	Number and Type of Lanes	2010 + Project ADT	Project Added ADT	LOS
SR-91	West of Kraemer Ave.	10-Lane Freeway	240,112	12	C
SR-91	East of Kraemer Ave.	10-Lane Freeway	239,112	12	C
E. Miraloma Ave.	West of Kraemer Ave.	4-Lane Undivided	14,824	24	A
N. Kraemer Ave.	South of E. Miraloma Ave.	6-Lane Undivided	31,724	24	A

As shown in Table 6.11-12, the LOS at the traffic study area freeway/roadway segments under Year 2010 Project Operations would remain unchanged from Year 2010 No Project conditions, due to the minimal added trips associated with Year 2010 Project Operations.

Based on these findings, no significant traffic impacts would occur at traffic study area freeway/roadway segments during project operations.

6.11.2.3.2 Intersection Level of Service During Project Operations (2010). Table 6.11-13 presents peak-hour intersection LOS and average vehicle delay under Year 2010 No Project conditions. The LOS calculation worksheets are provided in Appendix L. Figure 6.11-7 shows Year 2010 No Project conditions a.m. and p.m. peak-hour turning movement volumes for each traffic study area intersection. As shown in Table 6.11-13, all study intersections are forecast to operate at LOS C or better under Year 2010 No Project conditions.

TABLE 6.11-13
PEAK-HOUR INTERSECTION LEVEL OF SERVICE –
YEAR 2010 NO PROJECT CONDITIONS

	A.M. Peak Hour		P.M. Peak Hour	
Intersection	Volume to Capacity Ratio (V/C)	LOS	Volume to Capacity Ratio (V/C)	LOS
1. N. Kraemer Boulevard/E. Miraloma Avenue	0.749	C	0.694	B
2. N. Kraemer Boulevard/E. Coronado Street	0.557	A	0.556	A
3. N. Kraemer Boulevard/E. La Palma Avenue	0.727	C	0.776	C
4. N. Kraemer Boulevard/SR-91 Freeway WB Off Ramp	0.703	C	0.567	A
5. N. Kraemer Boulevard/E. Frontera Street	0.665	B	0.647	B

Table 6.11-14 presents peak-hour intersection LOS and average vehicle delay results under Year 2010 Project Operations conditions. The LOS calculation worksheets are provided in Appendix L Figure 6.11-8 shows Year 2010 Project Operations a.m. and p.m. peak-hour turning movement volumes for each study area intersection.

TABLE 6.11-14
PEAK-HOUR INTERSECTION LEVEL OF SERVICE –
YEAR 2010 PROJECT OPERATIONS

	A.M. Peak Hour		P.M. Peak Hour	
Intersection	Volume to Capacity Ratio (V/C)	LOS	Volume to Capacity Ratio (V/C)	LOS
1. N. Kraemer Boulevard/E. Miraloma Avenue	0.757	C	0.694	B
2. N. Kraemer Boulevard/E. Coronado Street	0.557	A	0.556	A
3. N. Kraemer Boulevard/E. La Palma Avenue	0.727	C	0.778	C
4. N. Kraemer Boulevard/SR-91 Freeway WB Off Ramp	0.706	C	0.568	A
5. N. Kraemer Boulevard/E. Frontera Street	0.665	B	0.647	B

As shown in Table 6.11-14, traffic study area intersection LOS under Year 2010 Project Operations conditions would remain unchanged from Year 2010 No Project conditions. Due to the minimal added trips associated with Year 2010 Project Operations, there would be a minimal increase in intersection V/C ratio. The minimal increase in intersection V/C ratio would not cause a change in LOS at any of the study intersections.

Based on these findings, no significant traffic impacts would occur at the traffic study area intersections during project operations.

Several methods will be used to properly manage and dispose of hazardous wastes generated by the project. Waste lubricating oil will be recovered and recycled by a waste oil recycling contractor. Spent lubrication oil filters will be disposed of by the maintenance contractor in a Class I landfill. Spent selective catalytic reduction system (SCR) catalysts will be recycled by the supplier.

