8.10 Traffic and Transportation

8.10.1 Introduction

The City of Vernon (City) proposes to develop a power plant (VPP) on a 13.7-acre property at the southeast corner of Fruitland and Boyle avenues. The VPP will be a 914-megawatt (MW) net (at 65 degrees Fahrenheit [°F] with duct burners and evaporative cooling)/943-MW (gross) combined-cycle generating facility configured using three natural-gas-fired combustion turbines and one steam turbine. Two transmission line options are being considered to connect the plant to Southern California Edison's (SCE) Laguna Bell Substation. Natural gas for the facility will be delivered via approximately 2,300 feet of new 24-inch pipeline that will connect to Southern California Gas Company's (SoCalGas) existing gas transmission line (Line 765). Potable water for drinking, safety showers, fire protection, service water, and sanitary uses will be served from the City's potable water system through two 10-inch pipelines connecting to the City's water mains. One would connect in Boyle Avenue and the other in Fruitland Avenue. Recycled water for industrial purposes will be provided by the Central Basin Municipal Water District (CBMWD) through a nominal 16-inch carbon steel (or if using high density polyethylene [HDPE], a 20-inch) water line connecting to its recycled water line in Boyle Avenue, adjacent to the plant site. The blowdown will be sent to Sanitation Districts of Los Angeles County (LACSD) via a new 2,400-foot section of City sanitary sewer line.

This subsection assesses the traffic and transportation impacts associated with construction and operation of the power plant and linear facilities. The analysis primarily examines impacts on roadways expected during construction and operation. The main impacts are the addition of approximately 444 vehicles (including construction workers and trucks) during the peak construction period and lane/road closures due to gas pipeline, sewer line, and transmission line construction. Additional transportation factors examined in this section include pedestrian and bicyclist impacts, safety, goods movement, and any potential impacts to air, and rail transportation networks.

Descriptions of existing transportation facilities in proximity of the proposed project and an analysis of the proposed project's potential impacts on the existing transportation network are provided. The roadway analysis examines the worst-case scenario during construction activities (which would occur for a 2-month duration) to the local study area roadways. The operation of the proposed project would include relatively few permanent employees (20 employees, of which, 11 will be working during the day (11 employees, or 22 daily trips). Once these 22 trips are distributed on the street network, traffic impacts would be immeasurable due to the relatively low volume of traffic generated.

8.10.2 Laws, Ordinances, Regulations and Standards

Table 8.10-1 lists the federal, state, and local LORS that apply to traffic and transportation. Additional information concerning these LORS is presented below. The project will comply with all applicable LORS.

TABLE 8.10-1
LORS Applicable to Traffic and Transportation

LORS	Applicability	Conformance (Subsection)
Federal		
49 CFR 171-177	Govern the transportation of hazardous materials, including the marking of the transportation vehicles.	8.10.4.3.2, 8.10.7, and 8.10.8
14 CFR 77.13(2)(i)	Requires applicants to notify FAA of construction, within 20,000 feet of an airport, greater than an imaginary surface as defined by the FAA.	Not applicable
14 CFR 77.17	Requires applicant for construction within 20,000 feet of an airport to submit Form 7460-1 to the FAA.	Not applicable
14 CFR 77.21, 77.23, and 77.25	Outline the obstruction standards that the FAA uses to determine whether an air navigation conflict exists for structures within 3 nautical miles of an airport.	Not applicable
State		
California State Planning Law, Government Code Section 65302	Requires each city and county to adopt a General Plan consisting of seven mandatory elements to guide its physical development, including a circulation element.	8.10.3.2
California Vehicle Code, Section 31303	Requires transporters of hazardous materials to use the shortest route possible.	8.10.4.3.2.
California Vehicle Code, Section 32105	Requires transporters of inhalation hazardous materials or explosive materials to obtain a Hazardous Materials Transportation License.	8.10.4.3.2.
California Vehicle Code, Section 35100 et seq.	Specifies limits for vehicle width.	8.10.7 and 8.10.8
California Vehicle Code, Section 35250 et seq.	Specifies limits for vehicle height.	8.10.7 and 8.10.8
California Vehicle Code, Section 35400 et seq.	Specifies limits for vehicle length.	8.10.7 and 8.10.8

8.10.2.1 Federal

- Title 49, Code of Federal Regulations, Sections 171-177 govern the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles. The project will conform to this law by requiring that shippers of hazardous materials use the required markings on their transportation vehicles.
- Title 14, Code of Federal Regulations, Section 77.13(2)(i) requires an applicant to notify the Federal Aviation Administration (FAA) of the construction of structures within 20,000 feet of the nearest point of the nearest runway of an airport with at least one runway longer than 3,200 feet. No airports are within 20,000 feet of the VPP project site; therefore, this requirement is not applicable.
- Title 14, Code of Federal Regulations, Section 77.17 requires an applicant to submit a Notice of Proposed Construction or Alteration (FAA Form No. 7460-1) to the FAA for

construction within 20,000 feet of the nearest runway of an airport with at least one runway longer than 3,200 feet. This requirement is not applicable.

- Title 14, Code of Federal Regulations, Sections 77.21, 77.23, and 77.25 outline the criteria used by the FAA to determine whether an obstruction will create an air navigation conflict. Because of the VPP is more than 3 nautical miles from the nearest airport, these requirements are not applicable.

8.10.2.2 State

- California State Planning Law, Government Code Section 65302 requires each city and county to adopt a General Plan consisting of seven mandatory elements to guide its physical development. Section 65302(b) requires that a circulation element be one of the mandatory elements. The scope of a circulation element consists of the "general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan." The City has prepared a General Plan; therefore, no action is required by the Applicant.

- California Vehicle Code, Section 31303 requires that hazardous materials be transported on the state or interstate highway that offers the shortest overall transit time possible. The project will conform to this law by requiring shippers of hazardous materials to use the shortest route feasible to and from the project site.

- California Vehicle Code, Section 32105 requires that shippers of inhalation hazardous or explosive materials contact the California Highway Patrol (CHP) and apply for a Hazardous Material Transportation License. The project will conform to this law by requiring shippers of these types of material to obtain the Hazardous Material Transportation License.

- California Vehicle Code Sections 35100-35559 specify limits for vehicle width, height, length, and gross weight. Specifically, Section 35550 states: "The gross weight imposed upon the highway by the wheels on any one axle of a vehicle shall not exceed 20,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle, and resting upon the roadway, shall not exceed 10,500 pounds." The project will comply with these requirements by limiting vehicle sizes and gross weights to the specified limits or by obtaining a Single-Trip Transportation Permit for oversized or excessive loads over state highways, as described in the next paragraph.

- California Vehicle Code, Section 35780 requires a Single-Trip Transportation Permit to transport oversized or excessive loads over state highways. The permit can be acquired through the California Department of Transportation (Caltrans). This law is enforced by the CHP. The project will conform to this law by requiring that shippers obtain a Single-Trip Transportation Permit for oversized loads for each vehicle.

- Caltrans' Manual on Uniform Traffic Control Devices requires that 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. A traffic control plan will be prepared.

- The California Streets and Highways Code, Division 2, Chapter 5.5, Sections 1460-1470 require encroachment permits for projects involving excavation in city streets. This law is generally enforced at the local level. The project will comply with this requirement by obtaining an encroachment permit from the City of Vernon Community Services Department.

8.10.2.3 Local

- The City of Vernon General Plan Infrastructure Element contains the City's goals for the long-term maintenance and improvements of streets that will be necessary to support the development envisioned by the Land Use Policy Map of the General Plan. The element also contains a circulation element that outlines the "general location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other public utilities and facilities, all correlated with the land use element of the general plan" (City of Vernon, 2001). No applicable traffic and transportation policies were identified in the City of Vernon General Plan Infrastructure Element.

- The Vernon Police Department enforces all applicable sections of the California Vehicle Code regarding the size and weight of vehicles within the City. California Vehicle Code Section 35550, Maximum Weight on Single Axle or Wheels, and Section 35551, Computation of Allowable Gross Weights, are specifically used to determine violations of the Code. The Vernon Police Department has a process by which operators of oversized or overweight vehicles may obtain a temporary Hauling Permit allowing movement in the City.

- The City has not created local ordinances in accordance with California Vehicle Code Section 35700, Local Authority to Increase Weight Limits, or Section 35701, Local Authority to Decrease Weight Limits (Benudiz, 2001). Additionally, the Police Department is aware of California Vehicle Code Section 35704 that exempts vehicles used by a public utility, or its licensed contractor, from the weight and size limits during the construction, installation, or repair of a public utility.

- The project will comply with the Hauling Permit requirements by obtaining the permit from the Vernon Police Department before operating oversized vehicles within the City. The City also requires an encroachment permit and a traffic control plan for a project that requires excavation in City streets. A Transportation Management Plan (TMP) will be prepared before the new natural gas supply line, sewer pipeline, and transmission line are installed.

8.10.3 Affected Environment

The City of Vernon has large concentrations of industrial, manufacturing and warehouse land uses that generate large volumes of truck traffic, so the supporting transportation network needs to address both regional traffic (particularly trucks) and local uses. In addition, an extensive rail network is located within the City and serves as a terminus for the truck transportation element that delivers both raw materials used in the manufacturing process and the finished products to their markets.

8.10.3.1 Surrounding Roadway Network

The surrounding regional and local roadway networks are shown in Figures 8.10-1 and 8.10-2 respectively. There are no vehicle weight and load restrictions on the regional and local roadways in the project vicinity (Rodriguez, 2006).

Regional access to the City is provided via the Long Beach Freeway (I-710) that runs along the eastern border of the City and the San Bernardino Freeway (I-10) that runs to the north of Vernon in the City of Los Angeles. A direct ramp connection with I-710 is provided at the Atlantic Boulevard/Bandini Boulevard interchange. Additional freeway access is provided to the west by the Harbor Freeway (I-110) and the Vernon Avenue interchange. Access to I-10 is provided through interchanges at Alameda Street, Santa Fe Avenue, and Soto Street and access to I-5 is provided through an interchange at Soto Street; however, these ramps are outside the City of Vernon.

North-south arterial access to and through the City is provided via Alameda Street, Santa Fe Avenue, Soto Street, Downey Road, and Atlantic Boulevard. East-west arterial access is provided via Bandini Boulevard, District Boulevard and Slauson Avenue.

Local access is provided through a system of collector streets. These streets include Leonis Boulevard, Fruitland Avenue, Boyle Avenue, and Downey Road.

