Draft Environmental Impact Report
for

Foothill Trunk Line Unit 3 Project

Los Angeles Department of Water and Power
Environmental Services
111 North Hope Street, Room 1044
Los Angeles, California 90012

March 2014

TABLE OF CONTENTS

Foothill Trunk Line Unit 3 Draft EIR

Appendices

Figures

Tables

Page

Tables (cont.)

EXECUTIVE SUMMARY

ES.1 Introduction

The Los Angeles Department of Water and Power (LADWP) has prepared this Draft Environmental Impact Report (Draft EIR) to provide the public and responsible agencies information about the potential adverse effects on the local and regional environment associated with the replacement of a portion of the existing Foothill Trunk Line (FTL). This Draft EIR has been prepared pursuant to the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the *CEQA Guidelines* in the California Code of Regulations, Title 14, Division 6, Chapter 3. As Lead Agency, LADWP may use this Draft EIR to approve the proposed project, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts.

This document is being circulated to local, state and federal agencies, and to interested organizations and individuals who may wish to review and comment on the Draft EIR. Publication of this Draft EIR marks the beginning of a 45-day public review period, during which written comments may be directed to the address below. During the 45-day review period, LADWP will hold a formal public hearing on the Draft EIR. Inquiries about the proposed project should be directed to:

Ms. Irene Paul
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ES.2 Background

The FTL is the major transmission pipeline that transports water from the Van Norman Pump Station No. 2 (VNPS No.2) in San Gabriel Valley to the 1449-foot system. The 1449-foot system is named for the elevation of its source 1,499 feet above mean sea level (amsl). The 1449-foot system is the network of reservoirs, pipelines, and pump stations that supplies water to the Sunland/Tujunga Service Area in northern Los Angeles County. The FTL, which consists of welded steel pipe and riveted steel pipe, was installed in the 1930's. After many decades of service, the FTL has suffered deterioration, due to corrosivity of the soil, and leaks. Portions of the FTL from the VNPS No. 2 to northwest of Hubbard Street were replaced with a 60-inch prestressed concrete and cylinder pipe (PCCP) between 1982 and 1986, under the Foothill Trunk Line Unit 1 and Unit 2 projects. The pipeline section approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard to Terra Bella Street has not been replaced. The Foothill Trunk Line Unit 3 (proposed project or FTL U3), would replace that section of the line. The remaining segment of FTL, between Hubbard Street and Terra Bella Street consists of 24-inch, 26-inch, 36-inch diameter welded steel pipe and 30-inch diameter riveted steel pipe. The pipes are corroded and undersized which affects reliability of the pipeline in relation to the entire 1449-foot system.

The 1449-foot system is supplied via the Foothill Trunk Line, Olden Trunk Line, the Maclay Tanks, Maclay Reservoir, and Green Verdugo Reservoir. Sheldon Pump Station located in the Sunland Valley area of Los Angeles County was constructed in 1956 and provides additional supply to the 1449-foot system. In 2004 the Sheldon Pump Station was identified for replacement. Proposed upgrades have since been deferred because Sheldon Pump Station cannot provide enough supply to the 1449-foot system in the event of a FTL failure. The proposed project would increase functionality and improve gravity flow of the main pipeline connection between the VNPS No.2 and the 1449-foot system, which would reduce dependence on the Sheldon Pump Station.

The Maclay Reservoir Outlet Line was installed in 1917 to transport water from the Maclay Reservoir to the 1449-foot system. The pipeline currently runs through private property and has a history of leaks. Due to the lack of access and instability, the outlet line would be decommissioned as part of the proposed project.

ES.3 Project Purpose and Objectives

The FTL from Hubbard Street to Terra Bella Street was installed in the early 1930s and LADWP wishes to replace aging infrastructure that have a high potential to leak or blowout. Proposed project modifications would upsize the pipeline to allow for more stabilized flow throughout the FTL and would increase LADWP’s ability to reliably transport water throughout the Sunland/Tujunga Service Area. Additionally, replacing the aging infrastructure would improve water quality throughout the system. This pipeline upgrade would allow for increased capacity reserved for use if/when other portions of the system are out of service for maintenance or during an emergency event. In addition, if the FTL goes out of service, Sheldon Pump Station alone cannot provide water in full capacity to the 1449-foot system.

Implementation of the proposed project (FTL U3) would also allow for the Maclay Reservoir Outlet Line to be decommissioned. The Maclay Reservoir Outlet Line has approximately 4,330 feet of 36-inch riveted steel pipe that was installed in 1917; 4,080 feet of 24-inch riveted steel pipe that was installed in 1917; 2,230 feet of 24-inch welded steel pipe that was installed between 1962 and 1968; 1,970 feet of 22-inch riveted steel pipe that was installed in 1917; and 1,130 feet of 36-inch welded steel pipe that was installed in 1969. The pipeline has a history of leaks requiring frequent maintenance as well as compromising reliable water supply.

The objectives of the proposed project are to:

- Improve system reliability and redundancy to minimize FTL future failures, allowing the LADWP to continue delivering safe and reliable water source to the Tujunga/Sunland Service Areas;
- Reduce potential impacts to water quality within the FTL system by replacing the aging FTL U3; and
- Prompt replacement of aging infrastructure within City owned right-of-way (ROW).

ES.4 Project Description

The proposed project would replace approximately 16,600 linear feet of existing 24-inch, 26-inch, 36-inch diameter welded steel pipe and 30-inch diameter riveted steel pipe with a 54-inch diameter welded steel pipe within Foothill Boulevard. The FTL U3 is located in the City of Los Angeles, specifically, within the community planning areas of Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon**.** The FTL U3 would be developed adjacent to two 72-inch, one 12-inch, and one 48-inch Los Angeles County Flood Control District (LACFCD) storm drains, all located within the Foothill Boulevard public right-of-way (ROW) between Hubbard Street and Gridley Street. The alignment would cross over the LACFCD flood channel (Pacoima Wash) along Foothill Boulevard between Brand Boulevard and Arroyo Street. The FTL U3 would also cross under a segment of the SR-118 along Foothill Boulevard between Vaughn Street and Paxton Street. All utility crossings are located on construction drawings.

The FTL U3 would include pipe jacking at five locations, six connections, and ten valves. The distribution system connects at six locations. These locations are along Foothill Boulevard at Maclay Street, Arroyo Street, Vaughn Street, Filmore Street, Van Nuys Boulevard, and Terra Bella Street. The initial construction concept included pipe jacking at four locations. LADWP conducted a draft traffic impact assessment which identified elements of the project design that could reduce traffic impacts in the project vicinity. As a result, the revised construction design includes a fifth pipe jacking location at the intersection of Arroyo Street to provide for better turn movements from Arroyo Street onto Foothill Boulevard, ultimately resulting in better ingress and egress to and from the area. Additionally, several intersection construction work areas were reduced in size to provide increased turning lanes onto local roadways.

Most of the FTL U3 would be located underground and would not be visible. The only segment that would perhaps be visible is where the FTL U3 crosses the Pacoima Wash. At this location the pipeline would be supported by reinforced concrete piers on either side of the wash so as not to disturb the channel. Minor appurtenant facilities such as an air valve and a rectifier station cabinet would also be constructed aboveground within the public ROW as part of the proposed project.

The FTL U3 would connect to the 60-inch prestressed concrete cylinder pipe section of Foothill Trunk Line along Foothill Boulevard northwest of Hubbard Street, a 30-inch riveted steel pipe along Terra Bella Street southwest of Foothill Boulevard, and to a 36-inch modified prestressed concrete cylinder pipe along Foothill Boulevard southeast of Terra Bella Street.

ES.5 Analysis of Alternatives

CEQA requires that a Draft EIR evaluate a reasonable range of alternatives to the proposed project that could attain the basic objectives of the project, but would avoid or reduce significant environmental effects of the project. A number of alternatives were considered early in project inception, but were rejected from further consideration because they did not meet the basic objectives of the project and were not feasible to construct. These Alternatives included the following: alignment adjacent to the Interstate 210 (I-210) and the tunneling method through the length of Foothill Boulevard. Chapter 6, Analysis of Alternatives, of this EIR considers four proposed project alternatives, the No Project Alternative, Alternative 1 – Foothill Boulevard and Dronfield Avenue; Alternative 2- Foothill Boulevard and Glenoaks Boulevard; and Alternative 3 – Hubbard Street, Truman Street, San Fernando Road and Osborne Street.

- Alternative 1 begins at Hubbard Street and Foothill Boulevard, continues east on Foothill Boulevard, turns south on Vaughn Street and then turns east on Dronfield Avenue. The alignment continues east on Dronfield Avenue and connects at Terra Bella Street. The total length is approximately 17,150 feet and 15,500 feet would be installed using the open trench method.
- Alternative 2 begins at Hubbard Street and Foothill Boulevard, continues east on Foothill Boulevard, turns south on Vaughn Street and then turns east on Glenoaks Boulevard (which parallels Foothill Boulevard). The alignment continues east on Glenoaks Boulevard, turns north on Osborne Street and then connects at approximately 1000 feet north of Osborne Street and Glenoaks Boulevard. The total length is approximately 22,000 feet, with 20,350 feet installed using the open trench method.
- Alternative 3 begins at Hubbard Street and Foothill Boulevard, continues south on Hubbard Street, turns east on Truman Street, which becomes San Fernando Road, turns north on Osborne Street, and connects at approximately 1,000 feet north of Glenoaks Boulevard. The total length is approximately 32,000 feet, with 28,350 feet installed using the open trench method.

As required under CEQA Guidelines Section 15126.6(e)(2), Chapter 6, Analysis of Alternatives, of the Draft EIR includes a discussion of the environmental impacts of a No Project Alternative. Chapter 6 includes a discussion of the Project Alternatives. The Draft EIR concludes that the proposed project is the environmentally superior alternative and the preferred alternative because it would have the least environmental impacts and meets each of the proposed project objectives.

ES.6 Areas of Controversy

During the public comment period and during scoping session held for the proposed project, concerns were raised regarding the following potential adverse impacts: cultural resources, air quality, construction-related traffic and transportation, and required permits. These concerns have been addressed in Chapter 3 of this Draft EIR.

ES.7 Summary of Impacts

Table ES-1, presented below, summarizes the impacts and mitigation measures identified for the proposed project. The environmental impacts are analyzed and mitigation measures are presented in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures. The level of significance for each impact was determined using significance criteria (thresholds) developed for each category of impacts; these criteria are presented in the appropriate sections of Chapter 3. Significant impacts are those adverse environmental impacts that meet or exceed the significance thresholds; less than significant impacts would not exceed the thresholds. **Table ES-1** indicates the measures that will be implemented to avoid, minimize, or otherwise reduce significant impacts to a less-than-significant level.

The Draft EIR finds that the proposed project would result in temporary significant and unavoidable impacts after mitigation from construction noise and traffic impacts (including significant cumulative traffic impacts). All other potentially significant impacts identified would be reduced to less than significant levels with proposed mitigation measures.

TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Cultural and Paleontological Resources		
Impact 3.4-1: The project would cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5.	**CUL-1:** Prior to earth moving activities, a qualified archaeologist meeting the Secretary of the Interior's qualifications standards for archaeology shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of cultural resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources. The applicant shall ensure that construction personnel are made available for and attend the training and shall retain documentation demonstrating attendance. **CUL-2:** In the event of the discovery of historical or archaeological materials, the contractor shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by the qualified archaeologist. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone or concrete footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. After cessation of excavation, the contractor shall immediately contact LADWP. The contractor shall not resume work until authorization by LADWP is received. LADWP shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials and recommend appropriate treatment measures prior to resuming any construction-related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA, preservation in place is the preferred manner of mitigation. In the event preservation in place is demonstrated to be infeasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist in consultation with the City. LADWP shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curational facility. The report(s) documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to LADWP and to the South Central Coastal Information Center.	Less-Than-Significant Impact.
Impact 3.4-2: Implementation of the proposed project could adversely affect paleontological resources.	**CUL-3:** In the event fossils are exposed during earth moving, the monitor in coordination with LADWP, shall halt or redirect construction activities to other work areas so the find can be evaluated. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and	Less-Than-Significant Impact.

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	photographs shall also be filed at the repository. Following the completion of the above tasks, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to LADWP and to the Natural History Museum of Los Angeles County.	
Impact 3.4-3: Implementation of the proposed project could result in the disturbance of human remains.	**CUL-4:** If human remains are uncovered during project construction, LADWP shall immediately halt work, contact the Los Angeles County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the Native American Heritage Commission (NAHC) will be notified, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). The NAHC shall designate a Most Likely Descendent (MLD) for the remains per Public Resources Code 5097.98, and the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	Less-Than-Significant Impact.
Geology, Soils, and Seismicity		
Impact 3.5-2: Implementation of the proposed project would expose people or structures to substantial adverse effects involving strong seismic ground shaking.	**GEO-1:** Prior to the approval of construction plans for the project, LADWP shall complete a design-level geotechnical investigation. The geotechnical evaluation shall identify soil properties needed for the development of site-specific design criteria. Recommendations made as a result of these investigations to protect new structures from seismic hazards shall become incorporated into the proposed project.	Less-Than-Significant Impact.
Impact 3.5-4: Implementation of the proposed project would create substantial risks to life or property as a result of soil erosion, unstable soils, or expansive soils.	**GEO-2:** LADWP shall comply with all the National Pollutant Discharge Elimination System (NPDES) permitting requirements for the City of Los Angeles. Requirements may include but are not limited to Best Management Practices (BMPs) such as soil erosion control measures.	Less-Than-Significant Impact.
Hazards and Hazardous Materials		
Impact 3.7-1: Implementation of the proposed project would not routinely transport, use, dispose of, release, or emit hazardous materials or waste, nor is it located on a hazardous materials site.	**HAZ-1:** If potentially contaminated soils (odorous, stained) are discovered during ground disturbing activities, construction shall stop until the soils are properly evaluated for contamination and if necessary removed and disposed of in accordance with local, state, and federal regulations.	Less-Than-Significant Impact.

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.7-2: Implementation of the proposed project would increase the risk of exposure to the environment, workers, and the public may increase the risk of exposure to the environment, workers, and the public.	**HAZ-2:** The construction crew shall be required to implement BMPs for handling hazardous materials during the project. The use of construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following: • Follow manufacturers' recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction; • Avoid overtopping construction equipment fuel tanks; • During routine maintenance of construction equipment, properly contain and remove grease and oils; and • Properly dispose of discarded containers of fuels and other chemicals.	Less-Than-Significant Impact.
Impact 3.7-3: Implementation of the proposed project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of three elementary schools.	Implement Mitigation Measure **HAZ-1** and **HAZ-2.**	Less-Than-Significant Impact.
Impact 3.7-4: Implementation of the proposed project would interfere with an adopted emergency response plan or emergency evacuation plan.	Implement Mitigation Measures **TR-1** and **TR-2.**	Less-Than-Significant Impact.
Hydrology and Water Quality		
Impact 3.8-1: Construction activities could promote soil erosion or result in chemical spills that would pollute storm water runoff and adversely affect local receiving water quality.	**HYDRO-1:** LADWP shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for the construction activities associated with the proposed project. The SWPPP shall be maintained at the construction site for the entire duration of construction. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of storm water discharge and implement BMPs to reduce pollutants in storm water discharges during construction and post construction. The SWPPP shall include the following: • Source identification; • Site map; • Description of construction materials, practices, and equipment storage and maintenance; • List of pollutants with potential to contact storm water; • Estimate of the construction site area and percent impervious area; • Erosion and sedimentation control practices, including soils stabilization, revegetation, and runoff control to limit increases in sediment in storm water runoff, such as detention basins, fiber rolls, silt fences, check dams, geofabrics, drainage swales, and sandbag dikes; • Using structural controls such as gravel bags or fiber roles retain sediment to avoid draining toward receiving waters;	Less-Than-Significant Impact.

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	• Proposed construction dewatering plans; • List of provisions to eliminate or reduce discharge of materials to storm water; • Description of waste management practices; • Spill prevention and control measures; • Maintenance and training practices; and • Sampling and analysis strategy and sampling schedule for discharges from construction activities. • Stabilize slopes of stockpiled sand/soil to eliminate or reduce sediment dispersal from construction site to surrounding areas and surface waters; • Store all reserve fuel supplies only within the confines of a designated construction staging area; • The use or storage of petroleum-powered equipment shall be accomplished in a manner to prevent the potential release of petroleum materials into receiving waters; • Refueling will occur only within designated fueling zones that are equipped with secondary containment and spill clean-up equipment. **HYDRO-2:** LADWP shall incorporate into contract specifications the requirements that: • The construction staging areas shall be developed to contain surface runoff so that contaminants such as oil, grease, and fuel products do not drain towards receiving waters. • If heavy-duty construction equipment is stored overnight at the construction staging areas, drip pans or plastic lines with edges shall be placed beneath the machinery engine block and hydraulic systems to prevent any leakage from entering runoff or receiving waters. • Vehicle fueling shall be conducted in a manner to protect impacting the Pacoima Wash and all fueling activities shall include the uses of drip pans and spill kits. • Any spills shall be cleaned up immediately and disposed of off-site. • Spill kits capable of containing hazardous spills will be stored on-site. Required materials shall be specified in contractor specifications.	
Impact 3.8-3: The proposed project could substantially alter the existing drainage pattern of the project area through the alteration of the course of a stream or river that would result in substantial erosion or siltation and/or flooding on or off-site.	Implement Mitigation Measures **HYDRO-1** and **HYDRO-2.**	Less-Than-Significant Impact.

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.8-4: The proposed project would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial sources of polluted runoff.	Implement Mitigation Measures **HYDRO-1** and **HYDRO-2.**	Less-Than-Significant Impact.
Impact 3.8-5: The proposed project would be constructed within the 100-year floodplain and could impede or redirect flood flows.	**HYDRO-3**: Prior to the initiation of any construction activities, LADWP shall coordinate with the Los Angeles County Flood Control District (LACFCD) to ensure the portions of the proposed project located within the 100-year flood plan would conform to LACFCD structural development requirements.	Less-Than-Significant Impact.
Noise		
Impact 3.10-1: Construction activity would expose people to noise levels in excess of standards established in the local general plan or noise ordinance.	**NOISE-1:** All construction equipment shall be properly maintained and equipped with mufflers and other suitable noise attenuation devices.	Significant and Unavoidable Impact.
	NOISE-2: The Los Angeles Department of Water and Power (LADWP) or the grading and construction contractors shall endeavor to use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment). Noisy equipment shall be used only when necessary and shall be switched off when not in use.	
	NOISE-3: To ensure vehicle staging areas are located away from noise-sensitive receptors, the LADWP or the construction contractor shall ensure that large construction equipment is stored at the off-site staging area, when feasible. Construction equipment that must remain on-site shall be stored within the construction work area.	
	NOISE-4: Prior to any construction activities, the public shall be notified of the location and dates of construction. Residents shall be kept informed of any changes to the construction schedule.	
	NOISE-5: A dedicated public liaison from the Los Angeles Department of Water and Power for the proposed project shall be identified who will be responsible for addressing public concerns about construction activities, including excessive noise. The public liaison shall determine the cause of the concern (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures to address the concern.	
	NOISE-6: The LADWP and the construction contractor shall develop a Noise Mitigation Plan (which will include a construction schedule), to reduce construction noise, where feasible and to minimize sensitive receptor exposure to construction noise. The Noise Mitigation Plan shall identify areas near sensitive receptors where it is feasible to install temporary noise around noisy equipment. The temporary noise barrier shall be of sufficient height to obstruct the line-of-sight of the noise-sensitive receptor from the noise source shall be employed when staging sites are restricted to residential neighborhoods.	
	NOISE-7: The LADWP construction supervisors shall receive training on project-specific noise requirements, noise issues for sensitive land uses adjacent to the proposed project alignment, and/or equipment operations.	

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	NOISE-8: Haul routes shall be restricted to major arterial roads and cannot be designated through residential areas. If not feasible, haul routes shall be reviewed and approved by the City of Los Angeles Department of Transportation in consultation with the Los Angeles Department of Water and Power before haul route can be on major arterial roads in residential areas.	
Impact 3.10-3: Construction activity would result in a substantial temporary and periodic increase of ambient noise levels at adjacent noise-sensitive land uses above levels existing without the proposed project.	Implement Mitigation Measures **NOISE-1** through **NOISE-8.**	Significant and Unavoidable Impact.
Traffic and Circulation		
Impact 3.11-1: The proposed project would temporarily conflict with an applicable plan, ordinance, or policy for establishing measures of effectiveness for the performance of the circulation system at certain project intersections and roadway segments during construction.	**TR-1:** Prior to project construction, the Los Angeles Department of Water and Power shall prepare a project specific Traffic Control Plan for the project area for review and approval by the Los Angeles Department of Transportation. The Traffic Control Plan shall include, at a minimum, signage within the Foothill Boulevard corridor in advance of the start of construction, warning of potential delays once construction starts. The Traffic Control Plan shall include signage to alert motorists to temporary limited access points to adjacent properties; appropriate barricades for lane closures; construction speed limit signage through the construction zone; and parking restrictions during construction. **TR-2:** An alternative routing plan shall be developed, including identification of way-finding signage locations, to encourage traffic diversions for through traffic to multiple parallel routes such as Glenoaks Boulevard and other corridors. **TR-3:** Traffic shall be controlled during construction by adhering to the guidelines contained in Standard Specifications for Public Works Construction used by many municipalities in California and the California Manual on Uniform Traffic Control Devices, Part 6, “Temporary Traffic Control” and applicable City requirements. These guidelines provide methods to minimize construction effects on traffic flow. **TR-4:** At the unsignalized Home Depot Center Secondary Driveway (study intersection #4), temporary traffic signal shall be installed and operational during periods when the construction work zone is established across the signalized main Center access driveway (study intersection #3). Although full access will be provided at the main driveway intersection during construction, lane capacity will be reduced.	Significant and Unavoidable Impact.
Impact 3.10-3: The proposed project would not create a safety hazard by closing two through lanes during construction in the Foothill Boulevard ROW.	Implement Mitigation Measures **TR-1** through **TR-4**.	Less-Than-Significant Impact.
Impact 3.10-4: The proposed project site is a dedicated emergency disaster route and may result in inadequate emergency access to the project site.	Implement Mitigation Measures **TR-1** through **TR-3**.	Less-Than-Significant Impact.

CHAPTER 1
Introduction

1.1 Purpose of the Draft EIR

The Los Angeles Department of Water and Power (LADWP) has prepared this Draft Environmental Impact Report (Draft EIR) to provide the public and responsible agencies information about the potential adverse effects on the local and regional environment associated with the replacement of a portion of the existing Foothill Trunk Line (FTL). This Draft EIR has been prepared pursuant to the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the *CEQA Guidelines* in the California Code of Regulations, Title 14, Division 6, Chapter 3.

This Draft EIR describes the environmental impacts replacing the Foothill Trunk Line Unit 3 (proposed project or FTL U3) and presents mitigation measures to reduce impacts to a less-than-significant level. The impact analyses are based on a variety of sources, including agency consultation, technical studies, and field surveys. The LADWP will use this Draft EIR to consider implementation of the proposed project. As Lead Agency, the LADWP may use this Draft EIR to approve the proposed project, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts.

1.2 CEQA Draft EIR Process

1.2.1 Notice of Preparation (NOP)

In accordance with Sections 15063 and 15082 of *CEQA Guidelines,* the LADWP, as Lead Agency, prepared a Notice of Preparation (NOP) (see **Appendix A**). Beginning on January 16, 2013, the NOP and Initial Study were circulated for 45 days and mailed to approximately 1,200 potentially interested parties, including local, State, and federal agencies, and residents along the proposed pipeline alignment on Foothill Boulevard. The NOP was also advertised in the Los Angeles Times Newspaper on January 17, 2013. A Notice of Completion (NOC) along with the NOP and Initial Study were also submitted to the State Clearinghouse. Copies of the NOP and Initial Study were also made available for public review at the City of Los Angeles Sylmar Branch and Pacoima Branch Libraries, the San Fernando Library, the Lake View Terrace Library and on LADWP's web site.