6.11.2.4 Hazardous Materials Transport

Construction of the proposed project would generate hazardous wastes consisting primarily of waste oil including motor oil, transmission fluid, hydraulic fluid, antifreeze, oil filters, paint waste, thinners and solvents, spent welding materials, oily rags, and absorbent. Operation of the proposed project would result in the generation of additional wastes, including hydraulic actuators and lubricants, spent batteries, and oily water.

A licensed hazardous waste transporter would move those materials that require offsite removal to a hazardous waste landfill that is able to accommodate hazardous wastes of the appropriate class. Consistent with the project construction truck delivery trip patterns, incoming operational hazardous material truck deliveries originating from SR 91 will follow Kraemer Boulevard to the project site. All loaded hazardous materials trucks and empty delivery trucks leaving the site will follow the reverse route. Local delivery vehicles will access the site via Kraemer Boulevard and East Miraloma Avenue. All hazardous materials transport will be conducted according to LORS identified in Table 6.11-15.

6.11.3 Cumulative Impacts

The following cumulative projects have been identified by COA staff for inclusion in the Year 2010 No Project and Project Operations analysis:

- 3400 E. La Palma Avenue – Kaiser Permanente Orange County Anaheim Medical Center (Phase 1)
- 0141 N. Shephard Street – Industrial Use
- 3529-70 E. La Palma Avenue – Condominiums, Live/Work Units

The a.m. and p.m. peak hour trips generated by the above projects were incorporated with the Year 2010 base traffic volume projections at the applicable project study intersections.

The proposed project's peak construction activities will occur in 2009, and the plant is expected to be operational by 2010. Based on the results of the Year 2010 Project Operations analysis which included the above cumulative projects provided by COA staff, cumulative impacts associated with the proposed project are anticipated to be less than significant.

Due to the relatively small number of operational trips (planned 9-employee workforce) and nonrecurring service/delivery trips to and from the project site, it is anticipated that the proposed project will not contribute to long-term cumulative impacts in conjunction to the proposed projects mentioned above.

6.11.4 Mitigation Measures

6.11.4.1 Peak Project Construction Mitigation

During peak project construction, no study roadway segments or study intersection will be significantly impacted by the proposed project. Therefore, no peak project construction traffic mitigations are proposed.

6.11.4.1.1 Mitigation Measures. No traffic mitigation is required.

6.11.4.1.2 Level of Significance after Mitigation. No mitigation is required as cumulative operational traffic impacts are less than significant.

The following traffic control measures are offered either as part of the construction activity requirements, or as proactive measures initiated by the project proponent to provide a safe working environment, minimize construction-related trip-making, delay, and resultant increases of traffic to the surrounding roadway circulation system.

TRAFFIC-1: Traffic Control Measures. The project proponent will develop and implement a standard traffic and monitoring control plan consistent with the size and scope of the project construction activity designed to minimize impact to traffic flow.

The project proponent will develop and implement a standard control and safety plan during project construction, transmission line crossings, and utilities construction including pipe-laying activities along and when crossing roadway rights-of-way (R-O-Ws) to minimize impacts to traffic flow.

Proposed measures include but are not limited to the following:

- Use proper signs and traffic control measures in accordance with COA requirements. At a minimum, temporary traffic control during construction shall conform to the provisions specified in the CAMUTCD and the requirements of the COA, as applicable.
- Schedule traffic lane or road closures during off-peak hours whenever possible (e.g., during construction of utilities pipeline and underground transmission cable).
- Employ cut and cover techniques during the excavation/trenching operations for utilities to minimize roadway delays.
- Minimize vehicular traffic at the construction laydown area and project construction site as well as at the offsite construction worker and staff parking areas.
- Minimize impact to roadway facilities and existing traffic patterns by preparation of a heavy-haul plan, including coordination with COA Public Works Department for delivery of heavy equipment such as the CTGs and chillers.
- Provide orientation and briefing to employees and contractors on the desired construction route and pedestrian route from offsite parking area.