8.10.3.2 Existing Traffic Conditions

The VPP employees and construction workers commuting during the construction of the project may affect the roadways described below in the vicinity of the VPP:

- I-710 is an 8- to 10-lane north-south freeway from Long Beach to I-10. It passes east of the site, and the closest access is the interchange at Atlantic Boulevard/Bandini Boulevard.
- Bandini Boulevard is a four-lane east-west roadway providing direct access to I-710. Most of the cross streets have traffic signals; all others have stop signs.
- Leonis Boulevard, Fruitland Avenue, located north, and Slauson Avenue located to the south are the closest east-west roadways to the project site and provide access to Soto Street, Downey Road, District Boulevard, and Atlantic Boulevard.
- Soto Street, Boyle Avenue, Alcoa Avenue, and Downey Road are north-south roadways that intersect Leonis Boulevard, Fruitland Avenue, 54th Street, and Bandini Boulevard, and provide access to the project site.
- Employee parking will be provided onsite after completion of the project. Construction laydown and parking areas will be located on a separate 13.3 acres parcel south of the plant site. Construction access will either be from Fruitland Avenue through the plant entrance, or from Boyle Avenue through the secondary access, as shown on Figure 8.10-2. Materials and equipment will be delivered by truck and rail. An existing railroad spur is located on the south and west sides of the project site and is available for delivery of large or heavy equipment.

To assess the potential impacts of the VPP employees and construction workers, the following 12 intersections were evaluated:

1. Alcoa Avenue and Leonis Boulevard
2. Atlantic Boulevard and Bandini Boulevard
3. Atlantic Boulevard and District Boulevard
4. Boyle Avenue and Leonis Boulevard
5. Boyle Avenue and Fruitland Avenue
6. Boyle Avenue and Slauson Avenue
7. Downey Road and Bandini Boulevard
8. Downey Road and District Boulevard/ Leonis Boulevard
9. Downey Road and Fruitland Avenue
10. Downey Road and Slauson Avenue
11. Downey Road and Vernon Avenue
12. SB I-710 off-ramp and Bandini Boulevard

Existing morning and afternoon peak-hour turning movement volumes for the adjacent street system at these intersections and existing average daily traffic (ADT) volumes on selected roadway segments were collected from previous traffic studies performed in the vicinity of the project site by Austin-Foust Associates, Inc. (Austin-Foust, 2005). Existing morning and afternoon peak-hour turning movement counts are illustrated in Figures 8.10-3 and 8.10-4, respectively. A historical comparison of ADT volumes in the area indicates that traffic volumes have remained relatively consistent for the last 10 years.

Traffic conditions were evaluated using the Synchro software (Trafficware, Version 6). Synchro is a traffic operations analysis tool that incorporates analytical tools from the industry-standard 2000 Highway Capacity Manual (HCM) and the Intersection Capacity Utilization (ICU) method. The ICU calculation sums the amount of time required to serve all movements at saturation for a given cycle length and divides by that reference cycle length. This indicates how much reserve capacity is available or how much the intersection is overcapacity. The ICU does not predict delay, but it can be used to predict how often an intersection will experience congestion. ICU Level of Service (LOS) is identified through a letter designation, varying from LOS A to LOS H, as described in Table 8.10-2. For urban settings, LOS E is considered to be the limit of acceptable delay.

TABLE 8.10-2
Intersection Capacity Utilization (ICU) Level of Service (LOS) Ranges

LOS	ICU	Traffic Flow Characteristics
A	≤ 0.55	The intersection has no congestion. A cycle length of 80 seconds or less will move traffic efficiently. All traffic should be served on the first cycle. Traffic fluctuations, accidents, and lane closures can be handled with minimal congestion. This intersection can accommodate up to 40 percent more traffic on all movements.
B	0.55 < ICU ≤ 0.64	The intersection has very little congestion. Almost all traffic will be served on the first cycle. A cycle length of 90 seconds or less will move traffic efficiently. Traffic fluctuations, accidents, and lane closures can be handled with minimal congestion. This intersection can accommodate up to 30 percent more traffic on all movements
C	0.64 < ICU ≤ 0.73	The intersection has no major congestion. Most traffic should be served on the first cycle. A cycle length of 100 seconds or less will move traffic efficiently. Traffic fluctuations, accidents, and lane closures may cause some congestion. This intersection can accommodate up to 20 percent more traffic on all movements.

TABLE 8.10-2
Intersection Capacity Utilization (ICU) Level of Service (LOS) Ranges

LOS	ICU	Traffic Flow Characteristics
D	0.73 < ICU ≤ 0.82	The intersection normally has no congestion. The majority of traffic should be served on the first cycle. A cycle length of 110 seconds or less will move traffic efficiently. Traffic fluctuations, accidents, and lane closures can cause significant congestion. Sub optimal signal timings cause congestion. This intersection can accommodate up to 10 percent more traffic on all movements.
E	0.82 < ICU ≤ 0.91	The intersection is right on the verge of congested conditions. Many vehicles are not served on the first cycle. A cycle length of 120 seconds is required to move all traffic. Minor traffic fluctuations, accidents, and lane closures can cause significant congestion. Sub optimal signal timings can cause significant congestion. This intersection has less than 10 percent reserve capacity available.
F	0.91 < ICU ≤ 1.00	The intersection is over capacity and likely experiences congestion periods of 15 to 60 minutes per day. Residual queues at the end of green are common. A cycle length over 120 seconds is required to move all traffic. Minor traffic fluctuations, accidents, and lane closures can cause increased congestion. Sub optimal signal timings can cause increased congestion.
G	1.00 < ICU ≤ 1.09	The intersection is 10 percent to 20 percent over capacity and likely experiences congestion periods of 60 to 120 minutes per day. Long queues are common. A cycle length over 120 seconds is required to move all traffic. Motorists may be choosing alternate routes, if they exist, or making fewer trips during the peak hour. Signal timings can be used to “ration” capacity to the priority movements.
H	1.09 < ICU	The intersection is 20 percent over capacity and could experience congestion periods of over 120 minutes per day. Long queues are common. A cycle length over 120 seconds is required to move all traffic. Motorists may be choosing alternate routes, if they exist, or make fewer trips during the peak hour. Signal timings can be used to “ration” capacity to the priority movements.

Source: Trafficware, Intersection Capacity Utilization 2003
(The ICU 2003 is designed to be compatible with the HCM. The default saturated flow rates and volume adjustments are the same as those recommended by the HCM.)

ICU values for intersections in the vicinity of VPP are presented in Table 8.10-3. All intersections except Atlantic Boulevard/Bandini Boulevard are presently operating at an acceptable LOS during the morning and afternoon peak hours.

TABLE 8.10-3
ICU Summary—Existing Conditions

Intersection	Morning	Afternoon
Alcoa Avenue and Leonis Boulevard	0.41	0.32
Atlantic Boulevard and Bandini Boulevard	1.01*	1.13*
Atlantic Boulevard and District Boulevard	0.83	0.56
Boyle Avenue and Leonis Boulevard	0.60	0.65
Boyle Avenue and Fruitland Ave	0.57	0.65
Boyle Avenue and Slauson Avenue	0.85	0.91
Downey Road and Bandini Boulevard	0.65	0.64
Downey Road and District Boulevard/Leonis Boulevard	0.71	0.75

TABLE 8.10-3
ICU Summary—Existing Conditions

Intersection	Morning	Afternoon
Downey Road and Fruitland Avenue	0.73	0.62
Downey Road and Slauson Avenue	0.75	0.79
Downey Road and Vernon Avenue	0.67	0.81
SB I-710 off-ramp and Bandini Boulevard	0.50	0.52

* Exceeds acceptable LOS

Table 8.10-4 lists the existing average daily traffic, current capacities, volume-to-capacity (V/C) ratios, and LOS on the roadways that may be affected by the project during its operation as well as during construction (Austin-Foust, 2005; Southern California Association of Governments [SCAG], 2000). The arterial roadway capacity was assumed to be 8,000 vehicles/lane/day, assuming a capacity of 800 vehicles/hour/lane during the peak period (which accounts for the constraints at signalized intersections) and a 10 percent peak hour distribution. LOS D is considered to be the minimum acceptable LOS. All roadways except Downy Road between Vernon Avenue and Bandini Boulevard operate at an acceptable LOS.

8.10.3.3 Bus Routes

Figure 8.10-5 shows the bus routes in the vicinity of the VPP.

8.10.3.4 Bicycle Lanes/Paths

No bicycle lanes or paths are within the vicinity of the VPP.

8.10.3.5 Railway Routes

Figure 8.10-2 also shows the railway routes in the vicinity of the VPP. Rail spurs provide rail access to most parcels within the City, and main lines and branch lines converge on the City from all directions. An existing railroad spur is located on the south and west sides of the project site and is available for delivery of large or heavy equipment. The Union Pacific and Santa Fe Railroads have main lines within the City. The Union Pacific line, which follows Alameda Street, and the Union Pacific line, which follows Downey Road, provides direct connections to the port facilities in San Pedro. The Santa Fe line eventually connects with the harbor facilities after making connections in West Los Angeles. The Los Angeles Junction Railway Company owns and operates tracks near District Boulevard, on both east and west banks of the Los Angeles River.

8.10.3.6 Airports

Los Angeles International Airport (LAX) is approximately 17 miles southwest of the project site, and Burbank Airport (BUR) is approximately 18 miles northwest of the project site. Long Beach Airport (LGB) is approximately 19 miles south of the project site. John Wayne Airport (SNA) is approximately 40 miles southeast of the project site. Ontario International Airport (ONT) is approximately 42 miles east of the project site.

TABLE 8.10-4
Existing Roadway Daily Volume/Capacity Assessment

Jurisdiction	Roadway Segment	Between	Road Class	Median	No. of Lanes	Design Capacity	Current ADT	V/C	Current LOS	Percent Trucks
Vernon	Alcoa	Leonis and 50th	Collector	Undivided	2	12,000	3,444	0.29	A	13%
Vernon	Alcoa	46th and Leonis	Collector	Undivided	2	12,000	3,416	0.28	A	13%
Vernon	Bandini	Sierra and Downey	Arterial	Undivided	4	32,000	20,029	0.63	B	24%
Vernon	Boyle	Fruitland and 54th	Collector	Undivided	4	24,000	14,607	0.61	B	6%
Vernon	Boyle	50th and Fruitland	Collector	Undivided	4	24,000	12,585	0.52	A	6%
Vernon	Boyle	Leonis and 50th	Collector	Undivided	4	32,000	12,921	0.40	A	6%
Vernon	Downey	Leonis/District and 50th	Arterial	Undivided	4	32,000	17,141	0.54	A	8%
Vernon	Downey	Bandini and Vernon	Arterial	Undivided	4	32,000	31,670	0.99	E	5%
Vernon	Fruitland	Boyle and Alcoa	Arterial	Undivided	2	12,000	8,648	0.36	A	10%
Vernon	Fruitland	Alcoa and Downey	Arterial	Undivided	2	12,000	8,284	0.35	A	10%
Vernon	Leonis	Boyle and Alcoa	Arterial	Undivided	4	24,000	14,864	0.62	B	7%

Collector Road: A road whose principal function is to provide direct access between local roads and arterials. Collectors may provide access to adjacent properties; however, more restrictions are placed on on-street parking and driveway placement.