The NOP provided a general description of the proposed project and an Initial Study which summarized the probable environmental effects of the proposed project to be addressed in the Draft EIR. The NOP provided public agencies and interested parties the opportunity to review the proposed project and provide comments or concerns on the scope and content of the Draft EIR. The

NOP comment period ended on March 1, 2013. A total of eight comment letters were received. The NOP, Initial Study, and comment letters received are presented in Appendix A of this Draft EIR. This Draft EIR addresses all of the issues received in the comments.

1.2.2 Public Scoping Meeting

CEQA recommends conducting early coordination with the general public, appropriate public agencies, and local jurisdictions to assist in developing the scope of the environmental document. Pursuant to *CEQA Guidelines* §15083, a public scoping meeting was held on February 13, 2013 from 6:30 PM to 8:30 PM, at the Truesdale Training Center in Sun Valley. A public notice was placed in the Los Angeles Times on January 17, 2013 informing the general public availability of the NOP and Initial Study and the scoping meeting. Attendees were provided an opportunity to voice comments or concerns regarding potential effects of the proposed project and the issues to be included in the Draft EIR. A total of one comment was taken at the Scoping Meeting.

The comments received during the NOP review period were considered during preparation of this Draft EIR (Appendix A). Issues not related to the scope of the proposed project or environmental effects (e.g., financing or economic factors) are not addressed in the Draft EIR but may be considered by the LADWP before making a final decision on the proposed project. Please refer to Appendix A for comments received during the scoping period, scoping meeting, and information related to the circulation of the NOP. These issues were considered during preparation of the Draft EIR.

Based on responses to the project Notice of Preparation and scoping process, the following impacts have been identified as areas of interest for the proposed project:

TABLE 1-1
NOTICE OF PREPARATION COMMENTS RECEIVED

#	Date	Agency	Name of Individual	Public Comment Summary	Area Addressed in Draft EIR
1	01/16/13	California State Clearinghouse, Office of Planning and Research	Scott Morgan	Acknowledge receipt of NOC	N/A
2	01/ 24/13	Native American Heritage Commission	Dave Singleton	Early consultation with tribes should occur to avoid unanticipated discoveries; Importance of protection of “properties of religious and cultural significance”; Recommendation of avoidance of any Native American burial sites	Section 3.4
3	01/24/13	South Coast Air Quality Management District	Ian MacMillan	The Draft EIR should identify all air quality impacts and air pollutant sources; Localized significance thresholds should be analyzed through Less-Than-Significant (LTS) analysis developed by SCAQMD by dispersion modeling; A health risk assessment should be prepared if vehicular trips would be generated; Commenter provided examples of feasible mitigation measures	Section 3.2
4	01/25/13	U.S. Army Corps of Engineers	Bruce Henderson	Section 404 permit from USACE would not be required	Section 2.0

#	Date	Agency	Name of Individual	Public Comment Summary	Area Addressed in Draft EIR
5	02/13/13	Resident/Sylmar Neighborhood Council	Ann Job	Considers Proposed project a benefit and necessity to the community.	N/A
6	02/19/13	Sylmar Graffiti Busters, Inc.	Thomas Weissbarth	The commenter states the Pacoima wash crossing could be vandalized with graffiti.	Section 3.1
7	02/26/13	County of Los Angeles Department of Parks and Recreation	Julie Wom	Proposed project would not affect any Department of Parks and Recreation facilities	N/A
8	02/27/13	California Department of Transportation	Diana Watson	Concerns over project impacts on SR-118 and I-210; Suggestions that a truck/traffic construction management plan be submitted to Caltrans for review; The Draft EIR should discuss ingress/egress and turning movements of proposed project trucks	Section 3.11
9	02/28/13	County of Los Angeles Department of Public Works, Land Development Division, Subdivision Mapping Section	Matthew Dubiel, P.E.	All reports and drawings label LACFCD storm drains that may be affected by the project; Permits may be required from the LACFCD Land Development Division Permits/ Subdivision Section if the pipeline would constitute an encroachment, connection, alteration or access to a LACFCD facility	Sections 2.0, 3.8

1.2.3 Significance Determination

This Draft EIR also considers the feasibility of the proposed project, and project alternatives. The Draft EIR addresses the potential significant environmental effects of the proposed project.

Significance criteria indicating what constitutes a significant impact have been developed for each environmental resource analyzed in this Draft EIR, and are defined at the beginning of each impact analysis chapter. Impacts are categorized as follows:

- **Significant and Unavoidable:** mitigation may be possible but impacts still remain significant;
- **Less than Significant with Mitigation:** potentially significant impact but mitigated to a less than significant level;
- **Less than Significant:** mitigation is not required under CEQA but may be recommended; or
- **No Impact.**

CEQA stipulates that a lead agency neither approve nor carry out a project as proposed unless it finds that significant environmental effects have been eliminated, avoided, or substantially lessened. (*CEQA Guidelines* §15091 and §15092). If such a reduction is not possible, a lead agency must adopt Findings and a Statement of Overriding Considerations. *CEQA Guidelines* §15093, provides that any lead agency may allow significant environmental impacts to occur if it finds that the "benefits" of a project outweigh project impacts. In order to make this finding the lead agency will adopt a Statement of Overriding Considerations. This Statement of Overriding Considerations must be included in the record of the proposed project approval.

1.2.4 Public Review of the Draft EIR

This document is being circulated to local, State and federal agencies, and to interested organizations and individuals who wish to review and comment on the Draft EIR. Publication of the Draft EIR marks the beginning of a 45-day public review period, during which written comments may be submitted to:

Ms. Irene Paul
Los Angeles Department of Water and Power
111 North Hope Street, Room 1044, Los Angeles, CA 90012

The LADWP will hold a public hearing to receive comments on the Draft EIR during the 45-day review period. LADWP will hold a public meeting during the 45-day public review period. The information regarding the meeting will be mailed via United Stated Postal Service and provided at the LADWP website at http://www.ladwp.com/envnotices. To be of most value to evaluation of the proposed project, comments should focus on the adequacy and accuracy of the Draft EIR.

1.2.5 Final EIR

Written and public hearing comments received in response to the Draft EIR will be addressed in a Response to Comments chapter, which would be contained in the Final EIR. The Response to Comments chapter addresses comments raised during the public review comment period. The Final EIR will also contain any revisions that may be required to the Draft EIR based on the comments received or any other information that may be added by the LADWP. Prior to approving the proposed project, the LADWP must make written findings with respect to each significant environmental effect identified in the Draft EIR. The LADWP will then consider a resolution certifying the Final EIR (*CEQA Guidelines* §15090). Following certification, the LADWP may proceed with consideration of project approval and the adoption of a Mitigation Monitoring and Reporting Program (MMRP).

1.2.6 Mitigation Monitoring and Reporting Program

CEQA requires lead agencies to adopt a MMRP for those changes to the proposed project that have been adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The *CEQA Guidelines* do not require that the specific reporting or monitoring program be included in the Draft EIR. Nonetheless, proposed mitigation measures have been clearly identified in the Draft EIR that will facilitate creating a monitoring program. All adopted mitigation measures will be included in a MMRP to verify compliance. The MMRP will be included as an attachment to the Final EIR.

1.2.7 Organization of this Draft EIR

The chapter organization of this Draft EIR is as follows:

ES. Executive Summary. This chapter summarizes the contents of the Draft EIR and presents a summary of the impacts and mitigation measures identified in the Draft EIR.

1. **Introduction.** This chapter discusses the CEQA process and the purpose of the Draft EIR.
2. **Project Description.** This chapter provides an overview of the proposed project, describes the need for and objectives of the proposed project, and provides detail on the characteristics of the proposed project.
3. **Environmental Setting, Impacts and Mitigation Measures.** This chapter describes the environmental setting and identifies impacts of the proposed project for each of the following environmental resource areas: Aesthetics; Air Quality; Biological Resources; Cultural Resources and Paleontological Resources; Geology, Soils and Seismicity; Greenhouse Gas Emissions; Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning; Noise; Traffic and Circulation; and Utilities and Service Systems. Mitigation measures to lessen potential significant impacts of the proposed project are presented for each resource area.
4. **Cumulative Impacts.** This chapter describes the potential impacts of the proposed project when considered together with other related projects in the project area.
5. **Growth Inducement and Other CEQA Considerations.** This chapter evaluates the potential for the proposed project to induce population growth and result in secondary environmental effects due to such growth.
6. **Alternatives Analysis.** This chapter summarizes the findings of Section 3.1 through 3.12 and compares the project with the No Project Alternative. The environmentally superior alternative is identified in this chapter.
7. **Acronyms.** This chapter provides a list of definitions for all acronyms used in this Draft EIR.
8. **References.** This chapter provides a list of all references cited in this Draft EIR.
9. **Report Preparers.** This chapter identifies those involved in preparing this Draft EIR, including persons and organizations consulted.

SECTION 2

Project Description

2.1 Introduction

The Los Angeles Department of Water and Power (LADWP) proposes to replace a portion of the existing Foothill Trunk Line (FTL). The FTL runs from the Van Norman Pump Station No. 2 (VNPS No.2) within the Los Angeles Reservoir to the 1449-foot system. This replacement project is the proposed project or FTL Unit 3 (FTL U3).

The proposed project would be located in the City of Los Angeles, specifically, in the community planning areas of Sylmar, Pacoima, and the communities of Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon. The proposed project is located in the LADWP Sunland/Tujunga Service Area. The proposed project would begin approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard, and continue southeast along Foothill Boulevard, ending at Terra Bella Street.

The proposed project would replace 16,600 feet of existing 24-inch, 26-inch, and 36-inch diameter welded steel pipe, and 30-inch diameter riveted steel pipe, with a 54-inch diameter welded steel pipe along the FTL U3. The existing 16,600 feet of trunk line would be abandoned in place. Proposed project modifications would upsize the pipeline to create redundancy and improve water system reliability. The proposed project would provide capacity reserved for maintenance activities, emergencies, or in the event that other portions of the system are out of service.

2.2 Project Location

The FTL U3 is located in the City of Los Angeles, specifically; within the community planning areas of Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon (see **Figure 2-1**). Sylmar is bounded by Los Angeles City boundary lines to the north and east, the City of San Fernando to the south and southeast, and Interstate 405 (I-405) and I-5 Freeways on the west. Pacoima is bounded approximately to the southwest by the I-5, to the north by the City of San Fernando, community of Sylmar, and State Route 118 (SR-118), to the east by I-210 and Foothill Boulevard, and the communities of Sunland, Tujunga, Shadow Hills, and Lake View Terrace to the east, and south. The project area is mostly urbanized.

SOURCE: ESRI; ESA, 2012.

LADWP - Foothill Trunk Line Unit 3 IS . 211490.15

Figure 2-1
Regional Location

The alignment of the proposed project would be located within the public right-of-way (ROW) of Foothill Boulevard, beginning approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard, continuing southeast along Foothill Boulevard, ending at Terra Bella Street (see **Figure 2-2**). Foothill Boulevard in the proposed project vicinity is a northwest-southeast roadway.

Surrounding land uses along the proposed trunk line alignment include single and multi-family residential, industrial, and commercial uses.

2.3 Project Background and Overview

The FTL is the major transmission pipeline that transports water from the VNPS No. 2 in San Gabriel Valley to the 1449-foot system. The 1449-foot system is named for the elevation of its source which is 1,499 feet above mean sea level (amsl). The 1449-foot system is the network of reservoirs, pipelines, and pump stations that supplies water to the Sunland/Tujunga Service Area in northern Los Angeles County. The FTL, which consists of welded steel pipe and riveted steel pipe, was installed in the 1930s. After many decades of service, the FTL has suffered deterioration, due to leaks and soil corrosivity. Portions of the FTL from the VNPS No. 2 up to northwest of Hubbard Street were replaced with a 60-inch prestressed concrete and cylinder pipe (PCCP) between 1982 and 1986, under the Foothill Trunk Line Unit 1 and Unit 2 projects. The pipeline section located approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard to Terra Bella Street has not been replaced. If the FTL remains in its current condition, it could experience a structural failure that would severely impact water service in the Sunland/Tujunga Service Area until the FTL is replaced.

In addition to potential structural failure, the FTL segment between Hubbard Street and Terra Bella Street, that is the proposed project (FTL U3) consists of 24-inch, 26-inch, 36-inch diameter welded steel pipe, and 30-inch diameter riveted steel pipe. The pipes are undersized which affects reliability of the pipeline to convey water to the entire 1449-foot system.

The 1449-foot system is supplied via the FTL, Olden Trunk Line, the Maclay Tanks, Maclay Reservoir, and Green Verdugo Reservoir. Sheldon Pump Station located in the Sunland Valley area of Los Angeles County was constructed in 1956 and provides additional supply to the 1449-foot system. In 2004 the Sheldon Pump Station was identified for replacement. Proposed upgrades have since been deferred because Sheldon Pump Station cannot provide enough supply to the 1449-foot system in the event of a FTL failure. The proposed project would increase functionality and improve gravity flow of the main pipeline connection between the VNPS No. 2 and the 1449-foot system, which would reduce dependence on the Sheldon Pump Station.

The Maclay Reservoir Outlet Line was installed in 1917 to transport water from the Maclay Reservoir to the 1449-foot system. The pipeline currently runs through private property and has a history of leaks. Due to the lack of access and instability, the outlet line would be decommissioned as part of the proposed project.

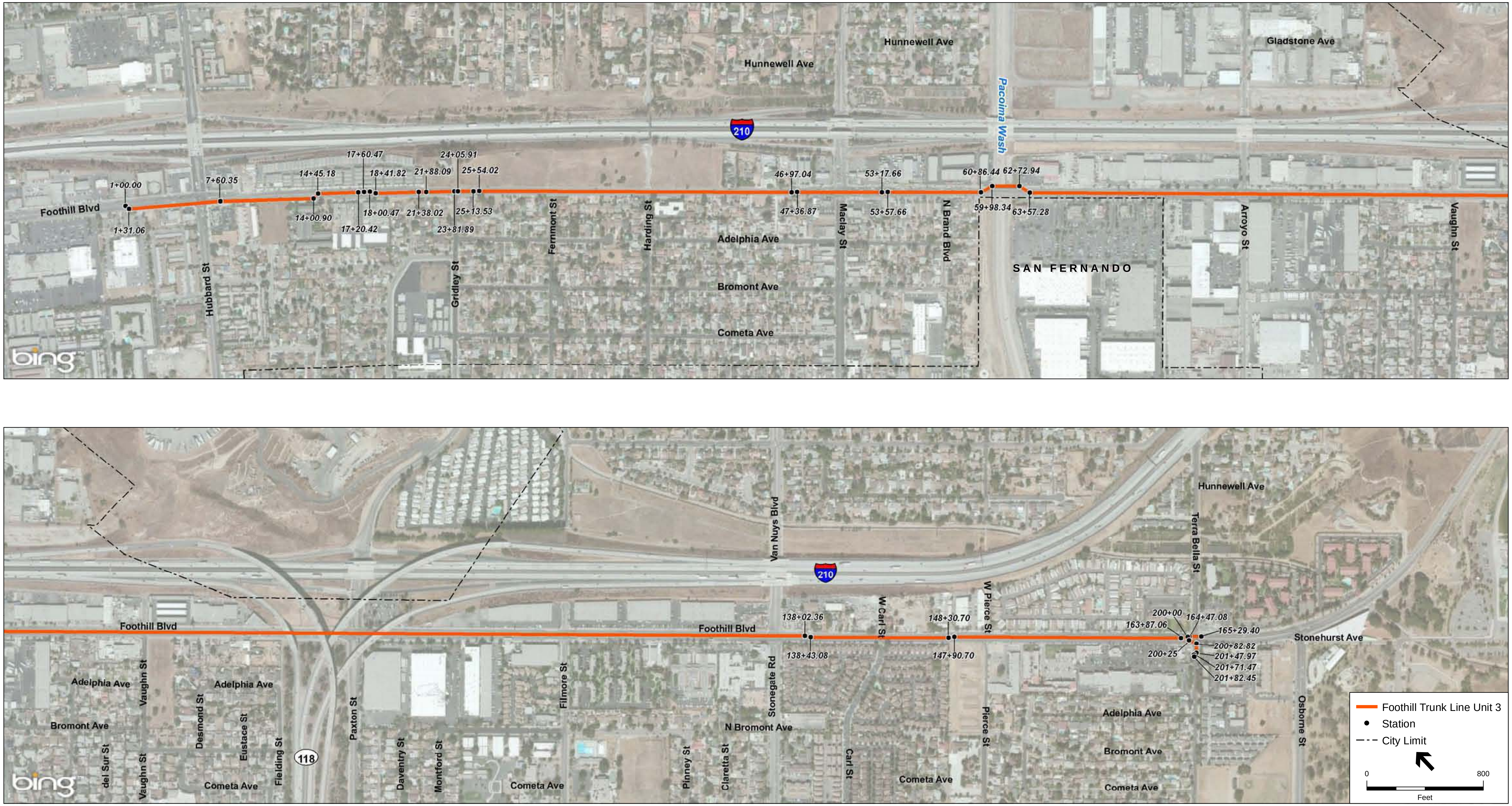
2.4 Project Purpose and Objectives

The FTL from Hubbard Street to Terra Bella Street was installed in the early 1930s and LADWP wishes to replace aging infrastructure that have a high potential to leak or blowout. Due to the age of the FTL, there is a potential for corrosion failure. Proposed project modifications would upsize the pipeline to allow for more stabilized flow throughout the FTL and would increase LADWP's ability to reliably transport water throughout the Sunland/Tujunga Service Area. Additionally, replacing the aging infrastructure would improve water quality throughout the system. The pipeline upgrade would allow for increased capacity reserved for use if/when other portions of the system are out of service for maintenance or during an emergency event. In addition, if the FTL goes out of service, Sheldon Pump Station alone cannot provide water in full capacity to the 1449-foot system. By promptly implementing the proposed project, the LADWP would meet the project's objectives: 1) improve system reliability; 2) reduce potential impacts to water quality; and 3) replace aging infrastructure within City owned right-or-way (ROW).

Implementation of the proposed project would also allow for the Maclay Reservoir Outlet Line to be decommissioned. The Maclay Reservoir Outlet Line has approximately 4,330 feet of 36-inch riveted steel pipe that was installed in 1917; 4,080 feet of 24-inch riveted steel pipe that was installed in 1917; 2,230 feet of 24-inch welded steel pipe that was installed between 1962 and 1968; 1,970 feet of 22-inch riveted steel pipe that was installed in 1917; and 1,130 feet of 36-inch welded steel pipe that was installed in 1969. The pipeline has a history of leaks requiring frequent maintenance as well as compromising reliable water supply.

The objectives of the proposed project are to:

- Improve system reliability and redundancy to minimize FTL future failures, allowing the LADWP to continue delivering safe and reliable water source to the Tujunga/Sunland Service Areas;
- Reduce potential impacts to water quality within the FTL system by replacing the aging FTL U3; and
- Prompt replacement of aging infrastructure within City owned ROW.



SOURCE: ESRI; ESA, 2012.

LADWP - Foothill Trunk Line Unit 3 IS . 211490.15

Figure 2-2

Project Location

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2.5 Project Description

The FTL U3 would replace approximately 16,600 linear feet of existing pipe with a 54-inch diameter welded steel pipe within Foothill Boulevard. The FTL U3 would be developed adjacent to two 72-inch, one 12-inch, and one 48-inch Los Angeles County Flood Control District (LACFCD) storm drains, all located within the Foothill Boulevard ROW between Hubbard Street and Gridley Street. The alignment would cross over the LACFCD flood channel (Pacoima Wash) along Foothill Boulevard between Brand Boulevard and Arroyo Street. The FTL U3 would also cross under a segment of the SR-118 along Foothill Boulevard between Vaughn Street and Paxton Street. All utility crossings are depicted on the proposed project's construction drawings.

The proposed project would include pipe jacking at five locations, six connections, and ten valves. The distribution system connects at six locations. These locations are along Foothill Boulevard at Maclay Street, Arroyo Street, Vaughn Street, Filmore Street, Van Nuys Boulevard, and Terra Bella Street.

Most of the proposed project would be located underground and would not be visible. The only segment that would perhaps be visible is where the FTL U3 crosses the Pacoima Wash. At this location the pipeline would be supported by reinforced concrete piers on either side of the wash and would be located outside of the wash so as not to disturb the channel. Minor appurtenant facilities such as air valves and a rectifier station cabinet would also be constructed aboveground within the public ROW as part of the project.

The FTL U3 would connect to the 60-inch prestressed concrete cylinder pipe section of Foothill Trunk Line along Foothill Boulevard northwest of Hubbard Street, a 30-inch riveted steel pipe along Terra Bella Street southwest of Foothill Boulevard, and to a 36-inch modified prestressed concrete cylinder pipe along Foothill Boulevard southeast of Terra Bella Street.

A hydraulic model was utilized to determine the operating needs of the project by evaluating different pipe diameters under various operation scenarios The Ultimate Maximum Day (UMD) demand scenario and the Historic Maximum Day (HMD) were both included in the model runs.

Specifically, the model was run using the following scenarios:

- UMD – Existing pipe, 48, 54, and 60-inch diameter pipe
- UMD – 48, 54, and 60-inch diameter pipe with Sheldon Pump Station Off
- HMD – 48, 54, and 60-inch diameter pipe with Sheldon Pump Station and Green Verdugo Reservoir Off

The hydraulic analysis found the 48-inch diameter trunk line, under the HMD demand scenario with Sheldon Pump Station and Green Verdugo Reservoir off, did not have adequate grades to allow for line suction for Green Verdugo Pump Station during peak hour demands. The 60-inch diameter trunk line did not provide any significant hydraulic advantages over the selected 54-inch diameter trunk line for the three model scenarios that were run. Therefore, the 54-inch diameter was determined to be the appropriate diameter of the FTL U3.

In addition, in order to determine the required diameter of the proposed project, the Water Master Planning Group of LADWP performed a hydraulic analysis of future demands and emergency scenarios. The UMD peak hour demand and abandonment of certain components (Maclay reservoir outlet) of the 1449-foot system was 170 cubic feet per second (cfs). Of the 170 cfs, 102 cfs of the demand are southeast of the Maclay Reservoir Outlet Line. Based on the hydraulic analysis, the 54-inch pipeline would have a peak hour flow of 78 cfs in an UMD demand scenario and up to 89 cfs for emergency scenarios.

During the initial project design process, LADWP initially determined the proposed project would be required to utilize the pipe jacking method of pipe installation under four intersections. A draft traffic impact assessment was performed to determine the traffic impacts of the project on Foothill Boulevard intersections and roadway segments. The initial traffic impact assessment made recommendations to the project design that would assist in reducing some traffic impacts in the project vicinity. LADWP reviewed the recommendations and made modifications to the project design where feasible.

The proposed project was redesigned to include a fifth pipe jacking location at the intersection of Arroyo Street. The addition of the pipe jacking location provides for better turn movements from Arroyo Street onto Foothill Boulevard, ultimately resulting in better ingress and egress to and from the area. Additionally, several intersection construction work areas were reduced in size to provide increased turning lanes onto local roadways.

The impact analysis provided for in the Traffic Section includes both proposed project scenarios, the project initial construction concept and the project revised construction concept.

2.5.1 Project Construction, Construction Trips and Schedule

Construction

The proposed project would occur within the ROW of Foothill Boulevard, which ranges in width from approximately 80 feet to 100 feet. Construction would be limited to the roadway itself, which ranges in width from 52 feet to 80 feet. Project construction would potentially impact intersections located along Foothill Boulevard between Hubbard Street and Terra Bella Street. To minimize traffic disruptions by allowing for improved turn movements onto cross-streets of Foothill Boulevard at busy intersections during construction, LADWP intends to install the 54-inch welded steel pipe via pipe jacking at five intersections along the proposed alignment. Additionally, where the project would cross the Pacoima Wash, the pipeline would be supported by reinforced concrete piers on either side of the wash located outside of the wash so as not to disturb the channel.