6.11.4.2 Project Operations Mitigation

During project operations, no study roadway segments or study intersections will be significantly impacted by the proposed project. Therefore, no project operations traffic mitigations are proposed.

6.11.4.2.1 Mitigation Measures. No mitigation is required.

6.11.4.2.2 Level of Significance after Mitigation. No mitigation is required as cumulative operational traffic impacts are less than significant.

6.11.5 Applicable LORS

Table 6.11-15 summarizes applicable traffic and transportation LORS for the proposed project. The proposed project lies within the territory of Caltrans, District 12, which has jurisdiction over SR-57 and SR-91. The County of Orange and COA have jurisdiction over the local roadways.

The Circulation Element of the City of Anaheim General Plan provides the policies, goals and objectives that address the circulation, parking, pedestrian, bicycle, and goods movement within the COA. The City of Anaheim Criteria for Preparation of Traffic Impact Studies was used in the evaluation of intersection and roadway operational performance. The Caltrans Standard Plans, Manual of Uniform Traffic Control Device and Caltrans Traffic Manual provide guidelines for traffic control and lane closures for construction work that should be followed.

TABLE 6.11-15
APPLICABLE LORS

Jurisdiction	LORS	Requirements	Conformance Section	Administering Agency
Federal				
	Title 49, Code of Federal Regulations, Section 171-177	Governs the transportation of hazardous materials, including the marking of transportation vehicles.	Section 6.11.5.1, Federal Authorities and Administering Agencies	California Highway Patrol
	Title 14, Code of Federal Regulations, Section 77.13(2)(i)	Requires Applicant to notify FAA of any construction greater than height limits defined by the FAA.	Section 6.11.5.1, Federal Authorities and Administering Agencies	Federal Aviation Administration
State				
	California Vehicle Code, Section 353	Defines the hazardous materials.	Section 6.11.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Sections 13369, 15275, 15278	Addresses the licensing of drivers and the classification of license required for the operation of particular types of vehicles. In addition, these sections require the possession of certificates of permitting the operation of vehicles transporting hazardous materials.	Section 6.11.5.2, State Authorities and Administering Agencies	California Department of Motor Vehicles
	California Vehicle Code, Section 31303-31309	Requires transporters of hazardous materials to use the shortest route possible.	Section 6.11.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Section 32000-32053	Regulates the licensing of carriers of hazardous materials and noticing requirements.	Section 6.11.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Section 32100-32109	Transporters of inhalation hazardous materials or explosive materials must obtain a hazardous materials transportation license.	Section 6.11.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Section 34000-34100	Establish special requirements for the flammable and combustible liquids over public roads and highways.	Section 6.11.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Section 34500	Regulate the safe operation of vehicles, including those that are used for the transportation of hazardous materials.	Section 6.11.5.2, State Authorities and Administering Agencies	California Highway Patrol