Arterial Road: A road whose principal function is to serve major through-traffic movements between major traffic generators. In rural areas, arterials link cities and larger towns. Arterials are often designated as statewide or interstate highways.

Level of Service Criteria for Urban Streets, Highway Capacity Model, Transportation Research Board, 2000:

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

8.10.3.7 Other Transportation Construction Projects

There are no other new, planned, or programmed transportation facilities in the vicinity of the VPP. A long-term planning effort is underway to improve the Long Beach Freeway (I-710), but no physical improvements will occur for at least the next several years. Additionally, the City of Vernon intends to extend 26th Street from Atlantic Boulevard to Bandini Boulevard, which will include the construction of a bridge over Atlantic Boulevard. This project will have minimal impacts on the VPP since 26th Street is a dead-end street at this time.

8.10.3.8 Public Safety

Railroad crossings are the roadway features in the vicinity of the project that could affect public safety. Figure 8.10-6 shows the railroad crossings that may have an increase in traffic from project construction or operation. The crossings at Bandini, Fruitland and Slauson near Downey have full crossing protection with gates and red signaling lights. Crossing at Leonis near Downey has signaling lights but no gate arms. The crossings at Slauson and Boyle are not protected. All six crossings are at grade. The tracks along Downey are used approximately twice each day, while all other tracks are used infrequently.

8.10.4 Environmental Analysis

The impact of the project is measured by the potential change in the LOS of surrounding roadway segments caused by the project. Traffic generated by the project is added to the existing volumes, and the resulting capacity impacts are assessed. This assessment was conducted for the construction phase of the VPP only.

Note that LOS analyses in this study are based on both average daily traffic volumes (for volume-capacity calculation) and peak hour intersection operations (for ICU calculations). In both cases, the LOS scale is comparable; LOS A refers to little or no congestion, while LOS E indicates significant delays and traffic volumes that are generally at or close to capacity.

8.10.4.1 Significance Criteria

The significance criteria have been developed using guidance provided in the California Environmental Quality Act (CEQA), Appendix G (Title 14 California Code of Regulations 15000 et seq.), which identifies significant impacts to be caused by a project if it results in an increase in traffic that is substantial relative to the amount of existing traffic and the capacity of the surrounding roadway network. In addition, impacts are assessed in accordance with the criteria used by the City of Vernon, the Los Angeles County Metropolitan Transportation Authority and SCAG. The more stringent criteria were used to determine project-related impacts. Impacts of the proposed project to transportation and circulation will be considered significant if the following criteria are met:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system
- Exceed, either individually or cumulatively, a LOS 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 or incompatible uses
- Result in inadequate emergency access
- Result in inadequate parking capacity
- Conflict with adopted policies, plans, or programs supporting alternative transportation

8.10.4.2 Summary of Construction Phase Impacts

During the peak construction, the project is expected to generate approximately 434 construction worker vehicle trips during the peak periods. To analyze the "worst-case" scenario, traffic impacts associated with peak period construction traffic were analyzed.

8.10.4.2.1 Trip Generation

Table 8.10-5 summarizes the anticipated peak construction workers by month. The construction effort (during construction of the power generating station and construction of the linears) is anticipated to require a maximum of 499 workers per day during the peak construction period of Month 16.

TABLE 8.10-5
Construction Worker and Truck Summary

	Generating Station		Forecast No. of Commuting Worker Vehicles (1.15 Occupancy)
Month No.	No. of Commuting Workers	No. of Trucks	
1	22	10	19
2	80	4	70
3	80	2	70
4	100	2	87
5	110	2	96
6	140	2	122
7	190	2	165
8	260	2	226
9	230	2	200
10	222	5	193
11	424	7	369
12	464	10	403
13	466	10	405
14	436	10	379
15	486	10	423
16	499	10	434
17	469	10	408
18	369	10	321

TABLE 8.10-5
Construction Worker and Truck Summary

Month No.	Generating Station		Forecast No. of Commuting Worker Vehicles (1.15 Occupancy)
	No. of Commuting Workers	No. of Trucks	
19	354	7	308
20	300	5	261
21	243	3	211
22	160	3	139
23	166	3	144
24	117	3	102

Austin-Foust has conducted vehicle occupancy counts for the Transportation Corridor Agency (TCA) (Austin-Foust, 2001). These studies indicate a typical vehicle occupancy rate of 1.15 persons per vehicle. To provide a "worst-case" analysis, it is assumed that most of the construction personnel will commute to four construction parking areas in private automobiles using a typical vehicle occupancy rate of 1.15 persons per vehicle. The City will encourage construction contractor's employees to organize carpools. It is reasonable to expect some level of carpool use given the high level of congestion in the region, and the travel time savings offered by carpool lanes (although there are no carpool lanes immediately adjacent to the project). The occupancy calculation results in a forecast of 434 construction worker vehicles entering and exiting the site during the peak construction period (499 workers/1.15 workers/vehicle = 434 vehicles). These 434 peak daily construction worker vehicles will arrive and depart during a single shift beginning at 7:00 a.m. and ending at 5:30 p.m., resulting in 868 daily vehicle trips. Should the construction schedule require a second shift, or around-the-clock construction, traffic impacts will be equal or less than those analyzed because the peak workforce commute could avoid travel during peak commute hours.

The morning and afternoon peak commute hours of the adjacent street system occur during the typical morning peak period of 7:00 a.m. to 9:00 a.m. and the afternoon peak period of 4:00 p.m. to 6:00 p.m., as indicated in the Congestion Management Program (CMP) Guidelines. Typically, other construction projects will be scheduled to occur between 7 a.m. and 7 p.m. on weekdays and 9 a.m. and 8 p.m. on weekends and holidays. Traffic attributable to the project construction will arrive to the site before the typical adjacent street system morning peak periods begins, but will depart the site during the afternoon peak period; however, the construction of the VPP will not affect the typical adjacent street system morning and afternoon peak ICU values.

The average and maximum daily truck traffic at the site during construction are estimated to be approximately 7 and 10 trucks per day, respectively. Truck traffic will consist of material deliveries, shuttles to three laydown areas, and work vehicles spread throughout the workday with few deliveries during the peak hour. Therefore, their contribution to overall traffic impacts will be negligible.

8.10.4.2.2 Trip Distribution

Distribution of project-generated traffic was derived from observation of existing travel patterns in the vicinity of the project site.

A three-step process was used to estimate the project-related traffic volumes at various points on the transportation system adjacent to the generating station and thereby establishing the magnitude and extent of traffic impacts. First, the amount of traffic that will be generated during construction was determined. Second, the construction traffic was distributed geographically to appropriate roadways through the commercial and industrial areas. Finally, the trips were assigned to specific roadways and the traffic increases were evaluated on a route-by-route basis.

Trip distribution for construction project traffic is illustrated in Figure 8.10-7. Approximately 80 percent of all construction trips are assumed to use Bandini Boulevard and Leonis/District Boulevard to and from I-710 via the Atlantic/Bandini interchange. One-half of these trips are assumed to go north, and the other half will travel south on I-710. The remaining 20 percent of construction trips are assumed to travel south and west away from the project site and eventually leave the City after about a mile. These routes are entirely within the City's jurisdiction and any traffic impacts created and mitigation required would be within the City's control.

8.10.4.2.3 Existing Plus Project Traffic Impacts

Roadways in the vicinity of the project will be affected by the project's construction-related traffic. However, project-related construction commuter traffic will contribute less than 2 percent of the daily traffic volume on most of these roadways.

The LOS analysis for roadway segments in the study area was performed by adding the project's ADT volumes during construction to the existing ADT volumes, as presented in the Table 8.10-6. In general, the addition of the forecasted peak project traffic (868 daily vehicles) is not anticipated to result in a significant change to operations of the roadway throughout the day.

Downy Road between Vernon Avenue and Bandini Boulevard is an exception, because this segment already operates at unacceptable LOSs. Because this roadway is over capacity, anything that adds a significant number of trips may be considered an impact. The project's contribution to this segment will be less than 1 percent of daily trips. Additionally, VPP construction traffic will arrive to the site prior to morning peak traffic hours when roadways generally carry lower traffic volumes and thus will only contribute to the afternoon peak period traffic.

As a more focused assessment of the impacts on the surrounding roadways, an ICU analysis was conducted for the 10 intersections that will be most directly affected by project construction traffic.

The traffic volumes on the adjacent street system during the project's peak arrival and departure times were compared with the traffic volumes on the adjacent street system during the typical morning and afternoon peak periods. The comparison overstates the potential impacts since the project's peak arrival times will only coincide with the typical afternoon peak period and will be temporary in duration.

TABLE 8.10-6
Projected Daily Levels of Service During Construction

Jurisdiction	Impacted Roadway Segments On	Between	Design Capacity	Existing			Construction		
				ADT	V/C	LOS	ADT	V/C	LOS
Vernon	Alcoa	Leonis & 50th	12,000	3,444	0.29	A	3,444	0.29	A
Vernon	Alcoa	46th & Leonis	12,000	3,416	0.28	A	3,416	0.28	A
Vernon	Bandini	Sierra & Downey	32,000	20,029	0.63	B	20,029	0.63	B
Vernon	Boyle	Fruitland & 54th	24,000	14,607	0.61	B	14,607	0.61	B
Vernon	Boyle	50th & Fruitland	24,000	12,585	0.52	A	12,931	0.54	A
Vernon	Boyle	Leonis & 50th	32,000	12,921	0.40	A	13,267	0.41	A
Vernon	Downey	Leonis/District & 50th	32,000	17,141	0.54	A	17,141	0.54	A
Vernon	Downey	Bandini & Vernon	32,000	31,670	0.99	E	31,851	0.99	E
Vernon	Fruitland	Boyle & Alcoa	12,000	8,648	0.72	C	8,735	0.73	D
Vernon	Fruitland	Alcoa & Downey	12,000	8,284	0.69	C	8,371	0.70	C
Vernon	Leonis	Boyle & Alcoa	24,000	14,864	0.62	B	15,210	0.63	B

Level of Service Criteria for Urban Streets, Highway Capacity Model, Transportation Research Board, 2000:

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

Construction period intersection volumes were generated by adding the project peak intersection volumes to the existing peak intersection volumes. Table 8.10-7 presents the change in ICU values with the addition of project peak construction traffic during the typical morning and afternoon peak hours. In general, the findings are that the construction of the VPP will not result in intersections ICUs that are significantly greater than those for the existing typical morning and afternoon peak hours for the street system. Therefore, the construction of the VPP is not expected to have significant impacts on roadway intersections in most cases.