A majority of the installation, approximately 13,100 feet, would occur in an open trench. Open trench excavation is a construction method typically utilized to install pipelines and appurtenant structures, which include flow control structures, meters, maintenance holes, air valves and a rectifier station cabinet. The open trenching technique would include saw cutting of the pavement where applicable, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition. The trenching area is approximately 7.5-feet wide by 11-feet deep and lies within a staging and work area that varies in width from approximately 25 feet to approximately 55-feet wide. Approximately 10 linear feet of trenching would occur each day. The entire projects trenched area would disturb approximately 3.0 acres total. The project would be installed in segments with a construction activities occurring in approximately 500 feet to 1,000 feet segments .This area would include all trenched areas and on-site staging areas. Trenches would be temporarily barricaded with chain link fencing that would minimize safety concerns after working hours. Barricades would also be installed to restrict access to staging areas. An off-site staging area would store the majority of construction equipment. On-site staging would entirely within the construction work area along Foothill Boulevard ROW.

Construction equipment needed for pipeline installation would include backhoes, scraper/graders, cranes (derrick), saws, compressors, trucks and concrete mixers. Slurry material would be transported to the project site by cement trucks. Crushed aggregate base and sand would be required for some construction activities and would be imported to the site. Construction materials would be delivered to the project site from a location in Sun Valley approximately five miles away. When feasible, native soils would be retained to use as bedding and backfill, however, soils unsuitable for backfilling soil would require off-site disposal to a nearby landfill, most likely the Vulcan Materials Landfill located approximately six miles southeast of the intersection of Hubbard Street and Foothill Boulevard. Approximately 49,000 cubic yards of soil would be exported off-site throughout the lifetime of the project.

Construction of the proposed project would potentially impact intersections located along Foothill Boulevard from Hubbard Street to Terra Bella Street. To minimize traffic disruptions at busy intersections during construction, LADWP intends to install the 54-inch welded steel pipe via pipe jacking at five intersections along the proposed alignment. Pipe jacking would be used to avoid ground disturbance to critical intersections and other locations where the ground surface cannot be disturbed, and to minimize traffic disruptions by allowing for improved turn movements onto cross-streets of Foothill Boulevard at busy intersections. Pipe jacking would install approximately 3,400 feet along various locations of Foothill Boulevard. This method employs a horizontal boring machine that is advanced in a tunnel bore to remove material ahead of the pipe. Temporary jacking pits and receiving pits are excavated on either side of the segment. Powerful hydraulic jacks are used to push a steel casing pipe from a launch (bore) pit to a receiving pit. As the tunneling machine is driven forward, a jacking pipe is added into the pipe string. A jacking pit typically measures 14 feet by 40 feet and the receiving pit typically measures 10 feet by 20 feet with a depth varying from 30 to 40 feet. The pipe jacking method would be implemented at five locations along the following intersections:

- Foothill Boulevard and Hubbard Street;
- Foothill Boulevard and Maclay Street;
- Foothill Boulevard and Arroyo Street;
- Foothill Boulevard under the 118-210 Freeway Connector; and
- Foothill Boulevard and Van Nuys Boulevard.

Traffic control would be necessary during pipeline construction within streets as temporary lane closures are anticipated along the proposed alignment and in certain cross-streets for general public through traffic (See Appendix D, Figure 16). The Traffic Control Plan for the proposed project would conform to traffic control standards established by the City of Los Angeles Department of Transportation (LADOT). Equipment necessary for traffic control includes changeable message signs, delineators, arrow boards, and K-Rails. The Traffic Control Plan for the proposed project would be coordinated with LADOT.

Workers and Truck Trips

The following construction scenarios are anticipated for the proposed project:

- Activities within the ROW associated with open trench installation would require approximately 36 workers per day (72 one-way trips) and up to 28 one way truck trips per day;
- Activities within the ROW associated with pipe jacking would require approximately 12 workers per day (24 one-way trips) and up to six truck trips per day;
- Worst case scenario assumes total activities would require 130 trips to deliver workers and materials to the project site each day.

Schedule

Project construction is anticipated to start in winter 2014 and would be completed in winter 2019. Construction is anticipated to occur Monday through Friday from 7:00 a.m. to 6:00 p.m., and on Saturday from 8:00 a.m. to 4:00 p.m. during daylight hours. Certain construction activities may occur outside of typical work hours, however all construction would occur within the permitted hours of 7:00 a.m. to 9:00 p.m. Monday to Friday and 8:00 a.m. to 6:00 p.m. Saturday. The City of Los Angeles Rush Hour Ordinance limits in-street construction on weekdays to the hours of 9:00 a.m. through 3:30 p.m., and it is anticipated that a variance to the Mayor’s Executive Order No. 2 to allow construction outside those times would be requested by LADWP and approved by the city, for this project.

2.5.2 Project Operation

With the exception of the Pacoima Wash segment, the entire trunk line would be located underground and would not be visible from ground level. Minor appurtenant facilities such as air valves every 1,200 feet and a rectifier station cabinet would be constructed aboveground within the public ROW as part of the project. Operational activities would be limited to scheduled maintenance and repair. No permanent workers would be required to monitor operation of the proposed project. Activities associated with long-term operations and maintenance would be minimal.

2.6 Discretionary Approvals Required for the Project

Table 2-1 presents a preliminary list of the agencies and entities with discretionary approval over the project.

TABLE 2-1
DISCRETIONARY PERMITS POTENTIALLY REQUIRED

Agency	Permits and Authorizations Required	Activities Subject to Regulations
California Department of Industrial Relations, Division of Occupational Safety and Health, Mining and Tunneling Unit	Permit for construction operations involving human entry for trenches or excavations five feet or deeper.	Pipe jacking operations 66 inches in diameter; Shafts: excavations twice the depth of cross section or exceeding 20 feet; Tunnels: culverts greater than 30 inches in diameter; Underground chambers
California Department of Transportation	Encroachment Permit	Construction activities within SR-118 ROW
City of Los Angeles Department of Transportation	Traffic Control Plan and Traffic Signal Plan	Traffic lane closures and transportation related issues
City of Los Angeles Department of Public Works, Bureau of Engineering	Excavation Permit; Encroachment Permit; Construction Permit; Discharge Permit, and Rush Hour Exemptions	Excavation Permit for construction within roadway and excavation near Pacoima Wash; Encroachment Permit within road ROW; Construction Permit for disturbance to curbs, gutters, sidewalks, drains, or driveways
City of Los Angeles Department of Public Works, Bureau of Sanitation	Industrial Waste Permit	Pump or chlorine discharge water
Regional Water Quality Control Board	NPDES/WDR for construction dewatering	Construction dewatering; Hydrostatic Test Water Discharge
State Water Resources Control Board	NPDES Construction Activity Permit	Construction on a site of more than one acre
City of Los Angeles Bureau of Street Services	Street Closure Permit	Traffic lane and street closures

2.7 Project Alternatives and Screening Criteria

LADWP is currently evaluating three alternative alignments to the proposed project as discussed in more detail in Section 6, Project Alternatives.

The development and evaluation of proposed project alternatives was conducted using a screening process that considered the ability of the proposed project to feasibly meet its objectives, meet engineering requirements, as well as the ability of the proposed project to avoid or substantially lessen potentially significant impacts. Details regarding the screening methodology are provided in the Alternatives Section.

A number of alternatives were considered early in project inception, but were rejected form further consideration because they did not meet the basic objectives of the project and were not feasible to construct. These Alternatives included: alignment adjacent to the Interstate 210 (I-210); and utilizing the tunneling method through the length of Foothill Boulevard.

Project Alternatives

No Project Alternative: Under this alternative the proposed project would not be developed and the pipeline that was installed in the 1930s would not be replaced.

Alternative 1 begins at Hubbard Street and Foothill Boulevard, continues east on Foothill Boulevard, turns south on Vaughn Street and then turns east on Dronfield Avenue. The alignment continues east on Dronfield Avenue and connects at Terra Bella Street. The total length is approximately 17,150 feet and 15,500 feet would be installed using the open trench method.

Alternative 2 begins at Hubbard Street and Foothill Boulevard, continues east on Foothill Boulevard, turns south on Vaughn Street and then turns east on Glenoaks Boulevard (which parallels Foothill Boulevard). The alignment continues east on Glenoaks Boulevard , turns north on Osborne Street and then connects at approximately 1000 feet north of Osborne Street and Glenoaks Boulevard. The total length is approximately 22,000 feet, with 20,350 feet installed using the open trench method.

Alternative 3 begins at Hubbard Street and Foothill Boulevard, continues south on Hubbard Street, turns east on Truman Street, which becomes San Fernando Road, turns north on Osborne Street, and connects at approximately 1,000 feet north of Glenoaks Boulevard. The total length is approximately 32,000 feet, with 28,350 feet installed using the open trench method.

CHAPTER 3

Environmental Setting, Impacts, and Mitigation Measures

In compliance with Section 15126 of the *CEQA Guidelines*, **Chapter 3** provides an analysis of the environmental effects of the Foothill Trunk Line Unit 3 (FTL U3 or proposed project). The following environmental issue areas are assessed in this chapter:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Traffic and Circulation
- Utilities and Service Systems

Each environmental issue area includes the following subsections:

- Environmental Setting
- Regulatory Framework
- Methodology
- Impacts and Mitigation Measures

3.1 Aesthetics

This section discusses the existing visual character of the project site, provides an overview of aesthetic impacts, and evaluates the construction and operational impacts associated with the proposed project. Topics addressed include visual character and light and glare.

3.1.1 Environmental Setting

Regional Overview

The proposed Foothill Trunk Line Unit 3 (FTL U3) alignment is located in the community plan areas of Sylmar, Pacoima and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon in the northeastern quadrant of the City of Los Angeles. The foothills of the San Gabriel Mountains are located to the north and east of the proposed alignment. In the proposed project vicinity Foothill Boulevard and the Foothill Freeway (I-210) are aligned in a similar northwest to southeast manner at the base of the foothills.

The foothills of the San Gabriel Mountains are widely visible to the north and east throughout the project area. The San Gabriel Mountains north of the project site crest up to almost 4,000 feet. The Pacoima and Big Tujunga Canyons are located east of the project site and carry runoff into the San Fernando Valley. A number of open space areas, including portions of the Angeles National Forest and the Hansen Dam Recreation Area, are also located near the project area.

The proposed project traverses the community plan areas of Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon, which are all suburban in character. Single-family neighborhoods dominate the area with areas of multifamily uses along major arterial roadways. Pockets of industrial and manufacturing uses occur in both of these communities. These commercial uses are concentrated primarily along major arterial roadways, including Foothill Boulevard, Van Nuys Boulevard, and Hubbard Street. Vegetation in the communities consists of street trees, shrubs associated with open space and vacant lots, and landscaping associated with development.

Project Area

Visual Character and Quality

The proposed FTL U3 would be located within the right-of-way (ROW) (approximately 80 to 100 feet) of Foothill Boulevard for approximately three miles. The proposed project would begin approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard, and continue southeast along Foothill Boulevard, ending at Terra Bella Street. The existing Foothill Trunk Line currently underlies Foothill Boulevard along this segment, and is not visible from the roadway.

The visual character of Foothill Boulevard surrounding the proposed alignment is typical of a suburban roadway. Foothill Boulevard is two-lanes in either direction, often with a center lane, and roadway widths ranging from approximately 52 feet to 80 feet, and is bound in most locations by development. Street parking and sidewalks are not consistently present along the

ROW. Foothill Boulevard is mostly flat with the exception of the northern portion of the proposed alignment, between Hubbard Street and Harding Street where the roadway undulates. Above-ground utility lines parallel both sides of Foothill Boulevard. Additionally, east of Foothill Boulevard, I-210 parallels the proposed alignment for its entire length. I-210 is buffered from the roadway by development and by an undeveloped berm, screening the highway from view, for a segment. **Figure 3.1-1** depicts views of the proposed FTL U3 alignment.

Properties located along Foothill Boulevard are developed with a range of land uses including single- and multi-family residential, commercial, and industrial. From the northern portion of the proposed alignment to the Pacoima Wash on the southwest and Maclay Street on the northeast, the proposed alignment is generally residential in character, consisting of multi-family developments and single-family homes. Southeast of this segment to roughly Fillmore Street, the character of the proposed alignment transitions to industrial. However, several retail strips and pockets of single-family homes occur within this segment. South of Fillmore Street, the northeast side of the proposed alignment is industrial in character, while the southwest side of the proposed alignment transitions to residential uses, consisting mostly of large multi-family developments.

The scale of development adjacent to the proposed alignment ranges in height from one- to two-stories, and is mostly setback from the roadway by sidewalks, front yards, surface parking lots, or other buffered areas. In some instances, walls have been constructed adjacent to the sidewalk. Single-family homes along the proposed alignment are typically oriented towards Foothill Boulevard, while multi-family residential developments are typically oriented internally with limited access from Foothill Boulevard and buffered from the roadway by walls or landscaped setbacks. Industrial and commercial buildings, with the exception of gas stations and retail strips, resemble warehouses with flat roofs and boxy design. In several locations along the proposed alignment, single-family homes are interspersed between industrial uses.

The concrete-lined Pacoima Wash passes beneath Foothill Boulevard, the existing FTL, and the proposed FTL U3 alignment. At the intersection of Foothill Boulevard and the Pacoima Wash, adjacent land uses are buffered from the Pacoima Wash by undeveloped areas, illustrated in Figure 3.1-1, View C, and include industrial land uses to the northeast and southeast, commercial land uses to the southwest, and residential land uses to the northwest. California State Route 118 (SR-118), also known as the Ronald Reagan Freeway, passes above Foothill Boulevard via four freeway pillars near the southeastern portion of the proposed alignment. Parcels along Foothill Boulevard adjacent to the freeway pillars are undeveloped or are being used as parking lots, creating a buffer for nearby land uses. Industrial uses surround the area where the CA-118 crosses Foothill Boulevard.

There are no scenic resources located along the proposed alignment; however, scenic views of the nearby San Gabriel Mountains to the north and west are widely available from Foothill Boulevard. Additionally, scenic views of the distant Verdugo Mountains are available when looking south along Foothill Boulevard. Views of the proposed alignment available from Foothill Boulevard are considered scenic, the presence of above-ground utilities along both sides of the roadway, the substantial width of the roadway, and the disparity among uses and types of development significantly reduces the visual quality of the area.

View A: View of Foothill Boulevard looking southeast from Foothill Boulevard just south of Hubbard Street.

View B: View of Foothill Boulevard looking southeast from Foothill Boulevard between MacClay Street and North Brand Boulevard.

View C: View of the Pacoima Wash at Foothill Boulevard looking north.

View D: View of Foothill Boulevard looking north from Foothill Boulevard just south of Van Nuys Boulevard.

LADWP - Foothill Trunk Line Unit 3 EIR . 211490.15

SOURCE: ESA, 2013

Figure 3.1-1

Views of the Proposed Alignment

Figure 3.1-1, View A, shows the view from Foothill Boulevard just southeast of Hubbard Street looking southeast towards a multi-family residential development. Views of the San Gabriel Mountains in the midground and the Verdugo Mountains in the background are present from this vantage point but are partially obstructed by the presence of development and above-ground utilities. The dominant features in this view are the roadway and utilities.

Figure 3.1-1, View B, shows the view from Foothill Boulevard between MacClay Street and North Brand Boulevard, looking southeast. Industrial uses can be seen to the east of the roadway, and while not quite as obvious, single-family homes can be seen to the west of the roadway. Views of the San Gabriel Mountains in the midground and the Verdugo Mountains in the background can be seen from this vantage point but are partially obstructed by the presence of development and above-ground utilities in the foreground. Due to its substantial width, Foothill Boulevard continues to dominate views along the proposed alignment.

Figure 3.1-1, View C, shows the view of the Pacoima Wash at Foothill Boulevard looking north. Adjacent land uses are buffered from the Pacoima Wash by wide undeveloped areas at the intersection of Foothill Boulevard with the Pacoima Wash. The existing FTL is visible from this vantage point. Although the above-ground utilities are still highly visible, the substantial scale of the San Gabriel Mountains allows for unobstructed views.

Figure 3.1-1, View D, shows the view from Foothill Boulevard just south of Van Nuys Boulevard looking north. The industrial land uses visible from this vantage point are typical of industrial development found along the proposed alignment. Utility poles and lines dominate views from this vantage point. Background views of the San Gabriel Mountains are degraded as a result of the above-ground utilities.

Light and Glare Conditions

Sources of light and glare in the area surrounding the proposed alignment include street lights, vehicle headlights, and illuminated signage, security, and way-finding lighting associated with uses along Foothill Boulevard. To the west of Foothill Boulevard, the area is well lit due to the density of development. However, to the east of Foothill Boulevard nighttime lighting is minimal due to the limited amount of development beyond I-210 and the presence of the undeveloped foothills of the San Gabriel Mountains. There are no buildings in the proposed project vicinity that create glare conditions.

3.1.2 Regulatory Framework

Federal

There are no federal regulations related to visual quality and character or light and glare applicable to the proposed project.

State

California Scenic Highway Program

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program, which was created in 1963 by the California legislature to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The program includes a list of highways that are eligible for designation as scenic highways or that have been designated as such. A highway may be designated as scenic based on certain criteria, including how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes on the traveler's enjoyment of the view. State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

Local

Pacoima Community Design Overlay (CDO) Design Guidelines and Standards

The Pacoima CDO, approved in 2003, provides design guidelines and standards for both public and private development projects in the Community of Pacoima. The intent of the CDO is to provide guidance and direction in the design of buildings and storefronts that contribute to the appearance of the area. The Pacoima CDO applies to the commercial area in Pacoima on Van Nuys Boulevard between the Golden State Freeway (I-5) and Foothill Boulevard. Standards applicable to the proposed alignment include Standard 6c which requires that new utility services be located underground where feasible and Standard 6d which requires the screening of all mechanical equipment.

The City of Los Angeles Municipal Code (LAMC), Chapter 4, Public Welfare, Article 14, Graffiti Removal.

LAMC Article 15, Graffiti Removal, establishes the procedures by which graffiti is removed within City limits. The Office of Community Beautification contracts with Community Based Organizations geographically spread throughout the City. Each Community Based Organization has a graffiti removal program that utilizes persons needing to complete community service hours for the court system. These workers are supervised by permanent employees of the graffiti removal program.

3.1.3 Methodology

Analysis of aesthetic impacts is subjective by nature, because qualities that create an aesthetically pleasing setting will vary from person to person. For the purpose of this analysis the project site was visited to document the existing conditions and site character and to determine the proposed project's consistency with the surrounding area and with applicable General Plan goals and polices. Photographs documenting existing visual conditions were captured. Evaluation of potential aesthetic impacts of the proposed project considers such factors as the scale, mass, proportion, orientation, architectural detailing, and landscaping/buffering associated with the project design.

3.1.4 Impacts and Mitigation Measures

Significance Criteria

This section addresses potential impacts of the proposed project related to aesthetics. Impact significance criteria are based on guidance provided in Appendix G of the *CEQA Guidelines* regarding significant environmental effects. For this Draft EIR, the proposed project would have a significant impact if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

The lead agency determined in the NOP/IS (see **Appendix A**) that the following environmental issue areas would result in no impacts or less than significant impacts and therefore do not require further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue areas:

- Have a substantial adverse effect on a scenic vista; and
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor.

Impacts Discussion

Visual Character and Quality

Impact 3.1-1: Implementation of the proposed project would not degrade the visual character or quality of the surrounding area. (Less-Than-Significant)

The proposed project is an update of a segment of the existing FTL that extends from approximately 600 feet north of the Hubbard Street to Terra Bella Street within the public ROW of Foothill Boulevard. During construction of the proposed project, the visual character of Foothill Boulevard would be altered as construction activities would be visible within the area. Additionally, once construction is complete only some appurtenant facilities, such as air valves, a rectifier station cabinet, and the Pacoima Wash crossing, would be constructed aboveground as part of the proposed project. Therefore, the changes to the visual character of Foothill Boulevard due to presence of construction equipment would be temporary and would cease upon completion of construction.

As described in Chapter 2 Project Description, construction of the FTL U3 would occur primarily through a segmented open trench construction method. The trenching area would be approximately 7.5 feet wide by 11 feet deep and would lie within a staging and work area that varies in width from approximately 25 feet to approximately 55 feet wide. Trenches would be barricaded with a chain link fence to minimize safety concerns after working hours, and the work areas would be secured by installing barricades. Pipe jacking would be used to minimize traffic disruptions by allowing for improved turn movements onto cross-streets of Foothill Boulevard. A jacking pit typically measures 14 feet by 40 feet and the receiving pit typically measures 10 feet by 20 feet with a depth varying from 30 feet to 40 feet and would be excavated on either side of a segment. While trenches, receiving pits, laydown areas, and staging areas would be visible from Foothill Boulevard and immediately adjacent uses, scenic views of the San Gabriel Mountains and more distant Verdugo Mountains that contribute to the visual character of the area would not be obstructed. Following construction of the proposed project, the existing roadways would be returned to their existing conditions with the exception of the presence of appurtenant facilities, which would not result in degradation of the existing visual character of the area. Therefore, construction of the proposed project would result in a less-than-significant impact to the visual character of the project area.

Upon proposed project completion, in addition to the minor appurtenant facilities, the only segment of FTL U3 that would be visible is the portion that would cross the Pacoima Wash. There currently is an existing utility crossing at the Pacoima Wash to the west of Foothill Boulevard. Development of the proposed project would be consistent with the existing conditions (Figure 3.1-1, View C) because the minor appurtenant facilities such as air release valves/air vacuums and vaults would be would be low profile and would not be visually inconsistent with the surrounding urban built-up environment, and the crossing over the Pacoima Wash is consistent with the existing utility crossing. The structures would not cause the degradation of the areas existing visual character or quality. Therefore, operation of the proposed project would result in a less-than-significant impact related to the visual character of the area.

Significance: Less-Than-Significant Impact.

Light and Glare

Impact 3.1-2: The proposed project would not create a permanent new source of substantial light or glare that would adversely affect day or nighttime views in the area. (Less-Than-Significant)

Construction staging areas would not include nighttime security lighting. Therefore, the proposed project would result in a less-than-significant impact related to construction light and glare. Additionally, once constructed, the proposed project would be entirely underground with the exception of the Pacoima Wash crossing and minor appurtenant facilities, none of which would include light fixtures. Materials used in the permanent above-ground facilities would be non-reflective and would be similar to those in use on existing facilities in the project area. Accordingly, no new source of glare would be introduced that would adversely affect views. Therefore, the proposed project would result in a less-than-significant impact related to operational light and glare.

Significance: Less-Than-Significant Impact.

3.2 Air Quality

This section provides an overview of applicable regional and local air quality plans and policies, and evaluates the construction impacts associated with the proposed project. The analysis examines the potential for the proposed project to conflict with implementation of the applicable air quality plan, violate an air quality standard, result in a cumulative net increase of any nonattainment pollutant, and expose sensitive receptors to substantial pollutant concentrations.

3.2.1 Environmental Setting

Regional Setting

The proposed project is located in the South Coast Air Basin (Basin).The Basin covers an area of 6,745 square miles and includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east; and the San Diego County line to the south (**Figure 3.2-1**).

Climate

The mountains and hills within the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. Within the project site and its vicinity, the average wind speed, as recorded at the nearest wind monitoring station (Burbank Wind Monitoring Station), is approximately 3.8 miles per hour, with calm winds occurring approximately 10 percent of the time. Wind in the vicinity of the project site predominately blows from the southeast.

The annual average temperature in the vicinity of the project site is 64 degrees Fahrenheit (°F) with an average winter temperature of approximately 55°F and an average summer temperature of approximately 73°F (Western Regional Climate Center, 2013). Total annual precipitation in the project area averages approximately 17 inches. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately 10 inches during the winter, approximately four inches during the spring, approximately two inches during the fall, and less than one inch during the summer (Western Regional Climate Center, 2013).