TABLE 6.11-15 (CONTINUED)
APPLICABLE LORS

Jurisdiction	LORS	Requirements	Conformance Section	Administering Agency
	California Vehicle Code, Section 35550	Imposes weight guidelines and restrictions upon vehicles traveling upon freeways and highways.	Section 6.11.5.2, State Authorities and Administering Agencies	California Department of Transportation
	California Vehicle Code, Section 35780	Requires approval for a permit to transport oversized or excessive load over state highways.	Section 6.11.5.2, State Authorities and Administering Agencies	California Department of Transportation
	California Streets and Highways Code, Sections 117	Permits for the location in the ROW of any structures or fixtures necessary to telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures.	Section 6.11.5.2, State Authorities and Administering Agencies	California Department of Transportation
	California Streets and Highways Code, Sections 660, 670, 672, 1450,1460,1470, 1480 et seq.	Defines highways and encroachment. Regulate ROW encroachment and the granting of permits with conditions for encroachment in state and county roads.	Section 6.11.5.2, State Authorities and Administering Agencies	California Department of Transportation and County of Orange
	California Health and Safety Code, Section 25160 et seq.	Addresses the safe transport of the hazardous materials.	Section 6.11.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Department of Transportation Traffic Manual, Section 5-1.1	Requires traffic control plans to ensure continuity of traffic during roadway construction.	Section 6.11.5.2, State Authorities and Administering Agencies	City of Anaheim
Local				
	Orange County CMP	Components of the CMP Highway Network are not allowed to deteriorate to a condition worse than LOS E.	Section 6.11.5.3, Local Authorities and Administering Agencies	County of Orange, City of Anaheim
	City of Anaheim General Plan, Circulation Element	Requires LOS D or better operating conditions for major city intersections	Section 6.11.5.3, Local Authorities and Administering Agencies	City of Anaheim

TABLE 6.11-15 (CONTINUED)
APPLICABLE LORS

Jurisdiction	LORS	Requirements	Conformance Section	Administering Agency
	Anaheim Municipal Code, Chapter 14.52	Requires a Transportation Permit to be obtained from the City of Anaheim to operate or move a vehicle or combination of vehicles or special mobile equipment or a size or weight of vehicle or load exceeding the maximums specified in the California Vehicle Code (C.V.C.)	Section 6.11.5.3, Local Authorities and Administering Agencies	

Notes:
FAA = Federal Aviation Administration
LORS = laws, ordinances, regulations, and standards
ROW = right-of-way
CMP = Congestion Management Plan

To comply with the hazardous materials regulations, the Applicant must follow the guidelines set forth in Section 6.15, which includes rules from the Federal Motor Carrier Safety Administration.

Standards for the transport of hazardous materials are contained in the Code of Federal Regulations (CFR), Title 49 and enforced by the U.S. Department of Transportation. Additionally, the State of California has promulgated rules for hazardous waste transport that can be found in the California Code of Regulations, Title 26. Hauling will be carried out in accordance with state and federal regulations that include the Resource Conservation and Recovery Act (42 U.S. Code 6901 et seq.) and the California Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.). Additional regulations for the transportation of hazardous materials are outlined in the California Vehicle Code (Sections 2500-505, 12804-804.5, 31300, 3400, and 34500-501). The two state agencies with primary responsibility for enforcing federal and state regulations governing the transportation of hazardous wastes are the California Highway Patrol and Caltrans. In addition, the federal government prescribes regulations for transporting hazardous materials. These regulations are described in CFR, Number 49, and Part 171. These laws and ordinances place requirements on various aspects of hazardous waste hauling, from materials handling to vehicle signs, to ensure public safety.

6.11.5.1 Federal Authorities and Administering Agencies

6.11.5.1.1 Title 49, Code of Federal Regulations, Parts 171-177. Governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.

The administering agencies for the above regulation are the California Highway Patrol (CHP) and the Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration.

The proposed project will conform to this law by requiring that shippers of hazardous materials use the required markings on their transportation vehicles.

6.11.5.1.2 Title 14, Code of Federal Regulations, Section 77.13(2)(i). Requires an applicant to notify the Federal Aviation Administration (FAA) of construction of structures with a height greater than 200 feet from grade or greater than an imaginary surface extending outward and upward at a slope of 10 to 1 from the nearest point of the nearest runway of an airport with at least one runway more than 3,200 feet in length. The administering agency for the above regulation is the FAA.

The proposed facility heights will not exceed 200 feet. Therefore, notification to the FAA will not be required.

6.11.5.2 State Authorities and Administering Agencies

6.11.5.2.1 California Vehicle Code, Section 353. This section defines hazardous materials as any substance, material, or device posing an unreasonable risk to health, safety, or property during transportation, as defined by regulations adopted pursuant to Section 2402.7. The administering agency for the above statute is the California Highway Patrol (CHP).