TABLE 8.10-7
ICU Summary—Existing Plus Project Conditions

	Existing		Construction	
Intersection	**AM**	**PM**	**AM**	**PM**
Alcoa Avenue & Leonis Boulevard	0.41	0.32	0.46	0.36
Atlantic Boulevard & Bandini Boulevard	1.01*	1.13*	1.03*	1.15*
Atlantic Boulevard & District Boulevard	0.83	0.56	0.93	0.56
Boyle Avenue & Leonis Boulevard	0.60	0.65	0.76	0.65
Boyle Avenue & Fruitland Ave	0.57	0.65	0.64	0.65
Boyle Avenue & Slauson Avenue	0.85	0.91	0.88	0.91
Downey Road & Bandini Boulevard	0.65	0.64	0.65	0.64
Downey Road & District Boulevard/Leonis Boulevard	0.71	0.75	0.76	0.80
Downey Road & Fruitland Avenue	0.73	0.62	0.75	0.67
Downey Road & Slauson Avenue	0.75	0.79	0.75	0.79
Downey Road & Vernon Avenue	0.67	0.81	0.72	0.86
SB I-710 off-ramp & Bandini Boulevard	0.50	0.52	0.50	0.56

* Exceeds acceptable LOS

The Atlantic Boulevard/Bandini Boulevard intersection is the exception, because this intersection already operates at an unacceptable LOS F during morning peak period and LOS G during evening peak period. Since this intersection is over capacity, anything that adds a significant number of trips to a congested intersection may be considered an impact. The project's contribution to this intersection's peak-hour traffic (all movements) of more than 8,500 vehicles will be up to 262 trips (i.e., about 3 percent). These additional evening peak-hour trips could have a significant impact on Atlantic Boulevard/Bandini Boulevard intersection if construction traffic coincides with peak-hour traffic. This effect will be temporary, lasting not more than 6 months.

8.10.4.2.4 Natural Gas and Sewer Pipelines Construction Impacts

Natural gas will be delivered to the site via a 24-inch-diameter pipeline. This 2,300-foot-long pipeline will extend from the plant site east along Fruitland Avenue and north on Alcoa Avenue. The new gas pipeline will then proceed east on 50th Street to Downey Road where it will connect to SoCalGas Line 765. The gas line construction will require partial closure of Fruitland Avenue, Alcoa Avenue and 50th Street and may require partial closure of the

Fruitland Avenue/Alcoa Avenue, Alcoa Avenue/50th Street and 50th Street/Downey Road intersections. Construction is expected to require approximately 4 months. An 18-inch, 2,400-foot-long sewer line (for disposal of industrial wastewater and sanitary sewer) will be connected to LACSD via the City's sanitary sewer system through existing sewer line located in Slauson Avenue. A sanitary sewer line would exit the plant site from the southeast corner, follow along the railroad right-of-way to Alcoa Avenue, turning south on Alcoa Avenue. The line would be 21 inches in diameter to the point where it connects to LACSD's 24-inch line at Alcoa Avenue and Slauson Avenue. The sewer line construction will require partial closure of Alcoa Avenue and Alcoa Avenue/Slauson Avenue intersection. Construction on Alcoa Avenue is expected to require approximately 3 months.

Fruitland Avenue, Alcoa Avenue and 50th Street are used by local users and have low utilization. At this time, it is not certain whether the construction of natural gas and sewer pipelines will occur near the shoulder or in the middle of the roadway. During the pipeline construction, both directions of travel must be maintained. Since the pipeline construction may require closure of approximately 14 to16 feet of roadway, it will be necessary to implement a traffic control plan during construction. The plan must maintain a minimum 20 feet wide clear travel way (10 feet for each direction) to allow traffic movements. Advanced warning signs will be incorporated in the traffic control plan. Based on the construction duration, the existence of alternative routes, and the implementation of a traffic control plan that will include measures to address the temporary partial road closure, the pipeline construction will not result in significant impacts to traffic. The traffic control plan must be prepared in accordance with Caltrans Manual of Traffic Controls for Construction and Maintenance Work Zones and Work Area Traffic Control Handbook (the WATCH Manual). The construction work schedule is assumed to begin at 7:00 a.m. and end at 5:30 p.m. on weekdays. Workers will arrive at the site before 7:00 a.m. and leave shortly after 5:30 p.m. Therefore, the trips associated with construction workers will only affect the traffic conditions during the afternoon commuter peak periods (4:00 p.m. to 6:00 p.m.) on a typical weekday. It is assumed that any construction equipment and trucks would arrive to the site prior to the morning peak-hour or during off-peak periods and would be removed from the site to an off-site storage area by 5:30 p.m. Construction along affected roadways shall be conducted at night or between morning and afternoon peak hours if impacts on traffic flow need to be alleviated.

8.10.4.2.5 Water Pipeline Construction Impacts

The recycled water will be delivered to VPP through a Central Basin Municipal Water District recycled water pipeline located in Boyle Avenue, adjacent to the site. Similarly, potable water for the plant will be supplied by two City water mains located in Boyle and Fruitland avenues. Since the recycled and potable water pipelines will be connected to facilities adjacent to the project site, construction of these linears will not impact surrounding roads beyond the immediate site area.

8.10.4.2.6 Transmission Line Construction Impacts

Two transmission line routes are being considered. Both would connect the power plant to the SCE Laguna Bell Substation. The routes are called: River Route and Randolph Route. Each is described below.

River Route

The River Route exits the site to the east, crosses Alcoa Avenue, and approaches the LADWP right-of-way. It continues by crossing the LADWP right-of-way and turning north on an easement on the east side of the LADWP right-of-way. It then proceeds east between the south side of the Leonis substation and the north side of the Fire Station to the west side of Downey Road. Once on Downey the route turns north to the Leonis Boulevard and District Boulevard junction. The route crosses Downey Avenue to the northeastern corner of District Boulevard and continues on the north side of District Boulevard, turning northeast (toward the Los Angeles River). The route then crosses the Los Angeles River and railroad facilities, and turns south along the Los Angeles River to Randolph street junction on a right-of-way currently occupied by two 66-kV circuits serving Vernon. Finally, the route turns east, crosses the I-710 freeway, and proceeds to the Laguna Bell Substation along Randolph Street for a total distance of approximately 4.8 miles. Construction of the River Route is expected to require approximately 7 months.

The transmission line would traverse mostly through industrial/commercial areas. The residential area to the south of this segment of Randolph Street is separated by the railroad tracks. Some of the roadways crossed by the transmission line carry heavy industrial truck traffic. There are a number of driveways that will require access at all times during construction. There are no significant pedestrian or bicycle activities in the area.

The construction work schedule is assumed to begin at 7:00 a.m. and end at 5:30 p.m. during the weekdays. Workers and construction equipment will arrive at the site before 7:00 a.m. and leave shortly after 5:30 p.m. The construction area would be cleared off at the end of the day's work. Therefore, the trips associated with construction workers will affect the traffic conditions only during the afternoon commuter peak period (4:00 p.m. to 6:00 p.m.) on a typical weekday. Construction along affected roadways shall be conducted at night or between morning and afternoon peak hours if impacts on traffic flow need to be alleviated.

Roadways and intersections along the alternative transmission line route would be affected due to lane closures during actual construction. However, traffic impacts at intersections would be site-specific and temporary in duration. No more than 500 feet of roadway length is usually affected at a time, and the affected areas shift as the construction proceeds. Impacts of this kind are mitigated on an as-needed basis through implementation of appropriate traffic control plans. The specific impacts (as best known at this time) on the project roadway segments and mitigation measures during construction are described below.

The transmission line will cross Alcoa Avenue and Fruitland Avenue near the power plant. Additionally, there are a total of 9 intersections along the transmission line route that may be affected. These intersections are:

- 50th Street and Downey Road
- Leonis Boulevard and Downey Road
- District Boulevard and Maywood Avenue
- District Boulevard and Everett Avenue
- District Boulevard and Loma Vista Avenue
- District Boulevard and Corona Avenue
- Randolph Street and Eastern Avenue
- Randolph Street and Scott Way
- Randolph Street and Matt Avenue

The transmission line will be constructed aboveground. However, if portions of the transmission line are constructed underground, both directions of travel must be maintained along the affected roadways. Since the transmission line construction would require a cross-section of 10 to 15 feet to be closed, there is a potential for traffic impacts; therefore, it would be necessary to implement a traffic control plan during construction of this segment. The plan must maintain a minimum 20 feet wide clear travel way (10 feet for each direction) to allow traffic movements.

To mitigate the potential impacts, the traffic control plan must be prepared in accordance with Caltrans Manual of Traffic Controls for Construction and Maintenance Work Zones and Work Area Traffic Control Handbook (The WATCH Manual). After the construction is complete, no permanent alterations to the area roadways are proposed. Implementation of an appropriate traffic control plan for the affected area for the short duration of construction in that area is adequate to minimize the traffic impacts to an acceptable level.

Randolph Route

The Randolph Route exits the site east, crosses Alcoa Avenue and continues south along the eastside of Alcoa on a right- of-way currently occupied by the Laguna Bell-Leonis-Vernon 66-kV circuit. The route continues east, crosses the 230-kV LADWP transmission line, and proceeds to Laguna Bell along the Randolph Street corridor on a right-of-way currently occupied by the Laguna Bell-Container-Pulpgen-Vernon and the Laguna Bell-Leonis-Vernon circuits. Finally, the route crosses the Los Angeles River, the LADWP 230-kV circuits, and the I-710 freeway, and proceeds to Laguna Bell for a total distance of approximately 4.4 miles. Construction of the Randolph Route is expected to require approximately 4 to 6 months.