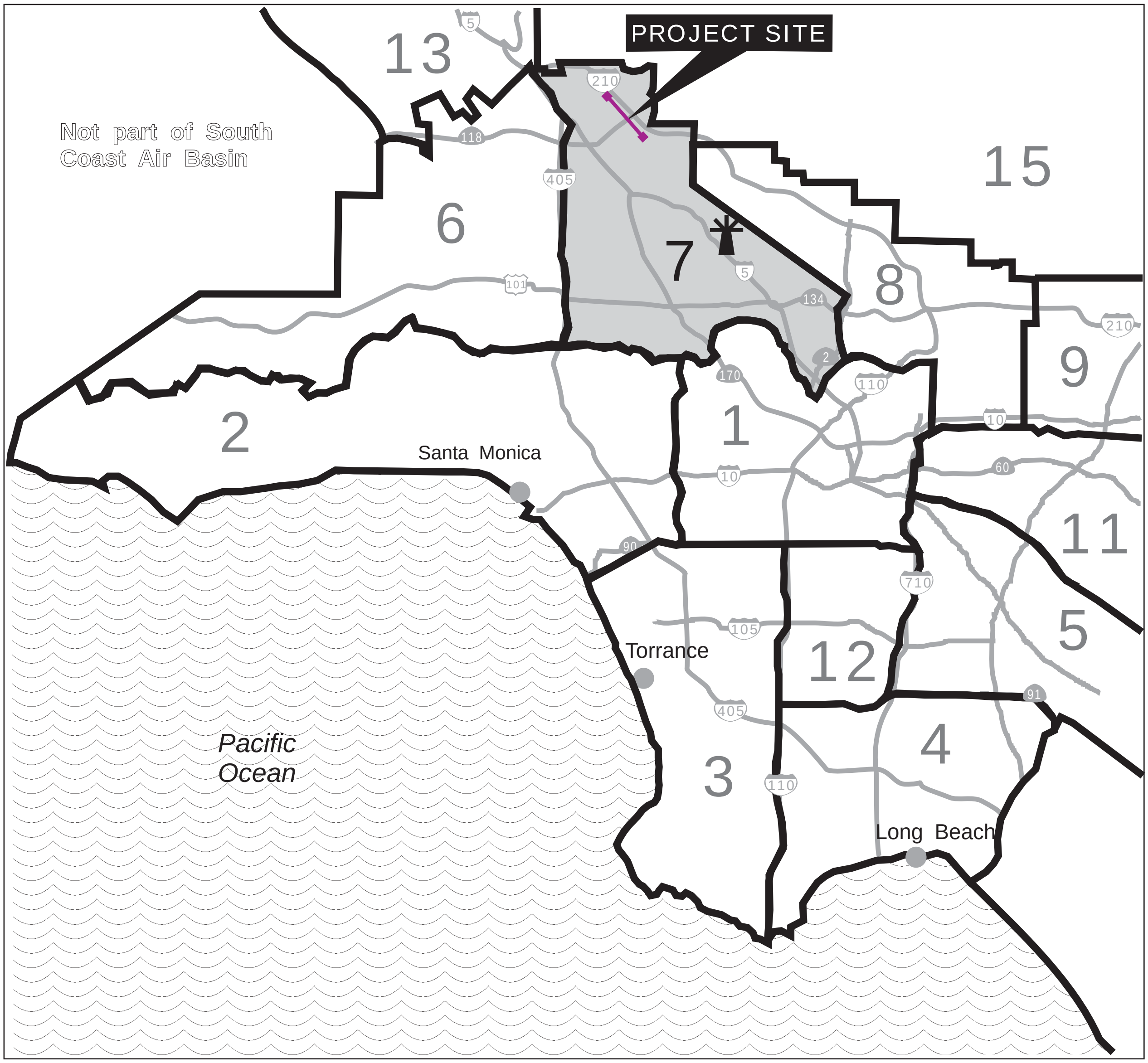
Existing Air Quality in the Study Area Vicinity

Air Monitoring Data

The South Coast Air Quality Management District (SCAQMD) monitors air quality conditions at 38 locations throughout the Basin. The project site is located in SCAQMD's East San Fernando Valley Air Monitoring Subregion, which is served by the Burbank - West Palm Avenue Monitoring Station. The Burbank - West Palm Avenue Monitoring Station is located on 228 West Palm Avenue and is approximately 15 miles southeast of the proposed alignment (**Figure 3.2-2**). Historical data from the Burbank - West Palm Avenue Monitoring Station was used to characterize existing conditions in the vicinity of the project area. Criteria pollutants monitored at Burbank - West Palm Avenue Monitoring Station include carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), fine particulate matter ($PM_{2.5}$), respirable particulate matter (PM_{10}), and sulfur dioxide (SO_2).

SOURCE: California Air Resources Board, State and Local Air Monitoring Network Plan, October 1998.

Figure 3.2-1
South Coast Air Basin



🗼 Burbank - West Palm Avenue Monitoring Station

Air Monitoring Areas in Los Angeles County:

1. Central Los Angeles
2. Northwest Coastal
3. Southwest Coastal
4. South Coastal
5. Southeast Los Angeles County
6. West San Fernando Valley
7. East San Fernando Valley
8. West San Gabriel Valley
9. East San Gabriel Valley
10. Pomona/Walnut Valley (not shown)
11. South San Gabriel Valley
12. South Central Los Angeles
13. Santa Clarita Valley
15. San Gabriel Mountains

0 9
Miles

SOURCE: South Coast Air Quality Management District Air Monitoring Areas Map, 1999.

Figure 3.2-2
Air Quality Monitoring Area

The monitored pollutant level data from the Burbank - West Palm Avenue Monitoring Station for the years 2009 through 2011 are depicted in **Table 3.2-1**. As shown, the pollutant concentrations of CO, NO_2, and SO_2 did not exceed the State and federal standards from 2009 to 2011. However, the one-hour State standard for O_3 was exceeded a total of 27 days from 2009 to 2011. The eight-hour State standard for O_3 was exceeded a total of 47 days and the eight-hour federal standard for O_3 was exceeded a total of 24 days during this period. The USEPA has classified the Basin as maintenance for CO and NO_2, and nonattainment for ozone, $PM_{2.5}$, PM_{10}, and lead. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for ozone, $PM_{2.5}$, PM_{10}, NO_2, and lead (CARB, 2012).

TABLE 3.2-1
2009-2011 AMBIENT AIR QUALITY DATA

Pollutant	Pollutant Concentration & Standards	2009	2010	2011
Ozone (O_3)	Maximum 1-hr Concentration (ppm)	0.15	0.11	0.12
	Days > 0.09 ppm (State 1-hr standard)	**16**	**3**	**8**
	Maximum 8-hr Concentration (ppm)	0.10	0.08	0.08
	Days > 0.07 ppm (State 8-hr standard)	**28**	**9**	**10**
	Days > 0.075 ppm (National 8-hr standard)	**14**	**4**	**6**
Carbon Monoxide (CO)	Maximum 1-hr concentration (ppm)	3	3	n/a
	Days > 20 ppm (State1-hr standard)	0	0	n/a
	Days > 35 ppm (National 1-hr standard)	0	0	n/a
	Maximum 8-hr concentration (ppm)	2.9	2.4	2.4
	Days > 9.0 ppm (State 8-hr standard)	0	0	0
	Days > 9 ppm (National 8-hr standard)	0	0	0
Nitrogen Dioxide (NO_2)	Maximum 1-hr Concentration (ppm)	0.09	0.08	0.07
	Days > 0.18 ppm (State 1-hr standard)	0	0	0
	Days > 0.100 ppm (National 1-hr standard)	n/a	n/a	n/a
Respirable Particulate Matter (PM_{10})	Maximum 24-hr concentration (µg/m^3)	76	50	60
	Days > 50 µg/m^3 (State 24-hr standard)	**10**	**0**	**2**
	Days > 150 µg/m^3 (National 24-hr standard)	0	0	0
	Annual Average Concentration (µg/m^3)	39	30	28
	Exceed State Standard (20µg/m^3)	**Yes**	**Yes**	**Yes**
Fine Particulate Matter ($PM_{2.5}$)	Maximum 24-hr concentration (µg/m^3)	68	44	48
	Days > 35 µg/m3 (National 24-hr standard)	**11**	**4**	**5**
	Annual Average Concentration (µg/m^3)	14	13	13
	Exceed State Standard (12 µg/m^3)	**Yes**	**Yes**	**Yes**
	Exceed National Standard (15 µg/m^3)	No	No	No
Sulfur Dioxide (SO_2)	Maximum 24-hr Concentration (ppm)	0.003	0.004	0.002
	Days > 0.04 ppm (State 24-hr standard)	0	0	0
	Days > 0.14 ppm (National 24-hr standard)	0	0	0

ppm = parts per million; µg/m^3 = micrograms per cubic meter; n/a = not available
SOURCE: CARB, Air Quality Data Statistics, *Top 4 Summary*, http://www.arb.ca.gov/adam/topfour/topfour1.php, accessed January 9, 2013. CO pollutant concentration was obtained from SCAQMD, Historical Data by Year, available at http://www.aqmd.gov/smog/historicaldata.htm, accessed January 9, 2013.

The 24-hour State standard for PM_{10} was exceeded a total of 12 days while the 24-hour federal standard for $PM_{10}$was not exceeded during this period. The 24-hour federal standard for $PM_{2.5}$was exceeded a total of 20 days from 2009 to 2011. The annual State standard for both PM_{10} and $PM_{2.5}$ was exceeded from 2009 to 2011. However, the annual federal standard for $PM_{2.5}$ was not exceeded during this period.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. California Air Resources Board (CARB) has identified the following groups who are most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to SCAQMD, sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

Figure 3.2-3 depicts some of the sensitive receptors located within one-quarter mile (1,320 feet) of the proposed alignment. Sensitive receptors in the project vicinity include:

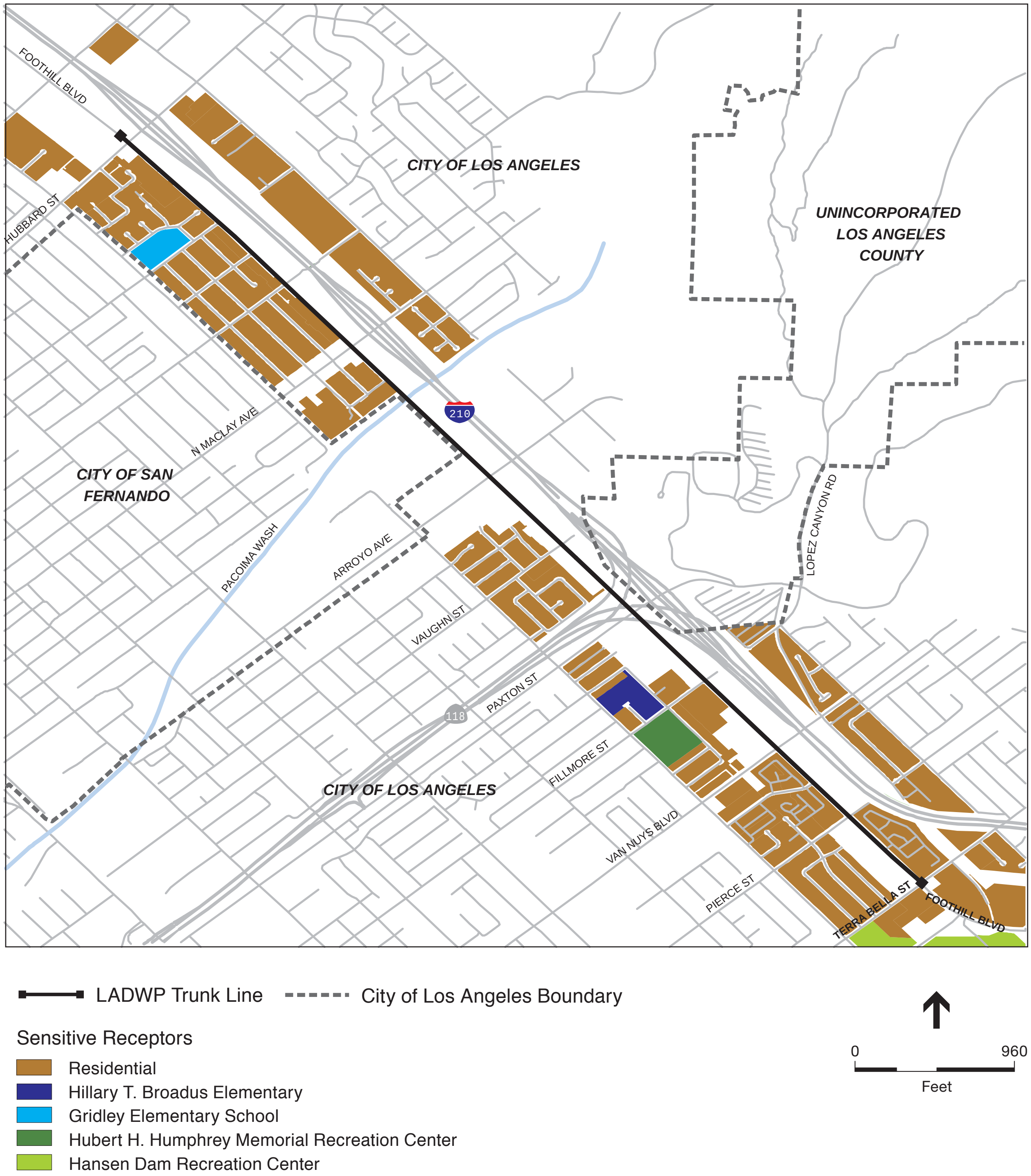
- Single- and Multi-Family Residences located adjacent to the proposed alignment;
- Hillary T. Broadous Elementary School and Education Center located south of SR-118 and approximately 660 feet west of the alignment;
- Gridley Elementary School located south of Hubbard Street and approximately 660 feet west of the alignment;
- Hubert H. Humphrey Memorial Recreation Center located south of SR-118 and approximately 660 feet west of the alignment;
- Valley Region Elementary School #8 located north of the Pacoima Wash and approximately 725 feet west of the alignment; and
- Hansen Dam Recreation Center located approximately 835 feet to the south/southeast of the alignment.

The sensitive receptors presented above represent the nearest sensitive land uses with the potential to be impacted by the proposed project construction activities. While there are also sensitive receptors located further away from the proposed alignment, these receptors would be less affected by air emissions than the receptors described above.

Criteria Air Pollutants

Ozone

Ozone is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG) or volatile organic compounds (VOC) and nitrogen oxides (NO_X) react in the presence of ultraviolet sunlight. While both ROGs and VOCs refer to compounds of carbon, ROG is a term used by CARB and is based on a list of exempted carbon compounds determined by CARB. VOC is a



SOURCE: TAHA, 2013.

Figure 3.2-3
Air Quality Sensitive Receptor Locations

term used by the United States Environmental Protection Agency (USEPA) and is based on USEPA's own exempt list. Ozone is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_X, components of ozone, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in ozone formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Carbon Monoxide

Carbon monoxide (CO) is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the project site, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February.[1]The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Respirable Particulate Matter and Fine Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Both PM_{10} and $PM_{2.5}$represent fractions of particulate matter. Inhalable particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g. motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X, and VOC.

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[1] Inversion is an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air.

Both $PM_{10}$and $PM_{2.5}$ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{10}$and $PM_{2.5}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Nitrogen Dioxide

Nitrogen dioxide (NO_2), like ozone, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also contributes to the formation of PM_{10}. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase of bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical; its toxicity, and how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. TACs may exist as PM_{10} and $PM_{2.5}$ or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

The emission of toxic substances into the air can be damaging to human health and to the environment. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

The public's exposure to TACs is a significant public health issue in California. The Air Toxics "Hotspots" Information and Assessment Act is a State law requiring facilities to report emissions of TACs to air districts. The program is designated to quantify the amounts of potentially hazardous air pollutants released, the location of the release, the concentrations to which the public is exposed, and the resulting health risks.

The State Air Toxics Program (AB 2588) identified over 200 TACs, including the 188 TACs identified in the federal Clean Air Act (CAA). The USEPA has assessed this expansive list of toxics and identified 21 TACs as Mobile Source Air Toxics (MSATs). MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. USEPA also extracted a subset of these 21 MSATs compounds that it now labels as the six priority MSATs: benzene, formaldehyde, acetaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein, and 1,3-butadiene. While these six MSATs are considered the priority transportation toxics, USEPA stresses that the lists are subject to change and may be adjusted in future rules (FHWA, 2009).

Odorous Emissions

The study of odor as a health concern is still a new field. Merely identifying the hundreds of ROGs or VOCs that cause odors poses a challenging obstacle. There are several ways for odors to potentially affect human health. Odorant compounds can irritate eye, nose, and throat. In addition, the ROGs or VOCs that cause odors can stimulate sensory nerves and result in neurochemical changes that might influence health (e.g., compromising the immune system). Offensive odors can trigger memories causing cognitive and emotional effects such as stress.

3.2.2 Regulatory Framework

Federal

Clean Air Act

The federal CAA governs air quality in the United States. The USEPA is responsible for enforcing the CAA. The USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). NAAQS are required under the 1977 CAA and subsequent amendments. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The USEPA has jurisdiction over emission sources outside State waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet stricter emission standards established by CARB.

As required by CAA, NAAQS have been established for seven major air pollutants: CO, NO_2, O_3, $PM_{2.5}$,PM_{10}, SO_2, and lead (Pb). The CAA requires the USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The NAAQS are summarized in **Table 3.2-2**. The USEPA has classified the Basin as maintenance for CO and NO_2, and nonattainment for ozone, $PM_{2.5}$, PM_{10}, and lead.

TABLE 3.2-2
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS FOR THE SOUTH COAST AIR BASIN

		California		National	
Pollutant	**Averaging Period**	**Standards**	**Attainment Status**	**Standards**	**Attainment Status**
Ozone (O_3)	1-hour	0.09 ppm (180 μg/m^3)	Nonattainment	--	--
	8-hour	0.070 ppm (137 μg/m^3)	n/a	0.075 ppm (147 μg/m^3)	Nonattainment
Respirable Particulate Matter (PM10)	24-hour	50 μg/m^3	Nonattainment	150 μg/m^3	Nonattainment
	Annual Arithmetic Mean	20 μg/m^3	Nonattainment	--	--
Fine Particulate Matter (PM2.5)	24-hour	--	--	35 μg/m^3	Nonattainment
	Annual Arithmetic Mean	12 μg/m^3	Nonattainment	15 μg/m^3	Nonattainment
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Unclassified/ Attainment
	8-hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Unclassified/ Attainment
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm (339 μg/m^3)	Nonattainment	100 ppb (188 μg/m^3)	Unclassified/ Attainment
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	Nonattainment	53 ppb (100 μg/m^3)	Unclassified/ Attainment
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm (655 μg/m^3)	Attainment	75 ppb (196 μg/m^3)	--
	24-hour	0.04 ppm (105 μg/m^3)	Attainment	0.14 ppm	Attainment
	3-hour	--	--	0.50 ppm	Attainment
	Annual Arithmetic Mean	--	--	0.030 ppm	Attainment
Lead (Pb)	30-day average	1.5 μg/m^3	Nonattainment	--	--
	Calendar Quarter	--	--	1.5 μg/m^3	--
	Rolling 3-Month Average	--	--	0.15 μg/m^3	Nonattainment

n/a = not available

SOURCE: CARB, *Ambient Air Quality Standards*, February 7, 2012.

State

California Air Resources Board

In addition to being subject to the requirements of the CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). In

California, the CCAA is administered by CARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible for meeting the State requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The CAAQS are summarized in Table 3.2-2.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for ozone, $PM_{2.5}$, PM_{10}, NO_2, and lead (CARB, 2012).

Toxic Air Contaminants (TACs)

CARB’s Statewide comprehensive air toxics program was established in the early 1980s. The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics. Under the Toxic Air Contaminant Identification and Control Act, CARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, CARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community" [Health and Safety Code Section 39666(f)]. The Toxic Air Contaminant Identification and Control Act also requires CARB to use available information gathered from the Air Toxics "Hot Spots" Information and Assessment Act program to include in the prioritization of compounds.

California has established a two-step process of risk identification and risk management to address the potential health effects from air toxic substances and protect the public health of Californians. During the first step (identification), CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified as a TAC in California. During this process, CARB and the OEHHA staff draft a report that serves as the basis for this determination. CARB staff assesses the potential for human exposure to a substance and the OEHHA staff evaluates the health effects. After CARB and the OEHHA staff hold several comment periods and workshops, the report is then submitted to an independent, nine-member Scientific Review Panel (SRP), which reviews the report for its scientific accuracy. If the SRP approves the report, it develops specific scientific findings which are officially submitted to CARB. CARB staff then prepare a hearing notice and draft regulation to formally identify the substance as a TAC. Based on the input from the public and the information gathered from the report, CARB decides whether to identify a substance as a TAC. In 1993, the California Legislature amended the Toxic Air Contaminant Identification and Control Act by requiring CARB to identify 189 federal hazardous air pollutants as State TACs.

In the second step (risk management), CARB reviews the emission sources of an identified TAC to determine if any regulatory action is necessary to reduce the risk. The analysis includes a review of controls already in place, the available technologies and associated costs for reducing emissions, and the associated risk.

The Air Toxics "Hot Spots" Information and Assessment Act (Health and Safety Code Section 44360) supplements the Toxic Air Contaminant Identification and Control Act by requiring a Statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. The "Hot Spots" Act also requires facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

California's Diesel Risk Reduction Program

CARB identified particulate matter from diesel-fueled engines (diesel PM) as a TAC in August 1998. Following the identification process, CARB was required by law to determine if there is a need for further control, which led to the risk management phase of the program.

For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The Diesel Advisory Committee approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase.

During the control measure phase, specific Statewide regulations, designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles, have been and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

Regional

South Coast Air Quality Management District

SCAQMD was created under the 1977 Lewis Air Quality Management Act. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

Air Quality Management Plan (AQMP)

All areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the State air quality standards by its attainment dates. The AQMP is SCAQMD plan for improving regional air quality. It addresses CAA and CCAA requirements and demonstrates attainment with State and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality standards by their applicable deadlines.

On December 7, 2012, SCAQMD Governing Board adopted the 2012 AQMP to continue the progression toward clean air and compliance with State and federal requirements. It includes a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on- and off-road mobile sources and area sources. The 2012 AQMP proposes attainment demonstration of the federal 24-hour $PM_{2.5}$ standard by 2014 in the Basin through adoption of all feasible measures while incorporating current scientific information and meteorological air quality models. It also updates the USEPA approved eight-hour ozone control plan with new commitments for short-term Nolan VOC reductions.

Toxic Air Contaminants (TACs)

SCAQMD has a long and successful history of reducing air toxics and criteria emissions in the Basin. SCAQMD has an extensive control program, including traditional and innovative rules and policies. These policies can be viewed in SCAQMD's *Air Toxics Control Plan for the Next Ten Years* (March 2000) and Addendum to the Air Toxics Control Plan (March 2004). To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study (MATES-III), conducted by SCAQMD. The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-III found that the cancer risk in the region from carcinogenic air pollutants ranges from about 870 in a million to 1,400 in a million, with an average regional risk of about 1,200 in a million.

City of Los Angeles General Plan Air Quality Element

The principal objective of the Air Quality Element of the General Plan is to aid the region in attaining the State and federal Ambient Air Quality Standards while continuing economic growth and improvement in the quality of life afforded to City residents (City of Los Angeles, 1992). The Air Quality Element also documents how the City will implement local programs contained in the

General Plan. Air Quality Element goals, objectives, and policies relevant to the proposed project are described below:

> **Goal 1:** Good air quality and mobility in an environment of continued population growth and health economic.
>
> **Objective 1.1:** It is the objective of the City of Los Angeles to reduce air quality pollutants consistent with the Regional Air Quality Management Plan, increase traffic mobility, and sustain economic growth citywide.
>
> **Objective 1.3:** It is the objective of the City of Los Angeles to reduce particulate air pollutants emanating from unpaved areas, parking lots, and construction sites.
>
> **Policy 1.3.1:** Minimize particulate emissions from construction sites.
>
> **Goal 5:** Energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels, and the implementation of conservation measures, including passive methods such as site orientation and tree planting
>
> **Objective 5.1:** It is the objective of the City of Los Angeles to increase energy efficiency of City facilities and private development
>
> **Policy 5.1.4:** Reduce energy consumption and associated air emissions by encouraging waste reduction and recycling.