The proposed project will comply with these codes by continuing to classify all hazardous materials in accordance with their clarification.

6.11.5.2.2 California Vehicle Code, Sections 2500-2505. This section authorizes the Commissioner of Highway Patrol to issue licenses for the transportation of hazardous materials including explosives. The administering agency for the above statutes is the CHP.

The proposed project will comply with these codes by requiring that contractors and employees be properly licensed and endorsed when operating vehicles used to transport hazardous materials.

6.11.5.2.3 California Vehicle Code, Sections 13369, 15275, 15278. These sections address the licensing of drivers and the classification of license required for the operation of particular types of vehicles. Requires a commercial driver's license to operate commercial vehicles. Requires an endorsement issued by the Department of Motor Vehicles (DMV) to drive any commercial vehicle identified in Section 15278. The administering agency for the above statutes is the DMV.

The proposed project will comply with these codes by requiring that contractors and employees be properly licensed and endorsed when operating such vehicles.

6.11.5.2.4 California Vehicle Code, Sections 31303-31309. These sections require that the transportation of hazardous materials be on the state or interstate highway that offers the shortest possible overall transit time. The administering agency for the above statutes is the CHP.

The proposed project will comply with this law by requiring that shippers of hazardous materials use the shortest route possible to and from the project site.

6.11.5.2.5 California Vehicle Code, Sections 31600-31620. These sections regulate the transportation of explosive materials. The administering agency for the above statutes is the CHP. It must be noted that the proposed project will not use explosive materials specifically defined in Section 12000 of the Health and Safety Code. However, the proposed project will comply with this law by requiring that shippers of other potentially explosive materials have the required licenses from the CHP.

6.11.5.2.6 California Vehicle Code, Sections 32000-32053. These sections authorize the CHP to inspect and license motor carriers transporting hazardous materials of the type requiring placards. The administering agency for the above regulation is the CHP.

The proposed project will comply with this law by requiring that motor carriers of hazardous materials be properly licensed by the CHP.

6.11.5.2.7 California Vehicle Code, Sections 32100-32109. These sections require that shippers of inhalation hazards in bulk packaging comply with rigorous equipment standards, inspection requirements, and route restrictions. The administering agency for the above regulation is the CHP. If applicable, the proposed project will comply with this law by requiring shippers of these types of material to comply with all route restrictions, equipment standards, and inspection requirements.

6.11.5.2.8 California Vehicle Code, Sections 34000-34100. These sections establish special requirements for vehicles having a cargo tank and for hazardous waste transport vehicles and containers, as defined in Section 25167.4 of the Health and Safety Code. The commissioner shall provide for the establishment, operation, and enforcement of random on- and off-highway inspections of cargo tanks and hazardous waste transport vehicles and containers and ensure that they are designed, constructed, and maintained in accordance with the regulations adopted by the commissioner pursuant to this code and Chapter 6.5 (commencing with Section 25100) of Division 20 of the Health and Safety Code. The administering agency for the above regulation is the CHP.

The proposed project will comply with this law by requiring that shippers of hazardous materials maintain their hazardous material transport vehicles in a manner that ensures the vehicles will pass CHP inspections.

6.11.5.2.9 California Vehicle Code, Section 3500. This section regulates the safe operation of vehicles, including those vehicles that are used for the transportation of hazardous materials. The administering agency for this regulation is the CHP.

The proposed project will comply with this law by requiring shippers of hazardous materials to have the necessary permits, inspections, and licenses issued by the CHP for the safe operation of the hazardous materials transport vehicles.