If the 66-kV distribution lines need to be undergrounded to allow the 230-kV line to be constructed aboveground, traffic on Randolph Street would be affected during construction. A single-lane closure may be necessary during construction of the alternative transmission line or undergrounding of the 66-kV distribution lines. The construction work schedule is assumed to begin at 7:00 a.m. and end at 5:30 p.m. during the weekdays. Workers and construction equipment will arrive at the site before 7:00 a.m. and leave shortly after 5:30 p.m. The construction area would be cleared off at the end of the day's work. Therefore, the trips associated with construction workers will affect the traffic conditions only during the afternoon commuter peak period (4:00 p.m. to 6:00 p.m.) on a typical weekday. Construction along affected roadways shall be conducted at night or between morning and afternoon peak hours if impacts on traffic flow need to be alleviated.

Roadways and intersections along the alternative transmission line route would be affected due to lane closures during actual construction. However, traffic impacts at intersections would be site-specific and temporary in duration. Impacts of this kind are mitigated on an as-needed basis through implementation of appropriate traffic control plans. The specific impacts (as best known at this time) on the project roadway segments and mitigation measures during construction are described below.

Lane closures on Randolph Street would be necessary during construction of the Randolph Route. Between Maywood Avenue and west of the Los Angeles River, Randolph Street is a separated road on each side of the railroad tracks. Each side has two-way, two-lane roadway (one lane in each direction). East of the Los Angeles River, Randolph Street is a

two-way, four-lane road (two lanes in each direction). There is on-street parking along the curbs in most sections.

The intersections in the vicinity of the transmission line construction project will have only short-term site-specific traffic control impacts due to potential partial closure of travel lanes during construction. No more than 500 feet of roadway length is usually affected at a time, and the affected areas shift as the construction proceeds.

There are a total of 37 intersections along the alternative transmission line route that may be affected. These intersections are:

- Randolph Street and Hollenbeck Street
- Randolph Street and Bissell Street
- Randolph Street and Bissell Place
- Randolph Street and Malburg Way
- Randolph Street and Maywood Avenue
- Randolph Street and Loma Vista Avenue
- Randolph Street and Orchard Avenue
- Randolph Street and Carmelita Avenue
- Randolph Street and Bear Avenue
- Randolph Street and Corona Avenue
- Randolph Street and Riverside Avenue
- Randolph Street and Gifford Avenue
- Randolph Street and Otis Avenue
- Randolph Street and Fishburn Avenue
- Randolph Street and Flora Avenue
- Randolph Street and Pine Avenue
- Randolph Street and Clarkson Avenue
- Randolph Street and Atlantic Boulevard
- Randolph Street and Woodward Avenue
- Randolph Street and King Avenue
- Randolph Street and Prospect Avenue
- Randolph Street and Mayflower Avenue
- Randolph Street and Vinevale Avenue
- Randolph Street and Heliotrope Avenue
- Randolph Street and Palm Avenue
- Randolph Street and Woodlawn Avenue
- Randolph Street and Wilcox Avenue
- Randolph Street and Alamo Avenue
- Randolph Street and Pala Avenue
- Randolph Street and Walker Avenue
- Randolph Street and Home Avenue
- Randolph Street and Casitas Avenue
- Randolph Street and District Boulevard
- Randolph Street and River Drive
- Randolph Street and Eastern Avenue
- Randolph Street and Scott Way
- Randolph Street and Matt Avenue

If the Randolph Route is constructed, both directions of travel must be maintained. Since the transmission line construction would require a cross-section of 10 to 15 feet to be closed, there is a potential for traffic impacts; therefore, it would be necessary to implement a traffic control plan during construction of this segment. The plan must maintain a minimum 20 feet wide clear travel way (10 feet for each direction) to allow traffic movements.

To mitigate the potential impacts, the traffic control plan must be prepared in accordance with Caltrans Manual of Traffic Controls for Construction and Maintenance Work Zones and Work Area Traffic Control Handbook (The WATCH Manual). After the construction is complete, no permanent alterations to the area roadways are proposed. Implementation of an appropriate traffic control plan for the affected area for the short duration of construction in that area is adequate to minimize the traffic impacts to an acceptable level.

8.10.4.2.7 Onsite Circulation and Parking

Construction laydown and parking areas will be located on a separate 13.3 acre parcel south of the plant site. . Ample maneuvering space is available onsite for heavy trucks. Employee parking will be provided onsite after completion of the project.

8.10.4.3 Summary of Operation Phase Impacts

The operational phase of the proposed project would generate approximately 11 additional employee commutes or 22 daily trips. A quantitative traffic analysis was not conducted for the long-term operations phase since it would generate a low volume of peak hour trips (11 morning and 11 evening peak hour employee trips). This would not have a measurable impact on the study area intersections.

8.10.4.3.1 Project Operations

During operations of the VPP, it is estimated that 20 employees will work onsite. Eleven employees will work during the regular operation hours (8 a.m.-5 p.m.). An additional 9 employees will work 12-hour rotating shifts, with three employees per shift, and 3 as relief. Based on this schedule, it is estimated that there will be 11 inbound vehicular trips during the morning peak commuter hour and 11 outbound vehicular trips during the afternoon commuter hour

The addition of traffic associated with project operations during the peak commuter morning and afternoon hours will not result in an ICU value significantly higher than without the project. Therefore, the operation of the VPP will not have significant impacts on roadway intersections.

8.10.4.3.2 Transport of Hazardous Materials

Transport of large quantities of hazardous materials to the project site is not anticipated until the end of project construction. Table 8.10-8 summarizes expected truck trips during operations, including delivery of hazardous materials and removal of wastes. There will be a maximum of three truck trips per day, with an average of two or fewer truck trips per day to the project site. During full operation, aqueous ammonia (19 percent) will be delivered to the project site by tanker truck about every 2 to 3 days (for a single truck) or once a week (for a double truck).. For further information on the management of hazardous materials and waste products, see Sections 8.12 and 8.13, respectively.

TABLE 8.10-8
Estimated Truck Traffic at the Facility During Operation

Delivery Type	Number and Occurrence of Trucks
Aqueous ammonia	2 to 4 per week
Sulfuric acid	2 per month
Cleaning chemicals	1 per month
Trash pickup	1 per week
Lubricating oil	4 per year
Lubricating oil filters	4 per year
Laboratory analysis waste	4 per year
Oily rags	4 per year
Oil absorbents	4 per year
Water treatment chemicals	4 per week

The aqueous ammonia and other hazardous materials will be delivered by truck along public roads. The preferred transportation route is from I-710, exit at Bandini Boulevard. Travel west along Bandini Boulevard, south on Downey Street, west on Fruitland Avenue, and finally south on Boyle Avenue to the VPP plant site. The truck will pass over railroad tracks 9 times along this route and cross over the Los Angeles River once. An alternative ammonia transportation route is from I-5, exit at Atlantic Boulevard. Travel south along Atlantic Boulevard, west on Slauson Avenue, and finally north on Boyle Avenue to VPP. The truck will pass over railroad tracks 5 times along this route and cross over the Los Angeles River once.

Aqueous ammonia, which is considered to pose inhalation hazards, is subject to California Vehicle Codes 31303 and 32105, which require that hazardous materials be transported along the shortest route possible and that transporters obtain a Hazardous Materials Transportation License from the CHP. Deliveries of hazardous materials will occur over prearranged routes in compliance with applicable LORS. Traffic impacts related to the transport of hazardous materials to the VPP site will not be significant.

8.10.4.3.3 Public Safety

The project is located in an industrial and commercial zone with a residential area to the east in the City of Maywood. Construction-related traffic is not expected to cause safety impacts because it will not be routed through residential areas. The anticipated peak daily increase in vehicle trips from commuting during construction is 868 (434 round trips). During operation, the increase in the number of daily commuter trips will be 22 (11 round trips). As discussed in the analysis of traffic (Section 8.10.2.3), this increase in traffic will not reduce the LOS of roadways or intersections; therefore it will not significantly increase the congestion-related safety effects.

The only other anticipated increase in traffic during project operation will be up to three truck trips per day for the project, including delivery of hazardous materials and removal of wastes. Aqueous ammonia tanker truck delivery will occur approximately two to four times every week (depending on the size of the truck). As stated in Subsection 8.10.2 and 8.10.4.3.2, the aqueous ammonia transporter will be required to obtain a Hazardous Material Transportation License in accordance with California Vehicle Code Section 32105 and will be required to follow appropriate safety procedures at railroad crossings.

8.10.5 Cumulative Impacts

There should not be significant cumulative impacts resulting from the proposed VPP in combination with other proposed projects in the area, because traffic impacts resulting from the power project are temporary and less than significant (construction) or negligible (operation). There are no other large planned industrial developments in the general project area (i.e., within the City of Vernon) being considered. Traffic volumes generated by the VPP during the operations phase will be low so that there should be no cumulative significant environmental impacts.

8.10.6 Mitigation Measures

8.10.6.1 Construction Impacts

Construction of the proposed project will add a moderate amount of traffic to local roadways during the construction period. In most cases, the increase in delay is minimal because traffic will be added to major movements. Because, with certain exceptions discussed below, there are no significant impacts to local roads, no mitigation measures are required. However, if significant impacts occur during construction (i.e., if the construction worker schedule is greatly expanded), trip reduction strategies will be implemented to stagger shift start and end times so that impacts during peak hours are not worsened.

An exception is Atlantic Boulevard/Bandini Boulevard intersection, where significant impacts may occur and for potential lane or intersection closures related to transmission line construction. To mitigate impacts at Atlantic and Bandini, a TMP will be prepared to address potential mitigation measures.

The TMP will be used to address potential traffic issues during construction, timing of heavy equipment and building material deliveries, potential street or lane closures, signing, lighting, and traffic control device placement. Damage to a roadway opened during construction will be restored to or near its preexisting condition. The construction contractor will work with the local agency's engineer to prepare a schedule and mitigation plan for the roadways along the construction routes.

Traffic impacts that require mitigation measures are the impacts resulting from partial roadway closures during the natural gas, sewer pipeline and transmission line construction. The following mitigation measures are anticipated to reduce those impacts to an insignificant level:

- Develop a TMP for the entire roadway network where the natural gas, sewer pipeline and transmission line are to be constructed.
- Incorporate detour signs in the TMP for construction.
- In the TMP, address the need to minimize the total length of roadway under construction at any one time to avoid having long stretches of roadway out of service but with no construction in progress.
- Conduct construction along affected roadways at night or between morning and afternoon peak hours where permitted.
- Maintain a minimum of 20 feet wide clear travel way (10 feet for each direction) to allow traffic movements.