3.2.3 Methodology

Regional Mass Emissions

Short-term construction-generated emissions of criteria air pollutants and ozone precursors were assessed in accordance with methods recommended by SCAQMD. The regional mass emissions generated by the project during construction were estimated for equipment exhaust, truck trips, and worker commute trips using a calculation spreadsheet. Equipment engine emissions were estimated using the OFFROAD2007 model, and truck and worker commute trips emissions were estimated using the EMFAC2011 model. Fugitive dust emissions were estimated using formulas and emission factors obtained from the USEPA AP-42 *Compilation of Air Pollutant Emission Factors*. The analysis compares the worst-case emissions day of the construction activity to SCAQMD's regional significance thresholds for construction.

Localized Emissions

To determine whether or not construction activities associated with the proposed project would create significant adverse localized air quality impacts on nearby sensitive receptors, the worst-case daily emissions contribution from the proposed project were evaluated against SCAQMD's Localized Significance Thresholds (LSTs). LSTs were developed by SCAQMD based upon the size or total area of the emission source, the ambient air quality in each source receptor area, and the distance to the sensitive receptor. Specifically, the LSTs represent the pounds of emissions per day that can be generated by a project without causing or contributing to adverse localized air quality impacts. The analysis of localized air quality impacts focuses only on the on-site activities of a project, and does not include emissions that are generated off-site such as from haul or delivery truck trips. Additionally, the LSTs were developed for use on projects that are less than or equal to five acres in size and are only applicable to the following criteria pollutants:NO_2, CO, $PM_{2.5}$, and PM_{10}. Installation of the proposed pipeline would occur within the ROW of Foothill Boulevard, which ranges in width from approximately 80 feet to 100 feet. Construction would be limited to the roadway itself, which ranges in width from 52 feet to 80 feet. The daily area of disturbance would be less than one total acre per day.[2] Thus, SCAQMD's LSTs were applied to the project's construction emissions to determine the localized air quality impacts on nearby sensitive receptors. For the localized construction air quality analysis, the project's construction emissions of NO_2, CO, $PM_{2.5}$, and PM_{10} were calculated in accordance with the LST methodology promulgated in SCAQMD's *Sample Construction Scenarios for Projects Less than Five Acres in Size* document. Localized on-site emissions were calculated using similar methodology to the regional emission calculations.

3.2.4 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this analysis and consistent with Appendix G of the *CEQA Guidelines*, the proposed project would result in potentially significant impacts if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any nonattainment pollutant (including releasing emissions that exceed quantitative thresholds for ozone precursors;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people.

Because of SCAQMD's regulatory role in the Basin the proposed project is evaluated against the significance thresholds and methodology prescribed in SCAQMD's *CEQA Air Quality Handbook* to evaluate project impacts. The analysis includes quantitative regional and local emission calculations. **Table 3.2-3** below depicts SCAQMD Daily Regional and Localized Construction Emissions Thresholds. The proposed project would have a significant impact related to construction activity if:

- Daily localized or regional, construction emissions were to exceed SCAQMD thresholds for VOC, NO_X, CO, SO_X, $PM_{2.5}$ or PM_{10}, as presented in **Table 3.2-3**; and/or
- The proposed project would generate significant emissions of TACs.

The proposed project would have a significant impact related to construction activity if:

- Daily localized or regional, construction emissions were to exceed SCAQMD thresholds for VOC, NO_X, CO, SO_X, $PM_{2.5}$ or PM_{10}, as presented in Table 3.2-3; and/or

---

[2] During construction, the anticipated area of disturbance would vary and would likely be smaller than one acre on any given day. However, for the purposes of conducting a conservative analysis, this EIR assumes one acre for the area of disturbance because the lowest LST prescribed by SCAQMD is for a one acre site.

- The proposed project would generate significant emissions of TACs.

TABLE 3.2-3
SCAQMD DAILY REGIONAL AND LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS

Criteria Pollutant	Regional Emissions (pounds per day)	Localized Emissions (pounds per day)[a]
Volatile Organic Compounds (VOC)	75	--
Nitrogen Oxides (NOX)	100	80
Carbon Monoxide (CO)	550	498
Sulfur Oxides (SOX)	150	--
Fine Particulates (PM2.5)	55	3
Particulates (PM10)	150	4
TACs (including carcinogens and non-carcinogens	Maximum Incremental Cancer Risk e 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas e 1 in 1 million) Chronic & Acute Hazard Index e 1.0 (project increment)	

---

[a] Localized thresholds based on 25-meter receptor distance and a one-acre project site.

SOURCE: SCAQMD, 2013.

The lead agency determined in the NOP/IS (see **Appendix A**) that the following environmental issue area would result in no impacts or less than significant impacts and was therefore scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue area:

- Create objectionable odors affecting a substantial number of people.

Impacts Discussion

Impact 3.2-1: The proposed project would not generate construction emissions that would conflict with or obstruct implementation of the AQMP. (Less-Than-Significant)

In preparation of the AQMP, SCAQMD and SCAG utilized land use designations contained in general plan documents to forecast, inventory, and allocate regional emissions from land use and development-related sources. For purposes of analyzing consistency with the AQMP, if a project would have density and vehicle trip generation substantially greater than anticipated in the general plan, then the project would conflict with the AQMP. On the other hand, if a project's density is consistent with the General Plan, its emissions would be consistent with the assumptions in the AQMP, and the project would not conflict with SCAQMD's attainment plans.

The proposed project would replace a portion of the existing Foothill Trunk Line (FTL). The existing 16,600 feet of trunk line would be abandoned in place. The proposed project modifications would upsize the trunk line to create redundancy and improve water system reliability. Given that the project would involve the replacement of an existing water trunk line, the proposed project would not introduce a new land use in the project area that would result in additional population or housing growth that has not been accounted for in the City General Plan. Thus, the proposed project would not conflict with or obstruct implementation of the AQMP.

In addition, SCAQMD regional significance thresholds were designed to assist SCAQMD in determining if a project would worsen air quality conditions in the Basin. The determination of AQMP consistency is primarily concerned with the long-term influence of the proposed project on air quality in the Basin. As discussed under Impact 3.2-2, the proposed project would not result in significant regional construction emissions and would not interfere with the attainment of air quality standards. Thus, construction activity would not conflict or obstruct implementation of the AQMP. Overall, the proposed project would result in a less-than-significant impact related to the AQMP.

Significance: Less-Than-Significant Impact.

Impact 3.2-2: Regional and localized emissions generated during construction activity would not exceed SCAQMD significance thresholds. (Less-Than-Significant)

Regional Emissions

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the project site. Fugitive dust emissions would primarily result from site preparation (e.g., excavation) activities. NO_X emissions would primarily result from the use of construction equipment and haul trucks. The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, and maintaining effective cover over exposed areas. According to SCAQMD, compliance with Rule 403 would reduce $PM_{2.5}$ and PM_{10} emissions associated with construction activities by approximately 61 percent.

Installation of the proposed pipeline would occur within the ROW of Foothill Boulevard, which ranges in width from approximately 80 feet to 100 feet. Construction would be limited to the roadway itself, which ranges in width from 52 feet to 80 feet. A majority of the installation, approximately 13,100 feet, would employ an open trench technique - include saw cutting of the pavement, where applicable, trench excavation, pipe installation, backfill operations, and resurfacing to the original conditions. The trenching area would be approximately 7.5 feet wide by 11 feet deep and lies within a staging and work area that varies in width from approximately 25 feet to approximately 55 feet wide. Approximately 10 linear feet of trenching would occur each day and trenches would be excavated. Trenches would be temporarily barricaded with chain link fencing to minimize safety concerns after working hours. Barricades would also be installed to restrict access to staging areas. Once the pipeline installation is completed, the trench would be backfilled with sand, gravel bedding material, and slurry material and repaved. Soils unsuitable for backfilling soil would be disposed of at an appropriate regional landfill. It is anticipated that 49,000 cubic yards of soil would be exported to Vulcan Materials Landfill located approximately six miles southwest from the project site.

In order to minimize traffic disruptions at critical intersections or where ground surface cannot be disturbed along the proposed alignment, pipe jacking would be the installation method employed rather than the open trench technique. Jacking and receiving pits would be temporarily located on either end of the segment. A jacking pit typically measures 14 feet by 40 feet and the receiving pit typically measures 10 feet by 20 feet with a depth varying from 30 feet to 40 feet. Hydraulic jacks are used to push steel casting pipes through the ground. Pipe jacking would be used to install approximately 3,400 feet of pipe at five intersections along Foothill Boulevard.

Key construction assumptions used in the air quality analysis include:

- Total full-time operating equipment: 10
- Maximum daily personnel: 48
- Total amount of excavated material: 49,000 cubic yards
- Daily amount of excavated material: 90 cubic yards
- Distance travelled to landfill (Sunshine Canyon Landfill four miles: of Vulcan Materials Landfill: six miles (one-way)

Table 3.2-4 depicts the maximum daily emissions associated with the proposed project's construction activities, including on-site pollutant and fugitive dust emissions generated by construction equipment and off-site pollutant emissions generated from truck trips and worker commute trips, and SCAQMD's applicable significance thresholds.

TABLE 3.2-4
REGIONAL CONSTRUCTION EMISSIONS

	Pounds Per Day					
Source	**VOC**	**NO_X**	**CO**	**SO_X**	**PM2.5**	**PM10**
Construction Equipment	6	38	25	<1	2	2
Worker Vehicle	<1	1	8	<1	<1	<1
Off-Site Truck	<1	<1	1	0	<1	<1
Fugitive Dust	--	--	--	--	<1	<1
Maximum Regional Total	7	47	33	<1	3	3
Regional Significance Threshold	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	No	No	No	No	No

SOURCE: Terry A. Hayes Associates Inc., 2013.

As shown in Table 3.2-4, the proposed project's construction-related daily maximum regional construction emissions would not exceed SCAQMD significance thresholds for construction. Therefore, the proposed project would result in a less-than-significant impact related to regional construction emissions.

Significance: Less-Than-Significant Impact.

Localized Emissions

Construction activity would generate on-site pollutant emissions associated with equipment exhaust and fugitive dust. Localized impacts from on-site daily emissions associated with construction were evaluated for sensitive receptor locations potentially impacted by the proposed project construction activities. Installation activities would occur within the Foothill Boulevard ROW, which ranges in width from approximately 80 feet to 100 feet. Construction would be limited to the roadway itself, which ranges in width from 52 feet to 80 feet.

As discussed above, the SCAQMD has developed five sample construction scenarios (one-acre, two-acre, three-acre, four-acre, and five-acre in size) to be used as models or templates for analyzing construction air quality impacts by projects of similar size. As the proposed project is a linear project that would disturb less than one acre per day, the one-acre sample construction scenario was used as a template to analyze the significance of the construction emissions generated by the proposed project.

Table 3.2-5 depicts the estimated localized (on-site) construction emissions associated with equipment exhaust and fugitive dust generated by the proposed project along with SCAQMD's applicable LSTs.

TABLE 3.2-5
LOCALIZED CONSTRUCTION EMISSIONS

	Pounds Per Day					
Source	**VOC**	**NO_X**	**CO**	**SO_X**	**PM2.5**	**PM10**
Construction Equipment	6	39	25	<1	2	2
Fugitive Dust	--	--	--	--	<1	<1
Maximum Localized Total	6	38	24	<1	2	2
Localized Significance Threshold	**n/a**	**80**	**498**	**n/a**	**3**	**4**
Exceed Threshold?	No	No	No	No	No	No

SOURCE: Terry A. Hayes Associates Inc., 2013.

As shown in Table 3.2-5, the proposed project's construction-related daily maximum localized construction emissions would not exceed SCAQMD LSTs. Therefore, the proposed project would result in a less-than-significant impact related to localized construction emissions.

In addition to construction emissions, the installation of the proposed pipeline within streets would temporarily result in street closures. Consequently, traffic flow would be affected whenever a mixed-flow traffic lane is closed for construction activities. Reduced speeds through construction zones would result in additional localized concentrations. Traffic congestion would decrease as some automobile travelers would reroute to parallel streets when lane closures occur. However, the proposed project would be required to implement traffic control standards established by the City of Los Angeles Department of Transportation (LADOT) to minimize traffic disruption as part of the proposed project's Traffic Control Plan. The proposed project is not projected to substantially increase traffic congestion since construction activities would be limited to being within a staging and work area that varies in width from approximately 25 feet to approximately 55 feet wide of the public roads. Although work activity could occur simultaneously on multiple segments, the Traffic Control Plan will minimize queues of idling vehicles, Therefore, the proposed project would result in a less-than-significant impact related to localized traffic concentrations during construction.

Significance: Less-Than-Significant Impact.

Impact 3.2-3:The proposed project would not result in a cumulatively considerable net increase of any nonattainment pollutant. (Less-Than-Significant)

A significant impact would occur if project implementation results in a cumulative net increase in any criteria pollutant above threshold standards. SCAQMD's approach for assessing cumulative air quality impacts is based on the AQMP's forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and California Clean Air Acts. SCAQMD has set forth significance thresholds designed to assist in the attainment of ambient air quality standards. As discussed above, construction-related daily regional and localized emissions generated by the proposed project would not exceed SCAQMD's significance threshold for all criteria pollutants. Consequently, the proposed project would not have a cumulative impact due to construction activity. The proposed project would not affect SCAQMD's forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and California Clean Air Acts. Therefore, the proposed project would result in a less-than-significant impact related to cumulative emissions.

Significance: Less-Than-Significant Impact.

Impact 3.2-4:The proposed project would not expose sensitive air quality receptors to substantial pollutant concentrations. (Less-Than-Significant)

The greatest potential for TAC emissions during construction would be diesel particulate emissions associated with heavy equipment operation. The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. SCAQMD has not published or recommended any guidance for assessing the risk from construction projects. However, according to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period. These assessments should be limited to the period/duration of activities associated with the project.

The construction period for the proposed project would be much less than the 70-year period used for risk determination. Additionally, as regional and localized particulate matter emissions would not result in a significant impact, it is similarly anticipated that diesel particulate emissions would not result in a significant health impact. Further, diesel engine construction equipment operated on-site would be temporary and exposure would cease after completion of the proposed pipeline installation. Therefore, the proposed project would result in less-than-significant impacts related to construction TACs.

Significance: Less-Than-Significant Impact.

3.3 Biological Resources

This section describes the existing biological conditions in the project area and evaluates the biological resources impacts associated with the proposed project.

3.3.1 Environmental Setting

Regional Setting

The majority of the proposed project is located in a heavily urbanized area within the City of Los Angeles, specifically, in the community planning areas of Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon. Undeveloped areas in the region consist of four regional parks, two community parks, and two neighborhoods parks (Los Angeles, 2012). Regional parkland includes El Cariso Regional Community Park, El Cariso Golf Course, Veterans Memorial Regional Park, and Wilson Canyon Park.

A small portion of the proposed project is located within the Arleta-Pacoima Community Plan area approximately 0.25 miles north of the Hansen Dam Recreational area. The Hansen Dam Basin is considered an important natural open space area and is a recreational resource to the City of Los Angeles. The Los Angeles County General Plan identifies the Tujunga Valley/Hansen Dam area as the proposed Significant Ecological Area (SEA) number 29 (Los Angeles County, 2004). The Draft General Plan recognizes the importance of the Hansen Dam area in supporting indigenous vegetation and providing United States Fish and Wildlife Service (USFWS) designated critical habitat for southwestern willow flycatcher (*Empidonax traillii extimus*) and Santa Ana sucker (*Catostomus santaanae*).

Local Setting

Foothill Boulevard is a fully developed roadway. The project site is developed and does not contain naturally occurring habitats. Native plant communities on the project site and within the general area are nonexistent. Vegetation within the proposed project vicinity is primarily limited to developed/landscaped areas that are routinely maintained, consisting of ornamental vegetation.

No federally or state listed sensitive biological resources were identified on the project site during reconnaissance surveys conducted there. A query of the California Natural Diversity Database (CNDDB) identified nine sensitive wildlife species and nine sensitive plant species as having the potential to occur within the San Fernando United States Geological Survey (USGS) 7.5-minute quadrangle. These species were evaluated for their potential to occur within the proposed project boundaries based on habitat requirements, availability and quality of suitable habitat, and known distributions. Many of these species were found to be extirpated from the region due to habitat loss and fragmentation. The project site does not contain any species identified as candidate, sensitive, or special status, and is not within designated critical habitat for any listed species. Common wildlife species that are expected to use the project site are those that are found in urbanized and highly developed areas.

A small portion of the proposed project, the Foothill Trunk Line Unit 3 (FTL U3), would cross the Pacoima Wash, which is a paved channelized flood control area that has an extremely low potential to support special-status species.

3.3.2 Regulatory Framework

Federal

Federal Endangered Species Act

The USFWS in the Department of the Interior, has responsibility for administration of the federal Endangered Species Act (FESA). The FESA provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered in the United States or elsewhere. The FESA has four major components: 1) provisions are made for listing species, 2) requirements for federal agency consultation with USFWS or NMFS, 3) prohibitions against "taking" of listed species, and 4) the provisions for permits that allow incidental "take" of listed species for otherwise lawful activities. The FESA also requires the preparation of recovery plans and the designation of critical habitat for listed species.

The Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter or "take" any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. "Take" is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the Migratory Bird Treaty Act.

Clean Water Act Section 404

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. The U.S. Army Corps of Engineers (Corps) has developed technical standards for delineating wetlands, which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation. Under Section 404 of the Clean Water Act (CWA), the Corps is responsible for regulating the discharge of dredged or fill material into waters of the United States. The term "waters" includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations.

State

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the main provisions of the FESA and is administered by the California Department of Fish and Wildlife[1] (CDFW). Unlike its federal counterpart, CESA applies the take prohibitions to not only listed threatened and

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[1] The California Department of Fish and Game (CDFG) changed its name on January 1, 2013 to The California Department of Fish and Wildlife (CDFW). In this document, references to literature published by CDFW prior to Jan. 1, 2013 are cited as 'CDFG'. The agency is otherwise referred to by its new name, CDFW."

endangered species, but also to state candidate species for listing. Section 86 of the Fish and Game Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CDFW maintains lists for Candidate-Endangered Species and Candidate-Threatened Species, which have the same protection as listed species. Under CESA the term "endangered species" is defined as a species of plant, fish, or wildlife, which is "in serious danger of becoming extinct throughout all, or a significant portion of its range" and is limited to species or subspecies native to California.

Clean Water Act Section 401 Certification or Waiver, and State Discharge Permit under the Porter-Cologne Act

The State of California (State) regulates water quality related to discharge of fill material into waters of the State pursuant to Section 401 of the Clean Water Act. Section 401 compliance is a federal mandate regulated by the State. The local Regional Water Quality Control Boards (RWQCB) have jurisdiction over all those areas defined as jurisdictional under Section 404 of the CWA. In addition, the State regulates water quality for all waters of the State, that may also include isolated wetlands as defined under the California Porter-Cologne Water Quality Control Act (Porter Cologne; Ca. Water Code, Div. 7, §13000 et seq.). The RWQCB regulates discharges that can affect water quality, even if there is no significant nexus to a traditional navigable water body required for Corps determination of jurisdiction over waters of the U.S. In such instances, a Waste Discharge Permit is required to comply with the Porter-Cologne Water Quality Control Act even though the federal Clean Water Act, including Section 401 water quality certifications or Section 404 permits, would not apply.

Section 1602 Lake and Streambed Alteration Agreement

Jurisdictional authority of the CDFW over the bed, bank, or channel of a river, stream, or lake is established under Section 1600 *et. seq.* of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake resulting in a substantial effect on a fish or wildlife resource without notifying the CDFW and completing the Streambed Alteration Agreement process.

3.3.3 Methodology

Sources used to identify significant biological resources that may be present at the project site include special status plant and wildlife species lists published by the USFWS and CDFW, as well as queries of the CNDDB (CDFW, 2012), and the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2012).

3.3.4 Impacts and Mitigation Measures

Significance Criteria

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the proposed project as related to biological resources. The proposed project would have a significant impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The lead agency determined in the NOP/IS (see **Appendix A**) that the following environmental issue areas would result in no impacts or less than significant impacts and do not require further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue areas:

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impacts Discussion

Sensitive Species

Impact 3.3-1: The project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (No Impact)

Because the proposed project would involve construction activities entirely within a public road ROW and nearby developed areas in a fully urbanized portion of the San Fernando Valley, where no suitable habitat for biological species exists, there would be no direct impacts to sensitive plants, wildlife, or vegetation communities. No vegetation removal would be required to install the proposed pipeline. Therefore, no direct impacts to nesting birds protected by the MBTA are expected.

Further, indirect impacts to sensitive plants or wildlife will be negligible because of the existing high level of noise and vibration from heavy vehicle traffic on Foothill Boulevard.

Significance: No Impact.

3.4 Cultural and Paleontological Resources

This chapter addresses the potential impacts of the proposed project to cultural resources in the project vicinity in accordance with the significance criteria established in Appendix G of the *CEQA Guidelines.* This chapter is based on the report *Los Angeles Department of Water and Power Foothill Trunk Line Project Draft Cultural Resources Study*, prepared by ESA, 2013.

Cultural resources are defined as prehistoric and historic sites, structures, districts, and landscapes, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious or any other reason. Under CEQA, paleontological resources, although not associated with past human activity, are grouped within cultural resources. For the purposes of this analysis, cultural resources may be categorized into four groups: archaeological resources, historic resources, including architectural/engineering resources, contemporary Native American resources, and paleontological resources.

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric-era (before European contact) or historic-era (after European contact). The majority of such places in California are associated with either Native American or Euro-American occupation of the area. The most frequently encountered prehistoric or historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and rock art sites. Historic-era archeological sites may include foundations or features such as privies, corrals, and trash dumps.

Historic resources include standing structures, infrastructure, and landscapes of historic or aesthetic significance that are generally 50 years of age or older. In California, historic resources considered for protection tend to focus on architectural sites dating from the Spanish Period (1529-1822) through the early years of the Depression (1929-1930), although there has been recent attention paid to World War II (WWII) and Post War era facilities. Earlier historic resources are often associated with archaeological deposits of the same age. Some resources, however, may have achieved significance within the past 50 years if they meet the criteria for exceptional significance.

Contemporary Native American resources, also called ethnographic resources, can include archaeological resources, rock art, and the prominent topographical areas, features, habitats, plants, animals, and minerals that contemporary Native Americans value and consider essential for the preservation of their traditional values. These locations are sometimes hard to define and traditional culture often prohibits Native Americans from sharing these locations with the public.

Paleontology is a branch of geology that studies the life forms of the past, especially prehistoric life forms, through the study of plant and animal fossils. Paleontological resources represent a limited, non-renewable, and impact-sensitive scientific and educational resource. As defined in this section, paleontological resources are the fossilized remains or traces of multi-cellular invertebrate and vertebrate animals and multi-cellular plants, including their imprints from a previous geologic period. Fossil remains such as bones, teeth, shells, and leaves are found in the geologic deposits (rock formations) where they were originally buried. Paleontological resources include not only the actual fossil remains, but also the collecting localities, and the geologic formations containing those remains.

3.4.1 Setting

General Setting

The project is situated in the northeastern portion of the San Fernando Valley region of Los Angeles County within the districts of Pacoima and Sylmar, which are part of the City of Los Angeles. The San Fernando Valley is a 160 square mile basin bounded by the San Gabriel and Santa Susana mountains on the north and west, the Santa Monica Mountains and Cahuenga Peak on the south, and the Verdugo Mountains on the east (Gumprecht, 2001). The surface deposits within the project area consist of younger Quarternary alluvium, primarily as alluvial fan deposits from the San Gabriel Mountains to the northeast (McLeod, 2012).Fluvial deposits from Pacoima Wash, which bisects the northern portion of the project area, and Tujunga wash, located to the southeast, are present as well.

Although presently a densely populated metropolitan area, historically the San Fernando Valley consisted of relatively flat prairie land bordered by foothills at the bases of the surrounding mountains. The valley floor ranges in elevation from 500 feet above mean sea level (msl) in the southeastern portion of the valley to 1,000 feet above msl in the west. A series of passes through the foothills are located along the southeastern edge of the valley providing access to downtown Los Angeles and the San Gabriel Valley (McCawley, 1996).