6.11.5.2.10 California Vehicle Code, Section 35550. This section imposes weight guidelines and restrictions on vehicles traveling on freeways and highways. The section holds that "a single axle load shall not exceed 20,000 pounds. The load on any one wheel or wheels supporting one end of an axle is limited to 10,500 pounds. The front steering axle load is limited to 12,500 pounds." Furthermore, CVC Section 35551 defines the maximum overall gross weight as 80,000 pounds and adds that "the gross weight of each set of tandem axles shall not exceed 34,000 pounds." The administering agency for this statute is Caltrans.

The proposed project will comply with this code by requiring compliance with weight restrictions and by requiring heavy haulers to obtain permits, if required, prior to delivery of any heavy haul load.

6.11.5.2.11 California Vehicle Code, Section 35780. This section requires a Single-trip Transportation Permit to transport oversized or excessive loads over state highways. The permit can be acquired through the Caltrans. The administering agency for this statute is Caltrans.

The proposed project will comply with this code by requiring that heavy haulers obtain a Single-trip Transportation Permit for oversized loads for each vehicle, prior to delivery of any oversized load.

6.11.5.2.12 California Streets and Highways Code, Section 117. Unless otherwise specifically provided in the instrument conveying title, the acquisition by the department of any R-O-W over any real property for state highway purposes, includes the right of the department to issue, under Chapter 3 (commencing with Section 660), permits for the location in the R-O-W of any structures or fixtures necessary to telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures. The administering agency for this statute is Caltrans.

If applicable, the proposed project will comply with this code by acquiring the necessary permits and approval from Caltrans with regard to use of public R-O-Ws.

6.11.5.2.13 California Streets and Highways Code, Sections 660, 670, 672, 1450, 1460, 1470, 1480 et seq. These sections define highways and encroachment and require encroachment permits for projects involving excavation in state highways and county/city streets. This law is generally enforced at the local level. The administering agencies for this regulation are Caltrans and COA Public Works Department.

The proposed project will apply for encroachment permits for any excavation in state and county roadways prior to construction.

6.11.5.2.14 California Health and Safety Code, Section 25160 et seq. This section addresses the safe transport of hazardous wastes, requires a manifest for hazardous waste shipments, and requires a person who transports hazardous waste in a vehicle to have a valid registration issued by the Department of Toxic Substances Control (DTSC) in his or her possession while transporting the hazardous waste. The administering agency for this regulation is the DTSC.

The proposed project will comply with this law by requiring that shippers of hazardous wastes are properly licensed by the DTSC and hazardous waste transport vehicles are in compliance with DTSC requirements.

6.11.5.2.15 California Department of Transportation Traffic Manual, Section 5-1.1. This section requires a temporary traffic control plan be provided for "continuity of function (movement of traffic, pedestrians, bicyclists, transit operations), and access to property/utilities" during any time the normal function of a roadway is suspended. The administering agencies for this regulation are Caltrans and the COA Public Works Department.

The Applicant will file a Traffic Control Plan prior to the start of construction.

6.11.5.3 Local Authorities and Administering Agencies

Orange County and the COA have the following Programs and Policies that address traffic and circulation that could be affected by construction and of the proposed project.

6.11.5.3.1 Orange County Congestion Management Program CMP. Key roadways in Orange County serve as vital transportation corridors and within the defined CMP highway network, intersections and freeway segments are not allowed to deteriorate to a condition which is worse than LOS E, or the base year LOS if worse than E, without mitigation being prescribed in an acceptable deficiency plan. In the case of base conditions reflecting a LOS worse than E, "existing LOS" is defined as any increase in V/C ratio of up to 0.10 over the base condition. V/C ratio increases beyond 0.10 above the base condition are considered not to comply with CMP LOS objectives and shall require mitigation or a deficiency plan.

6.11.5.3.2 City of Anaheim General Plan – Circulation Element. The City of Anaheim General Plan Circulation Element and Growth Management Element requires that a volume/capacity ratio of 0.90 (Level of Service D) shall be the lowest acceptable Service Level at intersections following implementation of mitigation measures.