8.10.6.2 Operations Impacts

The operations-related and maintenance-related traffic associated with the project is considered to be minimal; freeways and local roadways have adequate capacity to accommodate operations-related traffic. Consequently, no operations-related mitigation measures are required.

8.10.7 Agencies and Agency Contacts

Table 8.10-9 lists the agency contacts related to traffic and transportation.

TABLE 8.10-9
Agency Contacts

Issue	Contact	Title	Telephone
Single-Trip Transportation Permit for Oversized Loads	California Department of Transportation Transportation Permits 464 West 4th St., MS 618 San Bernardino, CA 92401-1400	Staff	(909) 383-4637
Hazardous Material Transportation License	California Highway Patrol Accounting Section (HM Licensing Program) P.O. Box 942902 Sacramento, CA 94298-2902	Staff	(916) 327-5039
Encroachment Permits for Construction in Roadways	Kevin Wilson City of Vernon Department of Community Service 4305 Santa Fe Vernon, CA 90058	Director, Community Services and Water	(323) 583-8811 ext. 245
Oversized Vehicle Procedure	Sol Benudiz City of Vernon Police Department 4305 Santa Fe Vernon, CA 90058	Chief	(323) 587-5171 ext. 114
Los Angeles Junction Railway Company	Marion Alexander Los Angeles Junction Railway Company 4433 Exchange Avenue Los Angeles, CA 90058	Trainmaster	(323) 277-2008 (323) 228-6311
Union Pacific Railroad	Joan Peble Union Pacific Railroad 1400 Douglas Street, Mail Stop 1690 Omaha, NE 68179	Real Estate Manager for Los Angeles County	(402) 544-8536

8.10.8 Required Permits and Permitting Schedule

The California Streets and Highways Code, Division 2, Chapter 5.5, Sections 1460-1470, mandates that an encroachment permit must be obtained from the City Public Works Department or Engineering Department if there is an opening or excavation in roadways. The Los Angeles Junction Railway does not require a permit for the transmission line crossing of the railroad tracks unless the contractor needs to access or conduct construction on the Los Angeles Junction's premises. However, the contractor needs to notify the Los Angeles Junction that construction will take place near the railroad tracks. The Union Pacific Railroad requires a permit for the overhead wireline crossings. Table 8.10-10 presents the encroachment and other permits required for construction of the proposed pipeline, as well as the schedule for obtaining the permits. The project will comply with these requirements.

TABLE 8.10-10
Permit Schedule for Traffic and Transportation

Permit	Schedule
Caltrans single-trip transportation permit to transport oversized or excessive loads over state highway	Obtain when necessary; 4-hour processing time
City of Vernon Encroachment Permit for Construction in Roadways	One week prior to construction
City of Vernon Temporary Hauling Permit	At least 24 hours before operating in City streets
Los Angeles Junction Railway Company construction activities notification	One week prior to construction
Union Pacific Railroad Overhead Wireline Crossing	Agreement processing time is approximately 30 to 45 days; a minimum of 48 hours of advance notice after execution of an agreement will be required prior to entry

8.10.9 References

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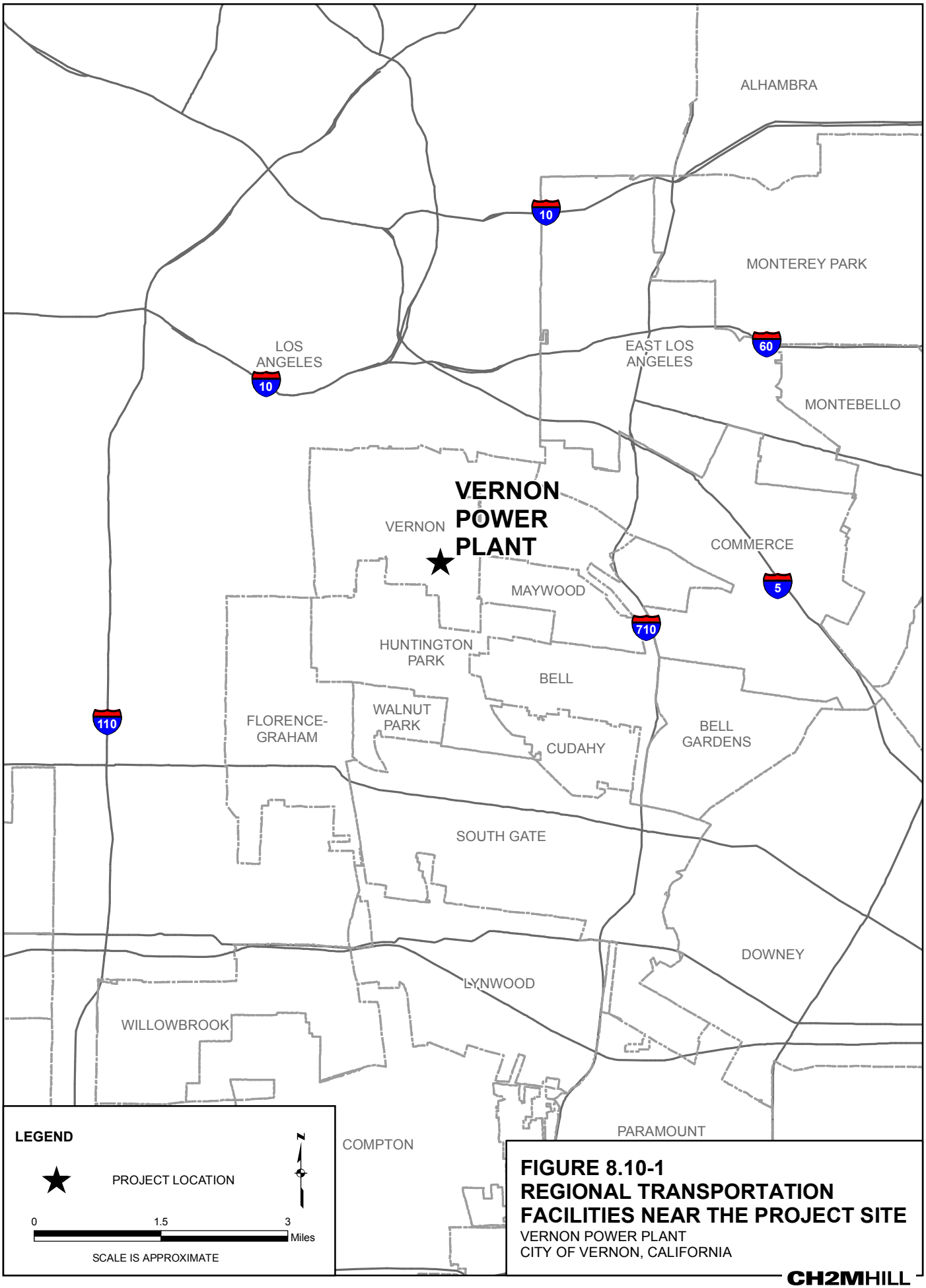

FIGURE 8.10-1
REGIONAL TRANSPORTATION FACILITIES NEAR THE PROJECT SITE
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA

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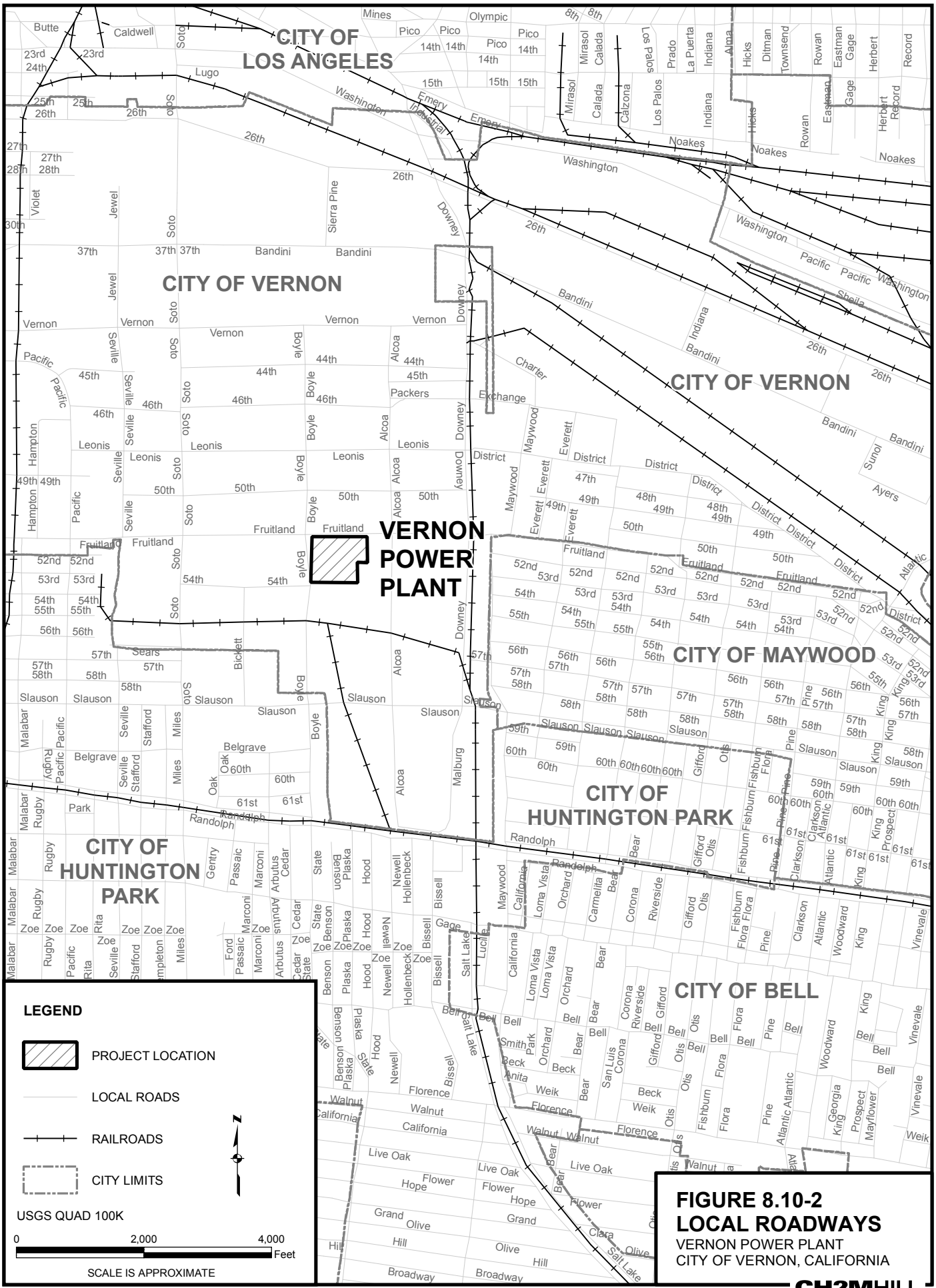