Prehistoric Setting

The chronology of southern California is typically divided into three general time periods: the Early Holocene (11,000 to 7,600 Before Present [B.P.]), the Middle Holocene (7,600 to 3,600 B.P.), and the Late Holocene (3,600 B.P. to A.D. 1769). Within this timeframe, the archaeology of southern California is generally described in terms of cultural “complexes.” A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture.

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 11,100 and 10,950 B.P. (Byrd and Raab, 2007). On the mainland, radiocarbon evidence confirms occupation of the Orange County and San Diego County coast by about 9,000 B.P. During the Early Holocene (11,000 to 7,600 B.P.), the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab, 2007).

During the Middle Holocene (7,600 to 3,600 B.P.), there is evidence for the processing of acorns for food and a shift toward a more generalized economy. The first evidence of human occupation in the Los Angeles area dates to at least 9000 years B.P. and is associated with the Millingstone cultures (Wallace, 1955; Warren, 1968). Millingstone cultures were characterized by the collection and processing of plant foods, particularly acorns, and the hunting of a wider variety of game animals (Byrd and Raab, 2007; Wallace, 1955). Millingstone cultures also established more permanent settlements that were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, including seeds, fish, shellfish, small mammals, and birds, were exploited. Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone occupations dating later than 5000 B.P. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

During the Late Holocene (3,600 B.P. to A.D. 1769), many aspects of Millingstone culture persisted, but a number of socioeconomic changes occurred (Erlandson, 1994; Wallace, 1955; Warren, 1968). The native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps. Increasing population size necessitated the intensified use of existing terrestrial and marine resources (Erlandson, 1994). Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence, towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007). Around 1,000 B.P., an episode of sustained drought, known as the Medieval Warm Period, occurred. While this climatic event did not appear to reduce the human population, it did lead to a change in subsistence strategies in order to deal with the substantial stress on resources. The Late Holocene marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended. Although the intensity of trade had already been increasing, it now reached its zenith, with asphaltum (tar), seashells, and steatite being traded from southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl. Small projectile points, ceramics, including Tizon brownware pottery, and obsidian from Obsidian Butte (Imperial County), are all representative artifacts of the Late Holocene.

Ethnographic Setting

The project area is located in a region traditionally occupied by the Takic-speaking Gabrielino-Tongva Indians. The term “Gabrielino” is a general term that refers to those Native Americans who were administered by the Spanish at the Mission San Gabriel Arcángel. Many contemporary Gabrielino identify themselves by the name “Tongva.” Prior to European colonization, the Gabrielino-Tongva occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Kroeber, 1925). The Gabrielino language was part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino-Tongva Indians were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply. Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino-Tongva are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925). Villages are reported to have been the most abundant in the San Fernando Valley, the Glendale Narrows area north of downtown, and around the Los Angeles River's coastal outlets (Gumprecht, 2001). The village of *Pasek* was located near the site where Mission San Fernando Rey de España (Mission San Fernando) was established, about three miles west of the project area (Kroeber, 1925). Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game were hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith, 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry.

Gabrielino-Tongva society was characterized by patrilineal, non-localized clans, each clan consisting of several lineages. The Gabrielino-Tongva inhabited large circular, domed houses constructed of willow poles thatched with tule (Bean and Smith, 1978). These houses could sometimes hold up to 50 people. Other village structures of varying sizes served as sweathouses, ceremonial enclosures, and granaries.

At the time of Spanish contact, many Gabrielino-Tongva practiced a religion that was centered around the mythological figure *Chinigchinich* (Bean and Smith, 1978). This religion may have been relatively new when the Spanish arrived, and was spreading at that time to other neighboring Takic groups. The Gabrielino-Tongva practiced both cremation and inhumation of their dead. A wide variety of grave offerings, such as stone tools, baskets, shell beads, projectile points, bone and shell ornaments, and otter skins, were interred with the deceased.

Coming ashore on Santa Catalina Island in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino-Tongva; the 1769 expedition of Portolá also passed through Gabrielino-Tongva territory (Bean and Smith, 1978). Native Americans suffered severe depopulation and their traditional culture was radically altered after Spanish contact. Nonetheless, Gabrielino-Tongva descendants still reside in the greater Los Angeles and Orange County areas and maintain an active interest in their heritage.

Historical Setting

Spanish Period (A.D. 1769-1821)

Although Spanish explorers made brief visits the region in 1542 and 1602, sustained contact with Europeans did not commence until the onset of the Spanish Period. In 1769 Gaspar de Portolá led an expedition from San Diego, passing through the San Fernando Valley on its way to the San Francisco Bay (McCawley, 1996). This was followed in 1776 by the expedition of Father Francisco Garcés (Johnson and Earle, 1990).

In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples. Mission San Fernando, the seventh of 21 Franciscan missions in Alta California, was founded on September 8, 1797, approximately 3 miles west of the project area. The Mission's location was chosen as a stopping point between Mission San Gabriel and Mission San Buenaventura. Mission San Fernando prospered by selling cattle hides and tallow and various fruit crops to the nearby Pueblo of Los Angeles (Wright, 1992). By the early 1800s, the majority of the surviving Gabrielino population had entered the mission system. This lifestyle change brought with it significant negative consequences for Gabrielino health and cultural integrity.

In an effort to promote Spanish settlement of Alta California, Spain granted several large land concessions from 1784 to 1821. At this time, unless certain requirements were met, Spain retained title to the land (State Lands Commission [SLC], 1982).

Mexican Period (A.D. 1821-1848)

The Mexican Period began when Mexico won its independence from Spain in 1821. Mexico continued to promote settlement of California with the issuance of land grants. In 1833, Mexico began the process of secularizing the missions, reclaiming the majority of mission lands and redistributing them as land grants. According to the terms of the Secularization Law of 1833 and Regulations of 1834, at least a portion of the lands would be returned to the Native populations, but this did not always occur (Milliken et al., 2009).

Many ranchos continued to be used for cattle grazing by settlers during the Mexican Period. Hides and tallow from cattle became a major export for Californios (native Hispanic Californians), many of whom became wealthy and prominent members of society. The Californios led generally easy lives, leaving the hard work to vaqueros (Hispanic cowhands) and Indian laborers (Pitt, 1994; Starr, 2007).

American Period (A.D. 1848-present)

In 1846, the Mexican-American War broke out. Mexican forces were eventually defeated in 1847 and Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo in 1848. California officially became one of the United States in 1850. While the treaty recognized right of Mexican citizens to retain ownership of land granted to them by Spanish or Mexican authorities, the claimant was required to prove their right to the land before a patent was given. The process was lengthy, and generally resulted in the claimant losing at least a portion of their land to attorney's fees and other costs associated with proving ownership (Starr, 2007).

When the discovery of gold in northern California was announced in 1848, a huge influx of people from other parts of North America flooded into California. The increased population provided an additional outlet for the Californios' cattle. As demand increased, the price of beef skyrocketed and Californios reaped the benefits. However, a devastating flood in 1861, followed by droughts in 1862 and 1864, led to a rapid decline of the cattle industry; over 70 percent of cattle perished during these droughts (McWilliams, 1946; Dinkelspiel, 2008). This event, coupled with the burden of proving ownership of their lands, caused many Californios to lose their lands during this period (McWilliams, 1946). Former ranchos were subsequently subdivided and sold for agriculture and residential settlement.

The first transcontinental railroad was completed in 1869, connecting San Francisco with the eastern United States. Newcomers poured into northern California. Southern California experienced a trickle-down effect, as many of these newcomers made their way south. The Southern Pacific Railroad extended this line from San Francisco to Los Angeles in 1876. The second transcontinental line, the Santa Fe, was completed in 1886 and caused a fare war, driving fares to an unprecedented low. Settlers flooded into the region and the demand for real estate skyrocketed. As real estate prices soared, land that had been farmed for decades outlived its agricultural value and was sold to become residential communities. The subdivision of the large ranchos took place during this time (Meyer, 1981; McWilliams, 1946). During the first three decades of the 20th century, more than 2 million people moved to Los Angeles County, transforming it from a largely agricultural region into a major metropolitan area.

Los Angeles

On September 4, 1781, El Pueblo de la Reina de los Angeles was established not far from the site where Portolá and his men camped during their 1769 excursion. Father Juan Crespi, who accompanied the 1769 expedition, had noted the suitability of the area for supporting a large settlement. He named the river El Rio de Nuestra Senora la Reyna de Los Angeles de Porciuncula (The River of Our Lady the Queen of the Angels of Porciuncula) (Gumprecht, 2001).

The pueblo was first established in response to the increasing agricultural needs of Spanish missions and presidios in Alta California. A land grant of 28 acres was issued to California Governor Felipe de Neve in 1781. A small group of colonists from Mexico then set out to develop a pueblo near the river. The original pueblo consisted of a central square surrounded by twelve houses and a series of agricultural fields. Thirty-six fields occupied 250 acres between the town and the river to the east (Gumprecht, 2001).

By 1786, the flourishing pueblo attained self-sufficiency and funding by the Spanish government ceased (Gumprecht, 2001). Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew, and by the early 1800s the pueblo produced surplus wheat, corn, barley, and beans for export. A large number of livestock, including cattle and sheep, grazed in the surrounding lands. Wine production gained importance and vineyards blanketed the landscape between present-day San Pedro Street and the river.

After Mexico gained its independence, Los Angeles became the capital of the California territory in 1835. But few visited the area and the town remained a “sleepy agricultural village” until the Gold Rush in 1848 (Gumprecht, 2001). During the Gold Rush, Los Angeles ranchers were able to command high prices for their cattle, as demand outstripped supply.After California was admitted to the Union in 1850, the population of Los Angeles tripled within the next decade (Gumprecht, 2001).

When Los Angeles was connected to the transcontinental railroad via San Francisco on September 5, 1876, it experienced a boost in population. The city would experience its greatest growth in the 1880s when two more direct rail connections to the East Coast were constructed. The Southern Pacific completed its second transcontinental railway, the Sunset Route from Los Angeles to New Orleans, in 1883 (Orsi, 2005). In 1885, the Santa Fe Railroad completed a competing transcontinental railway to San Diego, with connecting service to Los Angeles (Mullaly and Petty, 2002). The resulting fare wars led to an unprecedented real estate boom. Despite a subsequent collapse of the real estate market, the population of Los Angeles increased 350 percent from 1880 to 1890 (Dinkelspiel, 2008).

From 1890 to 1900, the city continued to grow, and many infrastructure projects were completed during this decade (McWilliams, 1946). E.L. Doheny discovered oil in 1892, adding fuel to the flame. From 1900 to 1920, Los Angeles became a tourist mecca (McWilliams, 1946). The Los Angeles Aqueduct was constructed and a large portion of the San Fernando Valley, including the districts of Pacoima and Sylmar, annexed to the city during the first decade of the 20th century. From 1920 to 1930, Los Angeles experienced another population explosion, due in part to the automobile and the development of the movie industry.

San Fernando Valley

After the secularization of the missions in 1834, most of the San Fernando Valley became part of the Rancho Ex-Mission de San Fernando land grant. In June 1846, Alta California Governor Pio Pico sold the San Fernando Valley to Eulogio de Celis for $14,000 to help finance the Mexican-American War (LAT, 1998; San Fernando Valley Historical Society, 2012). Pio Pico later acquired a half share in the land.

In 1869, the San Fernando Valley Homestead Association, headed by Isaac Lankershim and Isaac Newton Van Nuys, acquired the southern half of the valley from Pio Pico for $115,000. In 1874, Charles Maclay, George K. Porter, and B.F. Porter acquired the northern half of the rancho for $117,500 from de Celis' heirs (LAT, 1998; Roderick, 2001). The former state senator Charles Maclay founded the town of San Fernando and the Southern Pacific Railroad extended its route from Los Angeles to the new township.

The San Fernando Valley was slow to grow as its residents and farmers could not legally use water from the river, since the City of Los Angeles had obtained exclusive water rights. Wheat was the primary crop, since its cultivation required little water. Other crops, such as vineyards, melons, fruits, vegetables, had to be irrigated using well water (Gumprecht, 2001). The completion of the Los Angeles Aqueduct in 1913 brought greater access to water to the San Fernando Valley, and allowed for significant population growth (Pitt and Pitt, 1997). Agriculture in the valley flourished in the 1920s (Roderick, 2001). Crops included tomatoes, grapes, lima beans, walnuts, oranges, lemons, and sugar beets.

Pacoima

In 1887, Jouett Allen purchased 1,000 acres of land between the Pacoima and Tujunga washes from the Maclay Rancho Water Company (Pacoima Chamber of Commerce, n.d.). Allen kept

500 acres of the land for himself and subdivided the remaining acreage into the community of Pacoima. The community was laid out to conform to the recently constructed Southern Pacific Railroad line. In 1888, The 100 foot wide, eight mile long main street was laid in the center of the subdivision. The street was first named Taylor Avenue, then was called Pershing Street and is presently know as Van Nuys Boulevard, which crosses the southern portion of the project area. The early town planners established a number of restrictions resulting in the construction of large, two-story residences that were required to exceed $2000 in value (Pacoima Chamber of Commerce, n.d.). However, in 1891, a flood virtually wiped out the town, stalling the growth of the community. Land owners turned from developing the land for residential purposes to farming, and by 1924, olive, peach, apricot, and citrus orchards as well as fields of alfalfa and chicken ranches were plentiful. For the first half of the twentieth century, Pacoima remained largely an agricultural community, but became a blue collar suburb by the 1950s. Today, Pacoima is a district within the City of Los Angeles with a population of 81,318 and is serviced by Interstates 5 (I-5) and 210 (I-210).

Sylmar

The present-day District of Sylmar was settled in the mid-1800s and was called Morningside (Militant Angelino, 2012). A pamphlet espousing the region’s suitability for growing olives, written by local businessman, Robert Widney, encouraged a group of businessmen from Decatur, Illinois to buy 2,000 acres in the area (Sylmar Chamber of Commerce, 2012). By 1890, the Decatur businessmen had planted 1,100 acres of olives and organized themselves into the Los Angles Olive Growers Association. The Growers Association built a packing plant and initially sold olives under the Taylor Olive label; eventually the olives were sold under the Sylmar (meaning sea of trees) label (Sylmar Chamber of Commerce, 2012). In 1915, the community of Sylmar was annexed to the City of Los Angeles and became a district within the city. On February 9, 1971 a magnitude 6.6 earthquake struck the San Fernando Valley. Some of the most devastating damage occurred in Sylmar where major structures at the Olive View and Veterans Administration hospitals collapsed (USGS, 2012). Today, the population of Sylmar is close to 90,000 and the district is serviced by I-5 and I-210.

Griffith Ranch

In 1912, acclaimed film director D.W. Griffith purchased a 550 acre ranch that consisted of mountains, riverbeds, and orchards, situated southeast of Pacoima Wash, near the mouth of Pacoima Canyon, located northeast of the project area (Neasham, 1959). Griffith Ranch, as it came to be called, was the setting for many western films such as “Custer’s Land Stand” and was the inspiration for Griffith’s most well-known movie, “Birth of a Nation” (Padilla, 1991). Although Griffith did not actually live on the ranch, he often threw open-air parties on the property that were attended by many well-known show business personalities (Willman, 1975). In 1948, after Griffith’s death, the ranch was purchased by Fritz B. Burns, an admirer of the director.

Paleontological Resources

Surface deposits within the project area consist of younger Quaternary Alluvium, primarily as alluvial fan deposits from the San Gabriel Mountains to the northeast, in addition to fluvial deposits from the Pacoima and Tujunga Washes (Mcleod, 2012). Typically, the younger Quaternary deposits do not contain significant vertebrate fossils, especially in the upper most layers. However, throughout the San Fernando Valley, older Quaternary deposits may lie at different depths beneath the younger alluvium (Mcleod, 2012).

Identification of Cultural Resources within the Project area

Archival Research

A records search for the project was conducted on December 14, 2012 at the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The records search included a review of all recorded archaeological sites and cultural resource reports within a 0.50-mile radius of the project area. The records search also included a review of California Points of Historical Interest (PHI), California Historical Landmarks (CHL), the California Register of Historic Resources (California Register), the National Register of Historic Places (National Register), the California State Historic Resources Inventory (HRI) listings, and the City of Los Angeles Historic-Cultural Monuments. Additional archival research was conducted for the project, including a review of all available historic maps and aerial photographs as well as the California Department of Transportation’s (Caltrans) Bridge Inventory.

The records search indicated that a total of 37 cultural resources studies have been conducted within a 0.50-mile radius of the project area. Of these 37 previous studies, only one appears to include portions of the project area. Approximately 20 percent of the project area was included in the single previous cultural resources study to be conducted within the project area.

The records search indicated that a total of ten cultural resources have been previously recorded within the 0.50-mile record search study area (**Table 3.4-1**). Of the ten resources, three (CA-LAN-2073H, CA-LAN-2089H, and P-19-003416) are historic-period archaeological sites, six (P-19-172553, P-19-186559 [CHL 716], P-19-186958, P-19-190023, Office of Historic Preservation Property 175702, and Bridge CA53C-0958) are historic built resources, and one (P-19-100436) is a prehistoric isolate. Of these ten resources, one (CA53C-0958, Foothill Bridge over Pacoima Wash) is located within the project area, and two resources, a 1915 residence (P-19-172553) and a plaque commemorating Griffith Ranch (P-19-186559 [CHL 716]) are located adjacent (within 100 feet) to the project area.

**TABLE 3.4-1
CULTURAL RESOURCES WITHIN 0.50 MILE OF THE PROJECT AREA**

P-Number (P-19-)	Trinomial (CA-LAN-)	Other Designation	Description	Date Recorded
002073	2073H	-	Former location of a 1920s-1930s residential subdivision	1992
002089	2089H	Callity Ranch House Site	Former location of a ranch house associated with the E.R. Callity citrus farm	1992
003416	-	-	Mid-20th century pony and miniature railroad ride	2005
100436	-	-	Isolate rim fragment of a mano or metate	2002
172553**	-	-	Historic residence	1983
186559**	-	CHL 716	Landmark commemorating Griffith Ranch	n.d.
186958	-	Comfort Station and Service Yard	Maintenance buildings and yard associated with the Hansen Dam recreation area	2005
190023	-	-	One-story manufacturing building constructed in 1966	2012
-	-	CA53-0958*	Foothill Blvd. bridge over Pacoima Wash	-
-	-	OHP Property # 175702	Property located at 13260 Maclay Street	-

* Indicates resource within project area
**Indicates resource adjacent to project area
CHL=California Historical Landmark
OHP = Office of Historic Preservation

SOURCE: SCCIC, 2012

Resource P-19-172553: This resource is described as a one-story, clapboard bungalow built in a rectangular plan with a medium pitched hip roof and designed with some colonial revival details (City of Los Angeles, 1983). The residence was built in 1915 and was moved to its present location at a later date. The resource was recorded in 1983 and is located at 12618 Foothill Boulevard, immediately southwest of the project area (City of Los Angeles, 1983). It appears that the resource has not been evaluated for its eligibility for listing in either the National Register or the California Register. The HRI lists the property as having been evaluated for historical significance. The resource is listed in the Historic Property Data File and has been assigned a California Historical Resource status code of 5S2, eligible for local listing or designation (OHP, 2012).

Resource P-19-186559: This resource is CHL 716, a plaque commemorating Griffith Ranch. The plaque is designated as CHL 716 located on the northeast side of Foothill Boulevard, north of Vaughn Street, adjacent to the project area. This resource has not been previously evaluated for its eligibility to either the National Register or California Register.

Resource CA53C-0958: This resource is identified as the Foothill Boulevard Bridge over Pacoima Wash. The bridge is located within the central portion of the project area approximately

0.20 miles southeast of Maclay Street. The Foothill Boulevard Bridge over the Pacoima Wash is a closed spandrel concrete arch bridge that measures approximately 195 feet in length and 61 feet wide. The bridge was constructed in 1923 and rehabilitated in 1959. Based on archival research, the bridge was the last link to connect the foothill cities, making transportation more convenient for local and through traffic (LAT, 1924). Caltrans assigned the bridge a status code of Category 5, not eligible for listing in the National Register through individual evaluation (Caltrans, 2013). It does not appear to have been previously evaluated for eligibility to the California Register.

Historic Map and Aerial Review

The 1900, 1940 and 1947 San Fernando 15’ USGS topographic quadrangles, as well as historic aerial photographs from 1953, 1954, 1969, and 1980 and topographic maps from 1910, 1930, 1959, 1967 and 1975 (historicaerials.com, 2012) were examined. The 1910 topographic map shows a number of northeast-southwest and northwest-southeast oriented roads crisscrossing the project area on the northern and southern sides of Pacoima Wash. Other than the roads, the project area is largely undeveloped with the closest developments being in San Fernando and Pacoima along the San Francisco and New Orleans Line of the Southern Pacific Railroad. The maps indicate that little development occurred within the project area between 1910 and 1947, with the exception of the construction of Foothill Boulevard across Pacoima Wash which is evident on the 1930 topographic map, and the development associated with the City of San Fernando extending to Foothill Boulevard by 1947. The maps and aerial photographs indicate large scale development within the project area from 1947 to 1980. The 1947 topographic map indicates that a number of orchards were present in both the northern and southern portions of the project area, and aerial photographs from 1953 and 1954 show that the southern portion of the project area consists largely of agricultural fields and orchards. By 1959, much of the northern portion of the project area was fully developed with the boundaries of the City of San Fernando extending to Foothill Boulevard. The 1967 topographic map and the 1969 historic aerial photograph show that the southern portion of the project area as being developed, with the district of Pacoima extending to Foothill Boulevard. The 1975 topographic map shows I-210 running parallel to Foothill Boulevard, northeast of the project area, extending to North Maclay Avenue. The 1980 aerial photograph shows the completed I-210 extending the entire length of the project area.

Native American Contact

The Native American Heritage Commission (NAHC) maintains a confidential Sacred Lands File (SLF) containing sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on December 10, 2012 to request a search of the SLF. The NAHC responded to the requests in a letter dated December 10, 2012. The letter did not indicate that Native American cultural resources are known to be located within the project area on the San Fernando 7.5-minute USGS quadrangle. The letter also included an attached list of Native American contacts.

Contact letters to all individuals and groups indicated by the NAHC as having affiliation with the project area were prepared and mailed on January 7, 2013. The letters described the proposed project and included a map depicting the location of the project. Recipients were requested to reply with any information they are able to share about Native American resources that might be affected by the project. To date, no responses have been received.

Cultural Resource Survey

A cultural resources survey of the project area was conducted on January 9, 2013 by Monica Strauss, M.A., R.P.A. and Madeleine Bray, M.A., R.P.A. Survey methods varied depending upon surface conditions, with transects spaced no greater than 15 meters. Areas with visible ground surface were surveyed on foot for the presence of cultural resources. The portions of the project located in developed areas where no ground surface was visible were subject to a windshield survey in order to identify any historic built resources. The project area consists of existing asphalt roadway with either paved shoulders or no shoulders, or areas covered by turf or dense vegetation. Newly recorded resources were assigned temporary numbers, photographed, and documented on California Department of Parks and Recreation (DPR) 523 forms.

One newly recorded resource was identified as a result of the survey, temporarily designated FH-1. Resource FH-1 is a linear cement-mortared rock feature, possibly a wall foundation or basin wall segment. The feature is 9 feet long (NW-SE) by approximately 2 feet wide. The feature is made out of irregularly-shaped rocks. Small to medium sized rocks range in size from 1 to 5 inches in diameter. The larger rocks range in size from 6 to 8 inches in diameter. The rocks are mortared into the northeast face of the feature, which has medium-aggregate free-formed poured concrete.. There is no mortar between the smaller rocks and the resource does not appear to have any diagnostic or markings features. A chunk of concrete with six to eight bricks with no identifying marks is located approximately 2 feet west of the feature. There are irregularly-shaped cobbles mortared into one side of the concrete fragment, suggesting that it may have been part of the rock and cement feature. No artifacts were associated with the feature, although a general scatter of modern debris and broken glass was observed.

The resource is located immediately adjacent (within 50 feet) to the project area. The resource is located approximately three miles east of Mission San Fernando, is within the Ex-Mission de San Fernando land grant, and is located southwest of what once was Griffith Ranch. Prior to development, the land in the vicinity of the resource was likely used for grazing cattle and agriculture during the eighteenth, nineteenth, and early twentieth centuries (California Mission Resource Center, 2013; Sylmar Chamber of Commerce, 2012). During the early twentieth century, early movies were shot in locations such as Griffith Ranch.