6.11.5.3.3 Anaheim Municipal Code, Chapter 14.52. A Transportation Permit shall be obtained from the City of Anaheim to operate or move a vehicle or combination of vehicles or special mobile equipment or a size or weight of vehicle or load exceeding the maximums specified in the California Vehicle Code (C.V.C.) This permit is valid only for the movement on the assigned City highways and Interstate/State Route crossings under the jurisdiction of the City of Anaheim. County and/or State permits, where appropriate, must be secured for travel on roads and streets under their respective jurisdictions unless otherwise specified on this permit. Except as specifically provide herein, the requirements of the C.V.C., including vehicle registration requirements, signing (C.V.C. 27900) and other applicable laws, must be complied with in all particulars. (A.M.C. Chapter 14.52 and C.V.C. Division 15, Chapter 5, Article 6).

6.11.6 Involved Agencies and Agency Contacts

The proposed project lies in proximity to roadways under the operational jurisdiction of Caltrans, in the City of Anaheim. The relevant agencies and appropriate contacts are shown in Table 6.11-16.

TABLE 6.11-16
AGENCY CONTACTS

Issue	Agency/Address	Contact/Title	Telephone
Navigable Airspace	Federal Aviation Administration Western-Pacific Region P.O. Box 92007 Los Angeles, CA 90009	Karen McDonald	(310) 725-6557
State Highways/Hazardous Materials Transport	California Highway Patrol 2031 E. Santa Clara Ave. Santa Ana, CA 92705-7838	Officer Jennifer Hanks, Public Affairs Office	(714) 567-6000
Local Roadway and Intersection Analysis Local Circulation Plans and Policies Local Lane Closure and Loads Permits	City of Anaheim Department of Public Works 200 S. Anaheim Blvd., Suite 276 Anaheim, CA 92805	David Kennedy, PE Associate Transportation Planner	(714) 765-5183
Hazardous Materials Transport	Federal Motor Carrier Safety Administration 980 9th Street, Suite 450 Sacramento, CA 95814	Glenn Beck, Operations Supervisor	(916) 498-5050
Freeway Traffic Operations	California Department of Transportation District 12 3337 Michelson Drive Irvine, CA 92612-8894	Bassem Barsoum Area Engineer SR-91	(949) 723-2331
Caltrans Transportation Permits	Southern Region Transportation Permits California Department of Transportation District 8 464 West 4th St., MS 618 San Bernardino, CA 92401	Moe Bhuyian, MS, PE Regional Manager	(909) 553-8402

6.11.7 Permit Requirements

The relevant permits required for traffic related construction or operational work activities are identified in Table 6.11-17.

6.11.8 References

Caltrans. 2006. 2006 Traffic Volumes on the California State Highway System, available at http://www.dot.ca.gov/hq/traffops/saferesr/trafdata.

TABLE 6.11-17
PERMITS REQUIRED

Responsible Agency	Permit/Approval	Schedule
City of Anaheim	Encroachment permits will be required to conduct construction activities such as trenching and pipe laying across or parallel City roadways.	Permits will be processed and approved prior to construction
City of Anaheim	Oversize, overweight extra-legal loads as defined in A.M.C. Chapter 14.52 and C.V.C. Division 15, Chapter 5, Article 6 will require permits from the City.	Prior to construction or as needed
California Department of Transportation	Oversize, overweight extra-legal loads will require permits from Caltrans.	Prior to construction

City of Anaheim. 2004. General Plan Circulation Element.

2007. Criteria for Preparation of Traffic Impact Studies.

County of Orange. 2005. General Plan Transportation Element.

Dowling Associates. 2003. Traffix 7.6.0115.

National Research Council, Transportation Research Board. 2000. Highway Capacity Manual 2000.

Orange County Transportation Authority (OCTA). 2007. Bus Book and Bus System Map.

Traffic Counts. 2007. National Data and Surveying Services.