FIGURE 8.10-2
LOCAL ROADWAYS
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA

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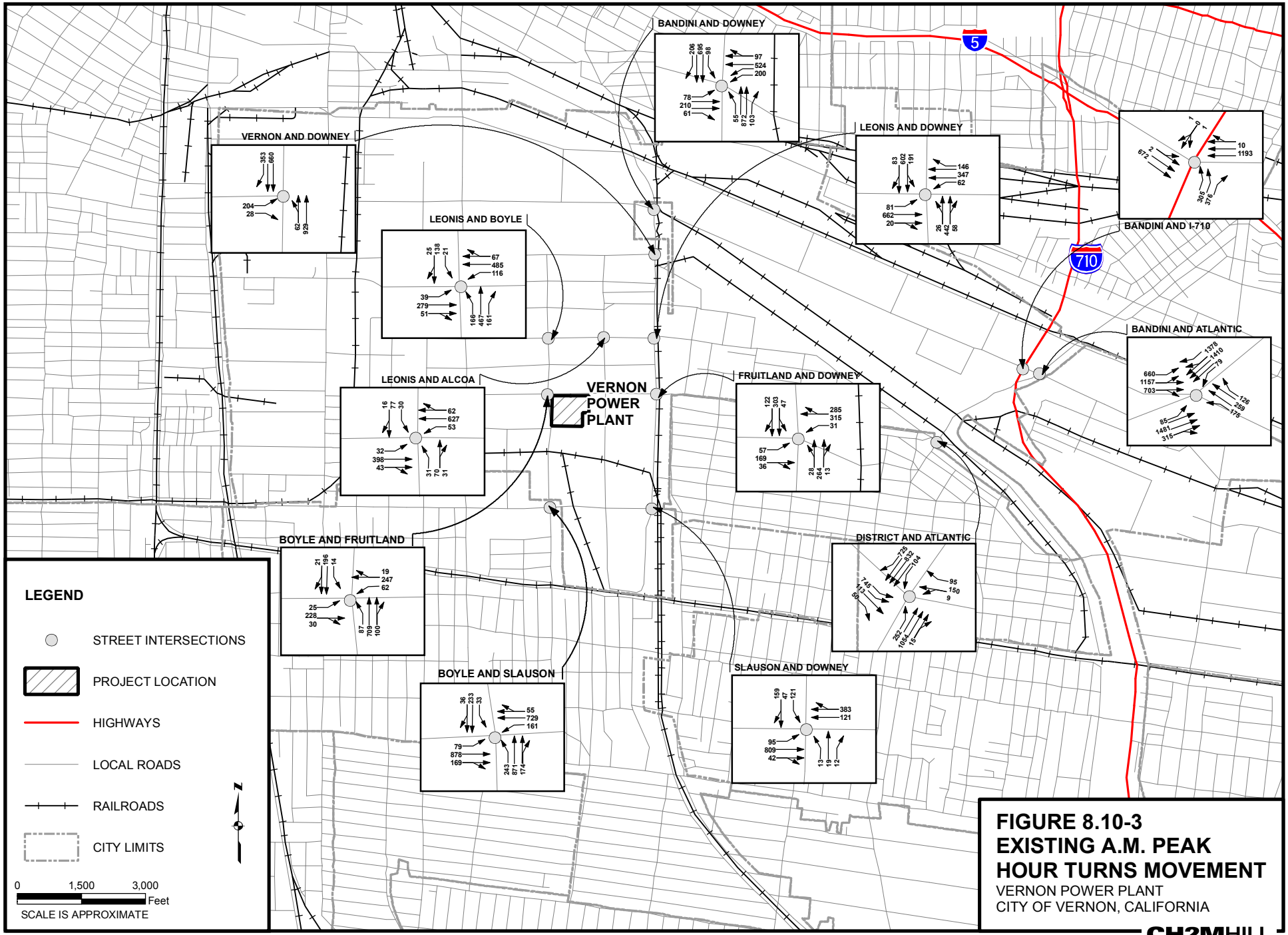

FIGURE 8.10-3
EXISTING A.M. PEAK HOUR TURNS MOVEMENT
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA

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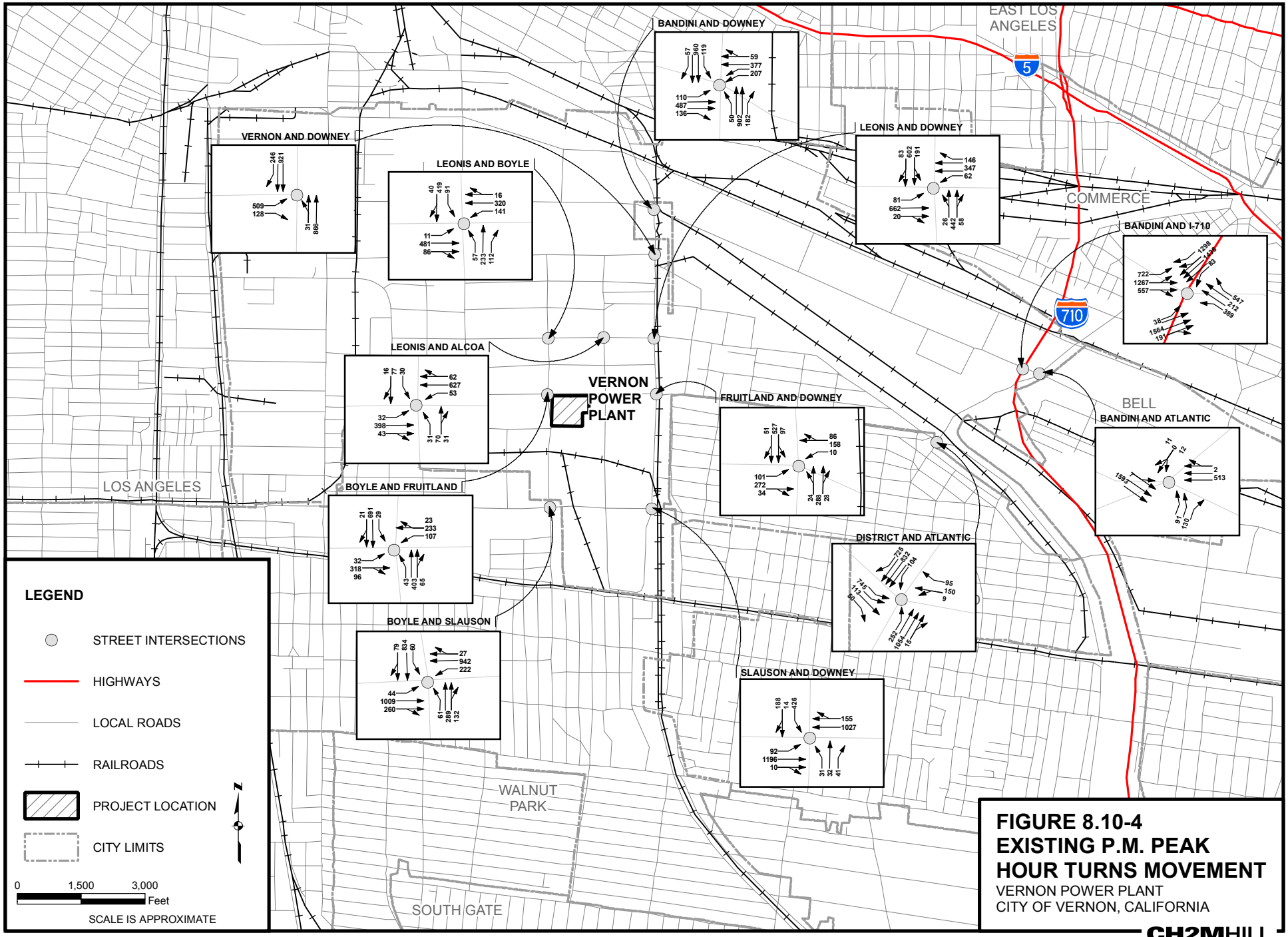

FIGURE 8.10-4
EXISTING P.M. PEAK HOUR TURNS MOVEMENT
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA

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RDD \\LOKI\PROJECTS\RDDGIS\VERNON\MXDS\VPP3\VPP3_FIG8_10-4_EXISTINGPM_PEAKTURNHOURS.MXD 5/31/2006 13:25:42