A review of the 1927 Pacoima 7.5’ USGS topographic quadrangle, the 1940 San Fernando 152 USGS topographic quadrangle, as well as historic aerial photographs from the years 1953, 1959, 1969, 1972, 1978, and 1980 and topographic maps from the years 1945 and 1954 indicate that the area in the vicinity of FH-1was not developed until at least 1953 (historicaerials.com, 2012). A topographic map from 1945 does not show any structures within the area, however an aerial photograph from 1953 and a topographic map from 1954 shows a structure located to the southeast of the resource. An aerial photograph from 1959 shows two more structures located immediately southeast of the feature. Due to the poor resolution of the historic aerial photographs, it is difficult to discern the type of structures in the vicinity of the resource. However, it is likely that they are residences. The aerial photographs from 1969 to 1978 indicate that the lot adjoining the resource was developed possibly for agricultural purposes as indicated by rows of trees lining the perimeter of the lot, possibly acting as wind breaks. By 1980 the rows of trees are no longer present. Because resource FH-1 lacks diagnostic marks, it is difficult to discern its function and date of construction. Because of this, the resource cannot be definitively tied to any particular historic period or event.

Evaluation of Resources

As part of this study, the significance of resources CA53C-0958 (Foothill Boulevard Bridge over Pacoima Wash) and FH-1(a cement-mortared rock feature) were evaluated by applying the California Register eligibility criteria provided in PRC Section 5024.1[c]. Additionally, because these two resources are located within the City of Los Angeles, they were evaluated to determine if they meet the criteria set forth in the City of Los Angles Cultural Heritage Ordinance to be designated as Historic-Cultural Monuments.

CA53C-0958, Foothill Boulevard Bridge over Pacoima Wash

Resource CA53C-0958, the Foothill Boulevard Bridge over Pacoima Wash, has been previously evaluated as not eligible for listing in the National Register; however it has not been previously evaluated for listing in the California Register. Although the bridge was a link connecting the cities in the northeastern portion of the San Fernando Valley, it has not played a unique or significant role in the development of trade and transportation within the region (California Register Criterion 1; City of Los Angeles Cultural Heritage Ordinance 1), nor is it associated with any significant individuals (California Register Criterion 2; City of Los Angeles Cultural Heritage Ordinance Criterion 2). Moreover, the bridge was constructed at a similar time and in a similar style as dozens of other bridges within the region and does not appear to embody the distinctive characteristics of a type, period, region, or method of construction, nor does it represent the work of an important creative individual, or possesses high artistic values (California Register Criterion 3; City of Los Angeles Cultural Heritage Ordinance Criteria 3 and 4). Additionally, the bridge is unlikely to yield information important in regional history (California Register Criterion 4). For these reasons, resource CA53C-0958 is recommended not eligible for listing in the California Register and is not recommended as a historical resource or unique archaeological resource under CEQA. Moreover, it is recommended not eligible for designation as a Historic-Cultural Monument within the City of Los Angeles. No further work is recommended for this resource.

FH-1

Resource FH-1 consists of a cement-mortared rock feature, possibly a wall foundation or reinforced basin wall segment constructed of irregularly-shaped rocks and an associated chunk of concrete and brick. The resource lacks diagnostic markings, making it difficult to discern its purpose and date of construction. Archival research did not indicate that the resource could be definitively tied to a historic event or person (California Register Criteria 1 and 2; City of Los Angeles Cultural Heritage Ordinance Criteria 1 and 2). The resource is constructed of cement, rocks, bricks, and mortar. It does not appear to embody the distinctive characteristics of a type, period, or method of construction and possesses no distinguishing design or artistic values (California Register Criterion 3; City of Los Angeles Cultural Heritage Ordinance Criterion

3) nor is it a notable work of a master builder, designer, or architect whose individual genius influenced his or her age (City of Los Angeles Cultural Heritage Ordinance Criterion 4). The resource does not appear to have the potential to yield information important in history (California Register Criterion 4). Resource FH-1 is recommended not eligible for listing in the California Register and is not recommended as a historical resource or unique archaeological resource under CEQA. Additionally, it is recommended not eligible to be designated as a Historic-Cultural Monument based on the standards set forth in the City of Los Angeles Cultural Heritage Ordinance.

Identification of Paleontological Resources within the Project area

Paleontological Records Search

A paleontology collection records search conducted by the Los Angeles County Natural History Museum (NHM) on December 31, 2012 indicated that no vertebrate fossil localities have been identified within the proposed project area (Mcleod, 2012). However, the records search did indicate that fossil localities have been documented in the vicinity of the project area. These fossil localities are known to occur in the same sediments that occur within the project area. The nearest localities occur at the Van Norman Reservoir, located west to west-northwest of the project area. These localities include: LACM 3397, which produced fossil bison, *Bison*, at a seventy-five foot depth; LACM 7152, which produced fossil mammoth, *Mammuthus*, and bison, *Bison*, in terrace deposits; and LACM 1733, which produced fossil horse, *Equus*, at an unknown depth. An additional locality, LACM 5745, located east of I-5 and south of I-210, produced fossil mastodon, *Mammut*, and horse, *Equus*, in fill dirt.

3.4.2 Regulatory Framework

Cultural Resources

Numerous laws and regulations require federal, state, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The National Register; CEQA; and the California Register, Public Resources Code (PRC) 5024, are the primary federal and State laws governing and affecting preservation of cultural resources of national, State, regional, and local significance.

Federal

National Register of Historic Places

The National Register was established by the National Historic Preservation Act (NHPA) of 1966, as “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (Code of Federal Regulations [CFR] 36 Section 60.2). The National Register recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior, 1995):

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least fifty years old to be eligible for National Register listing (U.S. Department of the Interior 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (U.S. Department of the Interior 1995). The National Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

State

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State’s jurisdictions.

California Register of Historical Resources

The California Register is “an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (California Public Resources Code § 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (California Public Resources Code § 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, State, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at PRC Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The *CEQA Guidelines* (Section 15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (*CEQA Guidelines* Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required.

The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

Local

City of Los Angeles General Plan

The City of Los Angeles General Plan (adopted 2001) states as its objective, to “protect the city’s archaeological and paleontological resources for historical, cultural, research, and/or educational purposes” by continuing “to identify and protect significant archaeological and paleontological resources known to exist or that are identified during land development, demolition, or property modification activities.”

In addition, the City will:

> continue to protect historic and cultural sites and/or resources potentially affected by proposed land development, demolition, or property modification activities…The city's environmental guidelines require the applicant to secure services of a bona fide archaeologist to monitor excavations or other subsurface activities associated with a development project in which all or a portion is deemed to be of archaeological significance. Discovery of archaeological materials may temporarily halt the project until the site has been assessed, potential impacts evaluated and, if deemed appropriate, the resources protected, documented and/or removed (City of Los Angeles, 2001).

In addition to the National Register and the California Register, three additional types of historic designations may apply at a local level:

1) Historic-Cultural Monument
2) Designation by the Community Redevelopment Agency as being of cultural or historical significance within a designated redevelopment area
3) Classification by the City Council as an Historic Preservation Overlay Zone

The City of Los Angeles Cultural Heritage Ordinance states that a Historic-Cultural Monument designation is reserved for those resources that have a special aesthetic, architectural, or engineering interest or value of a historic nature and meet one of the following criteria (Department of City Planning, 2009). A historical or cultural monument is any site, building, or structure of particular historical or cultural significance to the City of Los Angeles, such as historic structures or sites:

- in which the broad cultural, political, economic, or social history of the nation, state, or community is reflected or exemplified; or
- which are identified with historic personages or with important events in the main currents of national, state, or local history; or
- which embody the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period, style, or method of construction; or

- which are a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

In addition, the Los Angeles Municipal Code (LAMC) Section 91.106.4.5 states that the Building Department “shall not issue a permit to demolish, alter or remove a building or structure of historical, archaeological or architectural consequence if such building or structure has been officially designated” by a federal, state, or local authority.

Paleontological Resources

Federal

A variety of federal statutes specifically address paleontological resources. They are generally applicable to a project if that project includes federally owned or federally managed lands or involves a federal agency license, permit, approval, or funding. Federal legislative protection for paleontological resources stems from the Antiquities Act of 1906 (PL 59-209; 16 United States Code 431 et. seq.; 34 Stat. 225), which calls for protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal lands.

State

Paleontological resources are also afforded protection by CEQA. Appendix G (Part V) of the *CEQA Guidelines* provides guidance relative to significant impacts on paleontological resources, stating that a project will normally result in a significant impact on the environment if it will “…disrupt or adversely affect a paleontologic resource or site or unique geologic feature, except as part of a scientific study.” Section 5097.5 of the Public Resources Code specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for the damage or removal of paleontological resources.

Local

The City of Los Angeles General Plan (adopted 2001) states as its objective, to “protect the city’s … paleontological resources for … educational purposes” by continuing “to identify and protect significant … paleontological resources known to exist or that are identified during land development, demolition, or property modification activities.”

The city's environmental guidelines require that if a land development project is within a potentially significant paleontological area, the developer is required to contact a bona fide paleontologist to arrange for assessment of the potential impact and mitigation of potential disruption for damage to the site (City of Los Angeles, 2001). Additionally, if significant paleontological resources are uncovered during project related activities, authorities are to be notified and the designated paleontologist may order excavations stopped, within reasonable time limits to enable assessment, removal, or protection of the resources. Within Los Angeles County, the Los Angeles County Museum of Natural History, including the Georg C. Page Museum, provides advice concerning paleontological resources.

Professional Standards

The Society for Vertebrate Paleontology (SVP) has established standard guidelines for acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional paleontologists in the nation adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most California State regulatory agencies accept the SVP standard guidelines as a measure of professional practice.

3.4.3 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this EIR and consistent with Appendix G of the *CEQA Guidelines*, the proposed project is considered to have a significant impact if it would result in any of the following:

- A substantial adverse change in the significance of a historical resource that is either listed or eligible for listing in the National Register, the California Register, or a local register of historic resources;
- A substantial adverse change in the significance of a unique archaeological resource;
- Disturbance or destruction of a unique paleontological resource or site or unique geologic feature; or
- Disturbance of any human remains, including those interred outside of formal cemeteries.

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (Public Resources Code, Section 21084.1). *CEQA Guidelines* Section 15064.5 defines a "substantial adverse change" in the significance of a historical resource to mean physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be "materially impaired" (*CEQA Guidelines*, Section 15064.5[b][1]). Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the California Register or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

Impacts Discussion

Impact 3.4-1: The project would cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5. (Less-Than-Significant with Mitigation)

No archaeological or built architectural resources either listed in or eligible for the National Register, California Register, or local register are known to be located within the project area.

Therefore, there would be no impact to known historical resources as a result of project implementation.

Field survey and archival review identified one resource, CA53C-0958 (Foothill Boulevard Bridge over Pacoima Wash), located within the project area, and three historic-period resources, FH-1 (a cement-mortared rock feature), P-19-186559 (CHL 716, plaque commemorating Griffith Ranch) and P-19-172553 (a residence constructed in 1915), located adjacent to the project area.

Resource CA53C-0958 has been previously recommended not eligible for listing in the National Register. Likewise, the resource is recommended as not eligible for listing in the California Register and is not recommended significant under CEQA, nor is it recommended eligible for designation as a Historic-Cultural Monument based on the criteria set forth in the City of Los Angeles Cultural Heritage Ordinance.

Resources P-19-186559 and P-19-172553 are located adjacent to the project area and were not evaluated, but rather for the purposes of this project are assumed eligible for the California Register and will be avoided. No direct impacts to these resources will occur. Additionally, the project involves the installation of a subterranean pipeline and therefore no visual or other indirect impacts to the integrity of the resources would occur.

Resource FH-1 is located immediately adjacent to the project area. It is recommended as not eligible for listing in the California Register, nor is it recommended eligible for designation as a Historic-Cultural Monument based on the criteria set forth in the City of Los Angeles Cultural Heritage Ordinance.

Ground-disturbing activities associated with the proposed project could impact unknown buried cultural resources that could qualify as historical resources as defined by CEQA, which would be a significant impact. Survey identified that the project area has been subject to substantial disturbance associated with the development of the districts of Pacoima and Sylmar, and the City of San Fernando. However, the project area is located within three miles of Mission San Fernando and the Tongva village of *Pasek,* and was part of the Ex-Mission de San Fernando land grant. Because the project area is located in a region of the valley that has been consistently occupied since at least the ethnographic period, the proposed project has the potential to encounter buried cultural resources. The proposed project involves trenching to a depth of 11 feet and excavation for bore pits of up to 40 feet, which could extend into undisturbed soils. These actions have the potential to unearth, expose, or disturb subsurface archaeological, historical, or Native American resources. However, with the implementation of **Mitigation Measures CUL-1** and **CUL-2**, impacts to archaeological resources would be reduced to less than significant.

Mitigation Measures

CUL-1: Prior to earth moving activities, a qualified archaeologist meeting the Secretary of the Interior's qualifications standards for archaeology shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of cultural resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources. The applicant shall ensure that construction personnel are made available for and attend the training and shall retain documentation demonstrating attendance.

CUL-2: In the event of the discovery of historical or archaeological materials, the contractor shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by the qualified archaeologist. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone or concrete footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. After cessation of excavation, the contractor shall immediately contact LADWP. The contractor shall not resume work until authorization by LADWP is received.

LADWP shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior’s Standards for a Qualified Archaeologist, to evaluate the significance of the materials and recommend appropriate treatment measures prior to resuming any construction-related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA, preservation in place is the preferred manner of mitigation. In the event preservation in place is demonstrated to be infeasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist in consultation with the City. LADWP shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curational facility. The report(s) documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to LADWP and to the South Central Coastal Information Center.

Significance after Mitigation: Less-Than-Significant Impact.

Impact 3.4-2: Implementation of the proposed project could adversely affect paleontological resources. (Less-Than-Significant with Mitigation)

While no fossil localities have been previously recorded within the project area, several fossil localities had been recorded nearby in the same type of sediments that underlie the project area. The nearby fossil recoveries were associated with Quaternary Alluvium occurring at the Van Norman Reservoir, located west to west-northwest of the project area. An additional locality, associated with Quaternary Alluvium has been documented to the northwest of the project area, east of I-5 and south of I-210. These localities have produced vertebrate fossils remains of bison, mammoth, mastodon, and horse.

The majority of the project area appears to be underlain by younger Quaternary Alluvium. While significant vertebrate fossils are unlikely to be contained in the uppermost layers, deeper excavations into underlying older Quaternary deposits retain the potential to uncover fossil vertebrates. While the depth of the younger alluvium beneath the project area is unknown, thickness of younger Quaternary Alluvial sediments varies within the San Fernando Valley. The proposed project involves trenching or excavation to a depth of 40 feet, and there is the potential for excavation to extend into older Quaternary deposits and thus encountering paleontological resources. Much of the excavation activities would occur in engineered fill material and in areas of the roadway where other utilities exist. Some native soils may be encountered and disturbed during the trenching or pipe jacking activities with the implementation of **Mitigation Measure CUL-3** impacts to paleontological resources would be reduced to less than significant.

> **CUL-3:** In the event fossils are exposed during earth moving, the monitor in coordination with LADWP, shall halt or redirect construction activities to other work areas so the find can be evaluated. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.
>
> Following the completion of the above tasks, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to LADWP and to the Natural History Museum of Los Angeles County.

Significance after mitigation: Less-Than-Significant Impact.

Impact 3.4-3: Implementation of the proposed project could result in the disturbance of human remains. (Less-Than-Significant with Mitigation)

The land use designations for the proposed project does not include cemetery uses and no known human remains exist within the project area. However, since the nature of the proposed project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains interred outside of a formal cemetery. **Mitigation Measure CUL-4** would ensure that impacts to human remains would be less than significant.

Mitigation Measures

> **CUL-4*:*** If human remains are uncovered during project construction, LADWP shall immediately halt work, contact the Los Angeles County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the Native American Heritage Commission (NAHC) will be notified, in accordance with

Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). The NAHC shall designate a Most Likely Descendent (MLD) for the remains per Public Resources Code 5097.98, and the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Significance after Mitigation: Less-Than-Significant Impact.

3.5 Geology, Soils, and Seismicity

This section describes the geologic and soil conditions of the project site. The section analyzes the potential for impacts from potential exposure of people and property to geologic and seismic hazards, such as earthquakes, soil expansion, liquefaction, and erosion.

3.5.1 Environmental Setting

Regional Geology and Topography

The project site is located in the San Fernando 7.5-Minute Quadrangle in the northern portion of the San Fernando Valley. The San Fernando Valley is an elongated valley roughly 22 miles long from east to west and generally nine miles wide from north to south. At its widest point, the San Fernando Valley stretches 12 miles wide. The San Fernando Valley is bounded by the San Gabriel Mountains and Santa Susana Mountains to the north, the Santa Monica Mountains to the south, the Verdugo Mountains to the east, and the Simi Hills to the west.

The San Fernando Valley is situated within the Transverse Ranges geomorphic province of California (USGS, 2013a). Geomorphic provinces are large natural regions, dominated by similar rocks or geologic structures. The Transverse Ranges geomorphic province is composed of several mountain ranges oriented in an east west direction and extending over 320 miles from the Mojave and Colorado Desert province to Point Arguello at the Pacific Ocean. Included within the Transverse Ranges are portions of Riverside, San Bernardino, Los Angeles, and Ventura Counties. Acting as a northern boundary, the Transverse Ranges truncate the northwest trending structural grain of the Peninsular Ranges geomorphic province, which is composed of multiple mountain ranges and valleys extending southward 775 miles past the United States/Mexico border.

The San Fernando Valley is a structural trough that has been filled from the sides, with major sources of sediment being drained from the San Gabriel Mountains. Deposition on the major alluvial fan of Tujunga Wash and Pacoima Wash, springing from the San Gabriel Mountains, has been influenced by ongoing compressional tectonics in San Fernando Valley. Late Pleistocene deposits have been cut by active faults and warped over growing folds. Holocene alluvial fans are locally ponded behind active uplifts. Young sandy sediments are generally highly susceptible to liquefaction where they are saturated, but the distribution of young deposits, their grain size characteristics, and the level of ground water are all dependent on the tectonics of the Valley (USGS, 2013b).

Three major groups of rocks are found within the Los Angeles Basin and San Fernando Valley: older igneous and metamorphic bedrock (100 to 75 million years old), older sedimentary rocks (about 65 to 15 million years old) and younger sedimentary rocks (15 to 1 million years old). Igneous rocks are formed when materials such as lava or magma cool and solidify, and metamorphic rocks are formed when the chemical and mineral composition of a rock is changed through the forces of heat or pressure. Sedimentary rocks are formed through the accumulation of mineral and organic materials at the earth's surface and within bodies of water. The sedimentary rock layers within the Los Angeles Basin and San Fernando Valley contain shale, siltstone, sandstone, and conglomerates, as well as some inter-bedded volcanic rocks.

Mountain ranges surrounding the San Fernando Valley contain rocks varying in age from the Precambrian Eon to the Tertiary period and younger sedimentary and volcanic rocks that range from the Tertiary period to the Quaternary period. The composition of the rocks also varies greatly from igneous and metamorphic crystalline complexes to marine and nonmarine sediments (USGS, 2013b).

Seismicity

Southern California is considered a seismically active region. Earthquakes along the San Andreas Fault relieve convergent plate stress in the form of right lateral strike slip offsets. The Transverse Ranges work as a block causing the San Andreas Fault to bend, producing compressional stresses that are manifested as reverse, thrust, and right lateral faults. Faulting associated with the compressional forces creates earthquakes and is primarily responsible for the mountain building, basin development, and regional upwarping found in this area.

Since 1800, there have been approximately 60 damaging seismic events, or earthquakes, in the Los Angeles Region. Since 1933, there have been four moderate-size earthquakes which have caused numerous deaths and substantial property damage in the metropolitan Los Angeles area. These four events are identified by their location as the Long Beach (March 11, 1933; magnitude 6.3), San Fernando (February 9, 1971; magnitude 6.4), Whittier Narrows (October 1, 1987; magnitude 5.9), and Northridge (January 17, 1994; magnitude 6.7) earthquakes.

Faults

A fault is a fracture or line of weakness in the earth’s crust, along which rocks on one side of the fault are offset relative to the same rocks on the other side of the fault. Based on criteria established by the California Geological Survey (CGS), faults may be categorized as active, potentially active, or inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that show evidence of displacement within the last 1.6 million years (Quaternary age). Faults showing no evidence of displacement within the last 1.6 million years are considered inactive.

Many active faults have been mapped in the Los Angeles area; typically they are visible, above ground faults, such as the San Andreas Fault. However, faults that have not previously been mapped, such as the blind thrust fault associated with the Northridge earthquake, are increasingly becoming the focus of study and concern. These faults may dominate the geology of the Los Angeles Basin in ways that are yet understood. **Table 3.5-1** provides a summary of major active faults in the vicinity of the proposed alignment.

TABLE 3.5-1
MAJOR ACTIVE FAULTS IN THE VICINITY OF THE PROPOSED ALIGNMENT

Fault	Maximum Magnitude (M_w)	Slip Rate (mm/yr)	Type of Fault	Most Recent Seismic Event
Mission Hills	Uncertain	>0.5	Reverse	Late Quaternary
Northridge Hills	6.5 - 7.5	3.5 - 6.0	Thrust	1994
San Fernando	6.0 - 6.8	5.0	Thrust	1971
San Gabriel	Uncertain	1.0 - 5.0	Right-lateral strike-slip	Late Quaternary
Santa Susana	6.5 – 7.3	5.0 – 7.0	Thrust	Late Quaternary
Verdugo	6.0 - 6.8	0.5	Reverse	Holocene

SOURCE: Southern California Earthquake Data Center website, *http://www.data.scec.org/significant/fault-index.html*, accessed January 23, 2013.

According to the Alquist Priolo Earthquake Fault Zone Map for the San Fernando Quadrangle, a portion of the proposed alignment extending from just south of Hubbard Street to Paxton Street is located within the San Fernando Earthquake Fault Zone (CDC, 2013a). Surface traces associated with the San Fernando Fault Zone, trending east to west, cross the proposed alignment in this segment. The San Fernando Fault is a thrust fault that most recently surface ruptured in 1971 (SCEDC, 2013).

Earthquake Magnitude

The magnitude of an earthquake is measured on the Moment Magnitude Scale. The Moment Magnitude Scale is a logarithmic scale of base ten, that calculates the amplitude of the largest seismic wave recorded. In addition to magnitude, the intensity of an earthquake is measured by the Modified Mercalli Intensity scale, which ranges from I to XII. An earthquake has only one magnitude but can have many intensity values depending on the distance from the epicenter. **Table 3.5-2** shows intensities that are typically observed near the epicenter of earthquakes of different magnitudes. The probable magnitude of an earthquake associated with the San Fernando Fault Zone is moment magnitude (Mw) 6.0 to Mw 6.8 (SCEDC, 2013). The San Fernando Fault Zone’s most recent surface rupture on February 9, 1971 was Mw 6.6.

Seismic Hazards

The majority of Southern California, including the proposed project alignment is located within Seismic Zone 4. The Uniform Building Code (UBC) defines Seismic Zone 4 as the zone with the highest potential for seismic hazards to occur. Seismic zones are based on a statistical compilation of the number and the magnitude of past earthquakes. Since the proposed alignment is within seismically active Southern California, earthquakes and seismically-induced effects are a constant potential hazard. Issues of concern include fault rupture, strong ground shaking, liquefaction, and landslides.