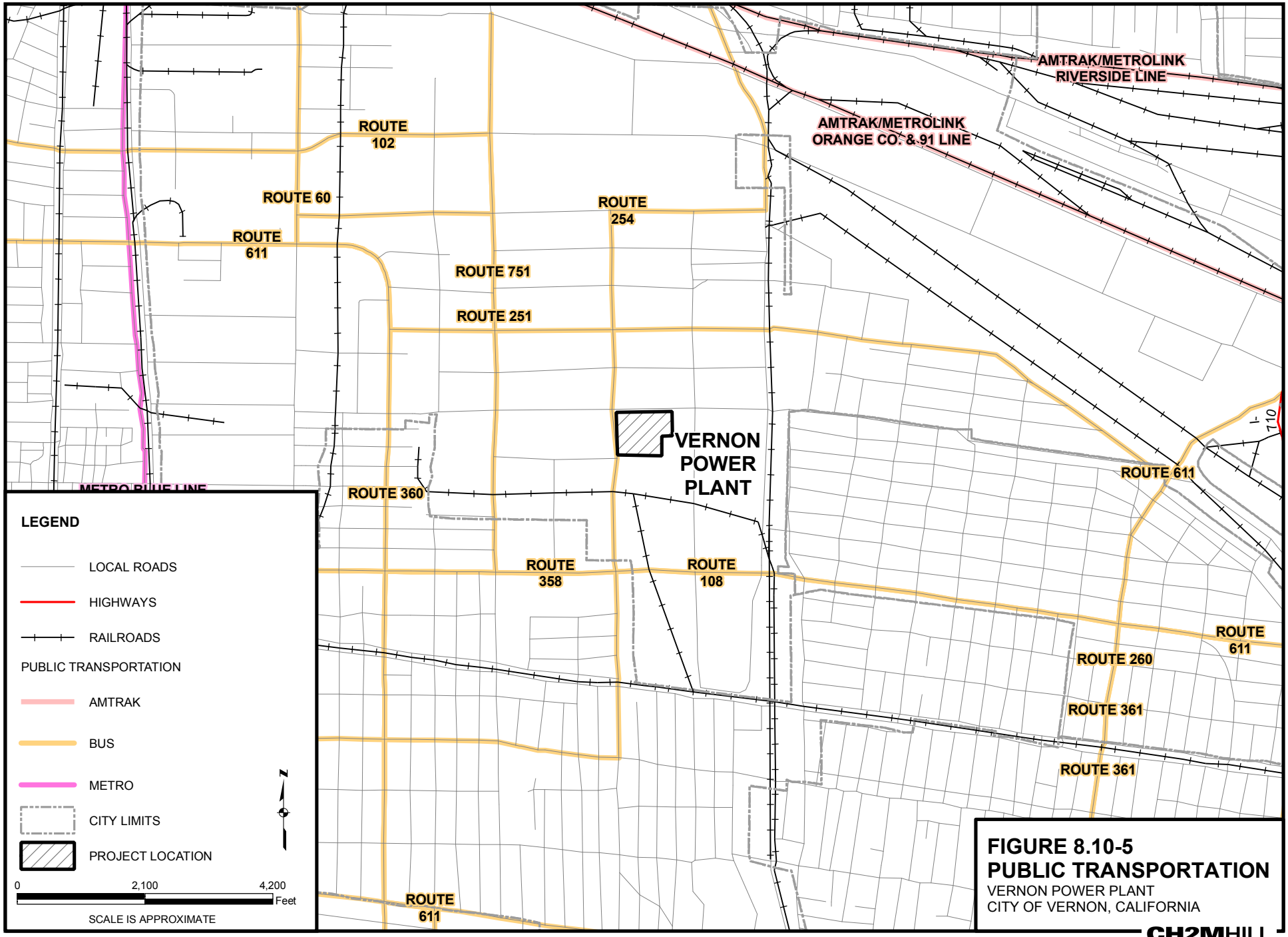

FIGURE 8.10-5
PUBLIC TRANSPORTATION
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA

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RDD \\LOKI\PROJECTS\RDDGIS\VERNON\MXDS\VPP3\VPP3_FIG8_10-5_BUS_ROUTES.MXD 6/7/2006 12:49:01

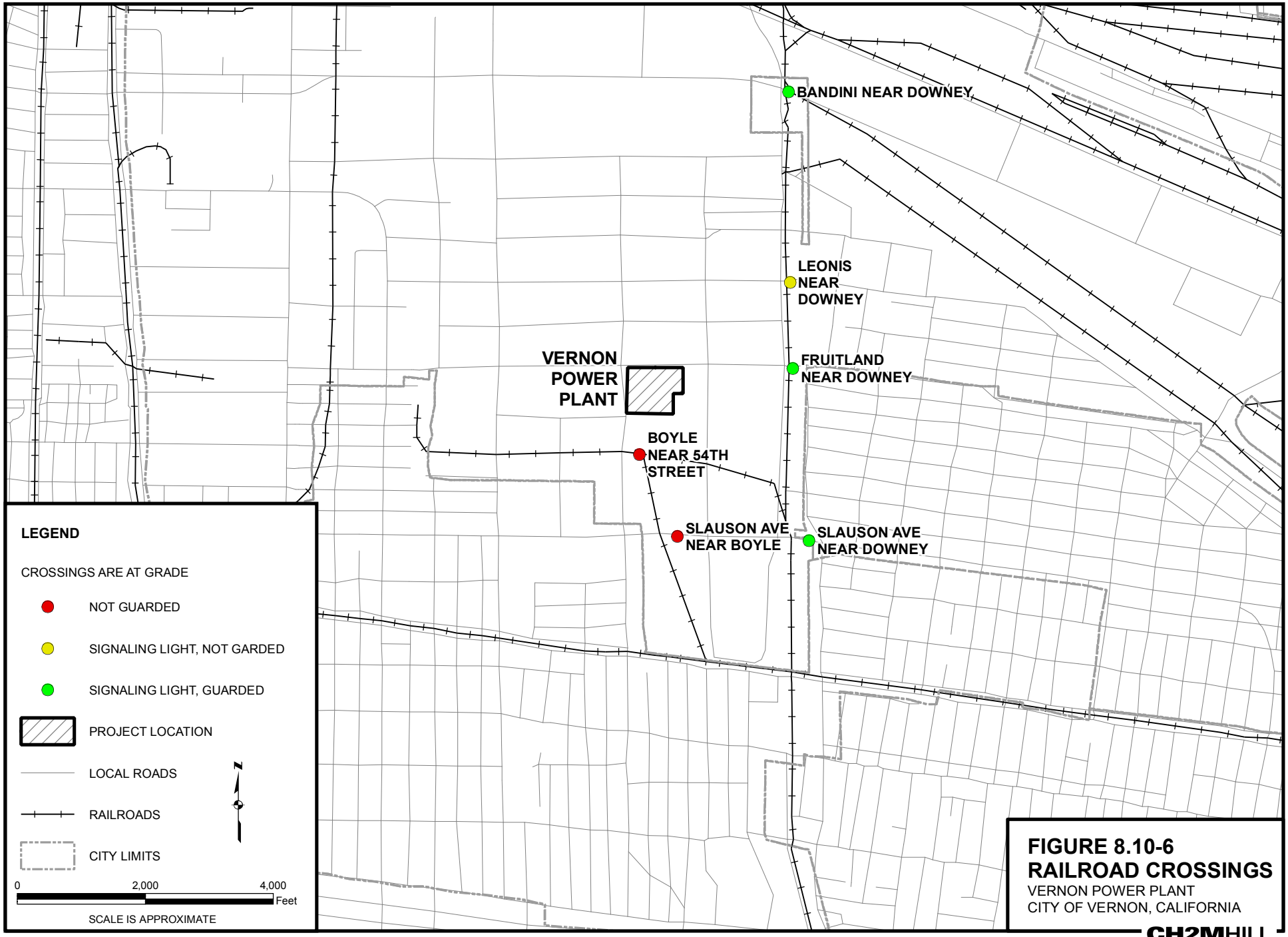

FIGURE 8.10-6
RAILROAD CROSSINGS
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA

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RDD \\LOKI\PROJECTS\RDDGIS\VERNON\MXDS\VPP3\VPP3_FIG8_10-6_RR_CROSSING.MXD 5/17/2006 15:45:34

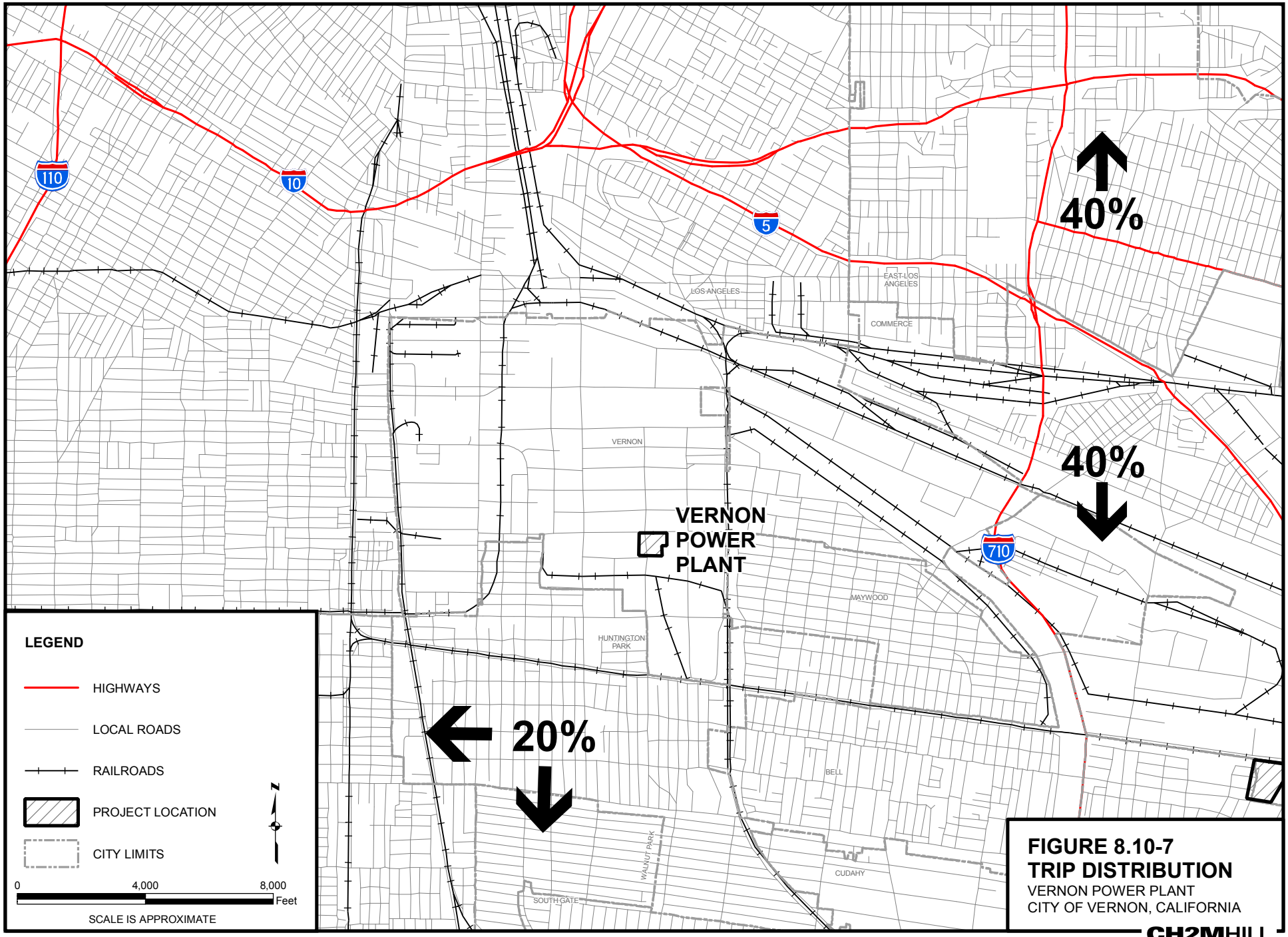

FIGURE 8.10-7
TRIP DISTRIBUTION
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA

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RDD \\LOKI\PROJECTS\RDDGIS\VERNON\MXDS\VPP3\VPP3_FIG8_10-7_TRIP_DISTRIBUTION.MXD 5/17/2006 15:39:24