TABLE 3.5-2
MODIFIED MERCALLI INTENSITY SCALE

Magnitude	Intensity	Description
1.0-3.0	I	I. Not felt except by a very few.
3.0-3.9	II-III	II. Felt only by a few persons at rest, especially on upper floors of buildings. III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Vibrations similar to the passing of a truck.
4.0-4.9	IV-V	IV. Felt indoors by many, outdoors by few during the day. Dishes, windows, doors disturbed. Sensation like heavy truck striking building. V. Felt by nearly everyone. Some windows broken. Pendulum clocks may stop.
5.0-5.9	VI-VII	VI. Felt by all, many frightened. Some heavy furniture moved. Damage slight. VII. Damage negligible in buildings of good design and construction; considerable damage in poorly built or badly designed structures.
6.0-6.9	VII-IX	VIII. Damage slight in specifically designed structures. Damage great in poorly built structures. Fall of chimneys and walls. Heavy furniture overturned. IX. Damage considerable in specifically designed structures; Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
7.0 and Higher	VIII or Higher	X. Most masonry and frame structures destroyed with foundations. Rails bent. XI. Few structures remain standing. Bridges destroyed. Rails bent greatly. XII. Damage total. Lines of sight and level are distorted. Objects airborne.

SOURCE: U.S. Geological Survey, *The Modified Mercalli Intensity Scale,* http://earthquake.usgs.gov/learn/topics/mercalli.php, accessed January 23, 2013.

Fault Rupture

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Not all earthquakes result in surface rupture. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

As described above, according to the Alquist Priolo Earthquake Fault Zone Map for the San Fernando Quadrangle, a portion of the proposed alignment extending from just south of Hubbard Street to Paxton Street is located within the San Fernando Earthquake Fault Zone (CDC, 2013a). The proposed project site is subject to moderate to severe seismic shaking from the influence of the Alquist-Priolo fault, as well as other active or potentially active faults, during seismic events.

Ground Shaking

The principal seismic hazard occurring as a result of an earthquake produced by local faults is strong ground shaking. Ground shaking is the actual trembling or jerking motion of the ground during an earthquake. The intensity of ground shaking depends on several factors, including the magnitude of the earthquake, distance from the earthquake epicenter, and the underlying soil conditions. In general, effects are greater with increased magnitude and proximity to an earthquake. However, soil conditions can also amplify the earthquake shock waves. Generally, the shock waves remain unchanged in bedrock, are amplified to a degree in thick alluvium, and are greatly amplified in thin alluvium.

As discussed above, the entire Southern California region, including the project area, is seismically active. Accordingly, ground shaking could likely occur at the project site over the lifetime of the project.

Liquefaction

Liquefaction involves the sudden loss of strength in saturated, cohesionless soils that are subjected to ground vibration and result in temporary transformation of the soil into a fluid mass. If the liquefying layer is near the surface, the effects are much like that of quicksand for any structures located on top of it. If the layer is deeper in the subsurface, it may provide a sliding surface for the material above it. The effects of liquefaction include the loss of the soil's ability to support footings and foundations which may cause buildings and foundations to buckle. These failures have been observed in the 1971 San Fernando and the 1994 Northridge earthquakes.

Although liquefaction zones are found on the foothills of the San Gabriel Mountains near the proposed alignment, the proposed alignment is not located within a delineated liquefaction hazard zone as indicated by the USGS Seismic Hazards Map (USGS, 2008). The nearest liquefaction zones are located northeast of the Maclay Street/Foothill Boulevard intersection, northeast of the Paxton Street/Foothill Boulevard intersection, and southeast of the Terra Bella Street/Foothill Boulevard intersection.

Landslides

A landslide is a mass down-slope movement of earth materials under the influence of gravity, and includes a variety of forms including: rockfalls, debris slides, mudflows, block slides, soil slides, slumps, and creeps. These mass movements are triggered or accelerated by earthquake-induced ground motion, increased water content, excessive surface loading, or alteration of existing slopes by man or nature. Earthquake-induced landslides, usually associated with steep canyons and hillsides, can originate on, or move down, slopes as gentle as one degree in areas underlain by saturated, sandy materials.

The terrain along the proposed project alignment is relatively flat with some undulating segments. The terrain rises into the San Gabriel Mountains and hillside areas approximately 0.15 to two miles north and northeast of the proposed alignment. The proposed project is not located in an area classified as a landslide hazard zone on the CGS Seismic Hazards Map or the City of Los Angeles' inventory of landslide and hillside areas (USGS, 2008). The nearest landslide hazard zone to the proposed project is 0.12 mile, east of the Foothill Boulevard and Vaughn Street intersection.

Soils

As described in the Seismic Hazard Zone Report for the San Fernando 7.5-Minute Quadrangle, overlying Saugus Formation and Pacoima Formation in the San Fernando area are very old alluvial deposits (Qvoa, Qvoa1, Qvof1, and Qvof2) (CDC, 2013b). These deposits are uplifted, deformed, have red (mature) soils and are typically dense to very dense. Qvoa consists of intensely deformed older alluvium along the San Fernando segment of the Sierra Madre fault zone. Its age in relation to the other units is not known. Qvof1 exists as remnants of alluvial surfaces on tops of ridges between Pacoima Wash and Big Tujunga Canyon. Qvoa1 shows no trace of its original depositional geomorphology. It is found surrounding the Sylmar sub-basin of the San Fernando Valley, not much elevated above modern alluvial deposits. Qvof2, although similarly uplifted, retains some of the original morphology of alluvial fans that extended from the San Gabriel Mountains into the San Fernando area.

Overlying very old alluvial deposits in the San Fernando and Sylmar areas are remnants of alluvial fans from the San Gabriel Mountains (Qof1). Older alluvial surfaces are also found in the uplifted area between Pacoima and Big Tujunga Canyons. These deposits are composed of sand, silt, and gravel and form recognizable alluvial fans. The fan surfaces are no longer active because continuing deformation has either lifted them out of the area of deposition or because they have been buried by later alluvium. The younger alluvial fans can be subdivided into young (Qyf1 and Qyf2) and active (Qf, Qw) fan deposits on the basis of geomorphology.

Alluvial basin or valley deposits (Qa) in the San Fernando Quadrangle are mainly deposits in man-made flood control basins behind Upper and Lower San Fernando Dams and Hansen Dam.

The following alluvial deposits are found along the proposed project alignment: Qvof2, Qvoa1, Qyf1, Qa, Qyf2, Qof1, Qyf1, and Qyf2 (CDC, 2013).

Soil Erosion

Factors contributing to potential soil erosion include: climate, the physical characteristics of soils, topography, land use, and the amount of soil disturbance. In general, the loss of ground cover caused by construction activities is a primary factor contributing to an increase in soil erosion potential. Erosion potential is also directly related to the terrain’s steepness. Since the terrain along the proposed project alignment is relatively flat with some undulating segments, and covered entirely by impermeable surfaces, the potential for erosion is relatively low. The City of Los Angeles Building Code (LABC) regulates grading, excavations, landfill, and other construction activities that might cause or be impacted by erosion.

Unstable Soils

Under certain circumstances, densification or compaction of soils can result in settlement that can cause damage to foundations and structures, as well as water and sewer lines. Recently deposited alluvial sediments could be subject to settlement. Low-angle land sliding that is associated with liquefaction and occurs on mildly sloping surfaces such as drainage channels or stream banks is a condition called lateral spreading. Subsidence occurs when land collapses upon itself and is a result of excessive pumping of either groundwater or oil in certain types of sediments. The Natural Resources Conservation Service (NRCS) does not have any mapped data for the location of the proposed alignment, so physical data that would indicate the presence of unstable soils is not readily available.

Expansive Soils

Expansive soils are typically associated with fine-grained clayey soils that have the potential to shrink and swell with repeated changes in the moisture content. The ability of clayey soil to change volume can result in uplift or cracking to foundation elements or other rigid structures such as slabs-on-grade, rigid pavements, sidewalks, or other slabs or hardscape founded on these soils. As previously described, the NRCS does not have any mapped data for the location of the proposed alignment, so physical data that would indicate the presence of expansive soils is not readily available.

3.5.2 Regulatory Framework

Federal

Uniform Building Code (UBC)

The UBC is published by the International Conference of Building Officials and forms the basis for California’s building code, as well as approximately 50 percent of the state building codes in the United States. It has been adopted by the California Legislature to address the specific building conditions and structural requirements for California, and provide guidance on foundation design and structural engineering for different soil types. The UBC defines and ranks the regions of the United States according to their seismic hazard potential. There are four types of regions defined by Seismic Zones 1 through 4, with Zone 1 having the least seismic potential and Zone 4 having the highest. The City of Los Angeles is located within Seismic Zone 4.

State

Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act)

The Alquist-Priolo Act was passed in 1972 to provide a mechanism for reducing losses from surface fault rupture on a Statewide basis. The main intent of the Alquist-Priolo Act is to ensure public safety by preventing the construction of buildings used for human occupancy on the surface trace of active faults. The Alquist Priolo Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The law requires the State Geologist to establish regulatory zones, known as Earthquake Fault Zones, around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 was passed in the State of California to address the effects of strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events. Under the Seismic Hazards Mapping Act, the State Geologist is required to delineate “seismic hazard zones.” Cities and counties must regulate certain development projects within these zones until the geologic and soil conditions of the project area are investigated and appropriate mitigation measures, if any, are incorporated into development plans. The State Mining and Geology Board provides additional regulations and policies to assist municipalities in preparing the Safety Element of their General Plan and encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety. Under Section 2697 of the Public Resource Code (PRC), cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard. Each city or county shall submit one copy of each geotechnical report, including mitigation measures, to the State Geologist within 30 days of its approval.

California Building Code

The California Building Code (CBC) is a body of regulations also known as the California Code of Regulations, Title 24, Part 2. Title 24 is assigned to the California Building Standards Commission which, by law, is responsible for administering, adopting, approving, publishing, and implementing all building standards in California.

Published by the International Code Council, the International Building Code (IBC) is a widely adopted national model building code in the United States. The 2007 CBC incorporates the 2006 IBC by reference and includes necessary California amendments. These amendments include criteria for seismic design, and approximately one-third of the CBC has been tailored to California earthquake conditions. The CBC provides engineering design criteria for grading, foundations, retaining walls, and structures within zones of seismic activity. Under the CBC, facilities are assigned seismic design categories (A through F) which are based on spectral response accelerations, soil classifications and properties, and occupancy categories. The higher the seismic design category, the more stringent the design criteria required.

Local

City of Los Angeles General Plan Safety Element

The City of Los Angeles General Plan provides growth and development policies by providing a comprehensive long-range view of the City as a whole. The General Plan provides a comprehensive strategy for accommodating long-term growth, should it occur as projected.

The Safety Element of the General Plan addresses the issue of protecting people from unreasonable risks associated with natural disasters, fires, floods, and earthquakes. The Safety Element provides a contextual framework for understanding the relationship between hazard mitigation, response to a natural disaster and initial recovery from a natural disaster. Safety Element applicable policies are described below:

> **Policy 1.1.3:** Facility/systems maintenance. Provide redundancy (back-up) systems and strategies for continuation of adequate critical infrastructure systems and services so as to assure adequate circulation, communications, power, transportation, water and other services for emergency response in the event of disaster related systems disruptions.

Los Angeles Municipal Code (LAMC), Chapter 9

Earthwork activities, including grading, are governed by, Chapter IX of the LAMC, known as the Los Angeles Building Code (LABC). Specifically, Section 91.7006.7 includes requirements regarding import and export of material; Section 91.7010 includes regulations pertaining to excavations; Section 91.7011 includes requirements for fill materials; Section 91.7013 includes regulations pertaining to erosion control and drainage devices; Section 91.7014 includes general construction requirements, as well as requirements regarding flood and mudflow protection; and Section 91.7016 includes regulations for areas that are subject to slides and unstable soils.

Additionally, the LABC includes specific requirements addressing seismic design, site grading, foundation design, cut and fill slope design, soil expansion, geologic investigations and reports before and during construction, retaining walls, soil and rock testing, basement walls, shoring of adjacent properties, and potential primary and secondary seismic effects and groundwater. The LABC incorporates by reference the 2007 CBC, with City amendments for additional requirements, and the City Department of Building and Safety is responsible for implementing the provisions of the LABC.

3.5.3 Methodology

Potential significant impacts associated with the proposed project were identified based on a review of existing literature. The following section discusses impacts and the measures that would be incorporated to mitigate significant impacts.

3.5.4 Impacts and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the *CEQA Guidelines*, a geologic or seismic impact is considered significant if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; or
    - Landslides
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence (i.e., settlement), liquefaction, or collapse; or
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

The lead agency determined in the NOP/IS (see **Appendix A**) that the following environmental issue area would result in no impacts or less than significant impacts and was therefore scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue area:

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Impacts Discussion

Fault Rupture

Impact 3.5-1: Implementation of the proposed project would not expose people or structures to substantial adverse effects involving the rupture of a known earthquake fault. (Less-Than-Significant)

A portion of the proposed alignment, extending from just south of Hubbard Street to Paxton Street, is identified in the Alquist-Priolo Earthquake Fault Zone Map for the San Fernando Quadrangle as being located within the San Fernando Earthquake Fault Zone (CDC, 2013a). Surface traces of the San Fernando Fault, cross the proposed alignment in this segment. Accordingly, the proposed alignment could be subject to the rupture of a known fault.

The proposed project is located almost entirely underground, and does not include any habitable structures. Minor appurtenant facilities, such as combination air valves and a rectifier station cabinet would be installed along the alignment and a small portion of the proposed project would cross the Pacoima Wash. Although the proposed project would not expose people to new adverse effects associated with the rupture of a known earthquake fault, there is a potential for the FTL U3 54-inch pipeline and appurtenant facilities to be exposed to earthquake faults. For elements of the project within the Alquist Priolo Zone, facility designs would be subject to Special Publication 117, “Guidelines for Evaluating and Mitigating Seismic Hazards in California.” Conformance with this publication in addition to the CBC requirements would provide for protection from fault rupture. Compliance with existing regulations would minimize potential risks associated with fault rupture. Therefore, the proposed project would result in a less-than-significant impact related to fault rupture.

Significance: Less-Than-Significant Impact.

Ground Shaking

Impact 3.5-2: Implementation of the proposed project would expose people or structures to substantial adverse effects involving strong seismic ground shaking. (Less-Than-Significant With Mitigation)

The proposed project is located in the San Fernando Valley which is a seismically active area in Southern California. Strong ground shaking is likely to occur over the life of the project that could rupture the pipeline. The pipeline would be designed to accommodate site-specific ground motions. Standard geotechnical and structural design criteria required in the CBC would reduce excessive earthquake response and minimize potential damage or collapse of the pipeline. CBC requirements for the pipeline may include flexible pipe joints, shortened pipe lengths, automatic isolation valves, installation of the pipelines inside a protective casing, and shallow or above-ground installation of the pipelines. Compliance with the CBC would minimize the potential for damage from strong ground shaking. Therefore, with the incorporation of **Mitigation Measure GEO-1**, the proposed project would result in a less-than-significant impact with mitigation related to groundshaking.

Mitigation Measures

> **GEO-1:** Prior to the approval of construction plans for the project, LADWP shall complete a design-level geotechnical investigation. The geotechnical evaluation shall identify soil properties needed for the development of site-specific design criteria. Recommendations made as a result of these investigations to protect new structures from seismic hazards shall become incorporated into the proposed project.

Significance After Mitigation: Less-Than-Significant Impact.

Liquefaction and Landslides

Impact 3.5-3: Implementation of the proposed project would not expose people or structures to substantial adverse effects involving the rupture of a known earthquake fault. (No Impact)

The proposed project is not located within a designated liquefaction or landslide hazard area. Construction and excavation activities would not increase the risk of landslides in the surrounding hillside areas. Therefore, no impact related to liquefaction and landslides would occur.

Significance: No Impact.

Soil Erosion, Instability and Expansiveness

Impact 3.5-4: Implementation of the proposed project would create substantial risks to life or property as a result of soil erosion, unstable soils, or expansive soils. (Less-Than-Significant With Mitigation)

Construction activities associated with the proposed project would be completed primarily by the open trench technique, which requires excavation and would expose soils for a limited time. The exposure of soils would allow for possible erosion. During construction, LADWP Best Management Practices (BMPs) would be used to protect the soil surface and prevent the transport of soil particles from the project site by stormwater runoff and winds. Additionally, LADWP would develop and implement an erosion control plan and a Stormwater Pollution Prevention Plan for construction activities, in compliance with the National Pollutant Discharge Elimination System (NPDES) requirements for stormwater discharges. Implementation of the required construction BMPs would ensure that substantial soil erosion would not occur during construction of the proposed project. As the proposed project would be located beneath Foothill Boulevard, during operation of the proposed project, soils would not be subject to erosion or the loss of topsoil.

As described above, the NRCS does not have any mapped soil data for the location of the proposed alignment, so physical data that would indicate the presence of unstable or expansive soils is not readily available. However, the LABC requires the preparation of a site-specific geotechnical study that identifies locations that could be underlain by unstable or expansive soils and includes design and construction recommendations that must be implemented to minimize potential hazards associated with these types of soils, including on-site or off-site landslide, lateral spreading, subsidence (i.e., settlement), liquefaction, or collapse. Accordingly compliance with the latest version of the LABC, as well other applicable federal, State, and local codes related to seismic criteria would ensure that potential risks associated with unstable and/or expansive soils are minimized. Therefore, with incorporation of **Mitigation Measure GEO-2**, the proposed project would result in less-than-significant impacts related to soil erosion, unstable soils, and expansive soils.

Mitigation Measures

> **GEO-2:** LADWP shall comply with all the NPDES permitting requirements for the City of Los Angeles. Requirements may include but are not limited to BMPs such as soil erosion control measures.

Significance After Mitigation: Less-Than-Significant Impact.

3.6 Greenhouse Gas Emissions

This section provides an overview of greenhouse gas (GHG) emissions and evaluates the construction and operational impacts associated with the proposed project. Topics addressed include mass emissions and compatibility with GHG reduction plans. The methods of analyzing emissions described in this section are consistent with the recommendations of SCAQMD.

3.6.1 Environmental Setting

Greenhouse gas emissions refer to a group of emissions that are generally believed to affect global climate conditions. The greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. Similarly, solar radiation enters the Earth's atmosphere from space, and a portion of the radiation is absorbed by the earth's surface. Earth re-radiates this energy back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation (that otherwise would have escaped back into space) is now retained in the atmosphere, and results in a warming of the atmosphere. GHGs keep the average surface temperature of the Earth close to 60 degrees Fahrenheit (°F). Without the GHG effect, the Earth would be a frozen globe with an average surface temperature of about 5°F.

Prominent anthropogenic sources of GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), chlorofluorocarbons (CFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Of all the anthropogenic sources of GHGs, CO_2 is the most abundant pollutant that contributes to climate change through fossil fuel combustion. CO_2 comprised 81 percent of the total GHG emissions in California in 2002 and non-fossil fuel CO_2 comprised 2.3 percent (Cal EPA, 2006). The other GHGs are less abundant but have higher global warming potential than CO_2. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e. The CO_2e of CH_4 and N_2O represented 6.4 and 6.8 percent, respectively, of the 2002 California GHG emissions. Other high global warming potential gases represented 3.5 percent of these emissions (Cal EPA, 2006). In addition, there are a number of man-made pollutants, such as CO, NO_X, non-methane VOC, and SO_2, that have indirect effects on terrestrial or solar radiation absorption by influencing the formation or destruction of other climate change emissions.

The primary effect of rising global concentrations of atmospheric GHG levels is a rise in the average global temperature of approximately 0.2 degrees Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming is likely to occur given the expected rise in global atmospheric GHG concentrations from innumerable sources of GHG emissions worldwide, which would induce further changes in the global climate system during the current century (USEPA, 2009). Adverse impacts from global climate change worldwide and in California include:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures century (USEPA, 2009);
- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets (Intergovernmental Panel on Climate Change, 2007);
- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones (Cal EPA, 2006);
- Declining Sierra Mountains snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years (Cal EPA, 2006);
- Increasing the number of days conducive to ozone formation (e.g., clear days with intense sun light) by 25 to 85 percent (depending on the future temperature scenario) in high O_3 areas located in the Southern California area and the San Joaquin Valley by the end of the 21st Century (Cal EPA, 2006); and
- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level (Cal EPA, 2006).

Scientific understanding of the fundamental processes responsible for global climate change has improved over the past decade. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change, occurrence of extreme weather events, and effects of aerosols, changes in clouds, and shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the climate system, the uncertainty surrounding the implications of climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change. In addition, it may not be possible to link specific development projects to future specific climate change impacts, though estimating project-specific impacts is possible.

California is the fifteenth largest emitter of GHG on the planet, representing about two percent of the worldwide emissions (CARB, 2008). **Table 3.6-1** shows the California GHG emissions inventory for years 2000 to 2009 by sector. Statewide GHG emissions decreased slightly in 2009 due to a noticeable drop in on-road transportation, electricity generation, and industrial emissions.

TABLE 3.6-1
CALIFORNIA GREENHOUSE GAS EMISSIONS INVENTORY

	CO_2e Emissions (million metric tons)									
Sector	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Transportation	172	175	181	179	183	186	187	187	178	173
Electric Power (In-State)	60	64	51	49	50	46	51	55	55	56
Electric Power (Imports)	46	59	59	65	66	63	55	60	66	48
Commercial and Residential	43	41	43	41	43	41	42	42	42	43
Industrial	97	93	94	92	94	93	92	90	87	81
Recycling and Waste	7	7	7	7	7	7	7	7	7	7
Agriculture	29	29	32	31	32	33	34	33	33	32
Forest Net Emissions	(4.5)	(4.3)	(4.2)	(4.2)	(4.2)	(4.0)	(3.9)	(3.9)	(3.8)	(3.8)
Emissions Total	**459**	**475**	**475**	**472**	**484**	**479**	**478**	**485**	**481**	**453**

SOURCE: CARB, *California Greenhouse Gas Inventory 2000-2009*, December 2011.

The transportation sector – largely the cars and trucks that move people and goods – is the largest contributor with 38 percent of the State's total GHG emissions in 2009. On-road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total emissions. Of the on-road vehicles, light duty passenger vehicles accounted for approximately 74 percent of the total sector emissions in 2009 GHG emissions. Transportation emissions showed a decline from 187 million metric tons of CO_2e in 2007 to 173 million metric tons of CO_2e in 2009.

The electricity sector is the next largest contributor at approximately 23 percent of the Statewide GHG emissions. This sector includes power plants and cogeneration facilities that generate electricity for on-site use and for sale to the power grid. In 2009, this sector emitted approximately 105 million metric tons of CO_2e. Statewide emissions from imported electricity generation from specified imports, unspecified imports, and transmission and distribution account for 68, 31, and less than one percent, respectively. Emissions from in-state electricity generation are from combined heat and power (CHP) commercial, CHP industrial, merchant owned (privately owned power plant), transmission and distribution, and utility owned (investor-owned power plant) systems (CARB, 2011).[1] The percent contributions from CHP commercial is approximately two, CHP industrial is approximately 30, merchant owned is approximately 57, transmission and distribution is approximately one, and utility owned is approximately one. Emissions from natural gas account for 87 percent of in-State GHG emissions associated with electricity generation.

The industrial sector is the third largest contributor to the Statewide GHG emissions. California's industrial sector includes industrial CHP useful heat, landfills, manufacturing, mining, oil and gas

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[1] A CHP system generates electricity and utilizes the waste heat for steam generation, heating or drying.

extraction, petroleum refining, petroleum marketing, pipelines, wastewater treatment, and other large industrial sources. Of these emitters, petroleum refining, manufacturing accounts for 32 percent, oil extraction accounts for 25 percent, gas extraction accounts for 15 percent, CHP accounts for 12 percent, and landfills accounts for eight percent. Although high global warming potential gases (e.g., PFCs, HFCs, and SF_6) are a small contributor to historic GHG emissions, levels of these gases are projected to increase sharply over the next several decades making them a significant source by 2020. These gases are used in growing industries such as semiconductor manufacturing.

The recycling and waste management sector is a unique system, encompassing not just emissions from waste facilities but also the emissions associated with the production, distribution and disposal of products throughout the economy.

The forest sector GHG inventory includes CO_2 uptake and GHG emissions from wild and prescribed fires, the decomposition and combustion of residues from harvest and conversion/development, and wood products decomposition. The forest sector is unique in that forests both emit GHGs and absorb CO_2 through carbon sequestration. While the current inventory shows forests absorb 3.8 million metric tons of CO_2e, carbon sequestration has declined since 2000 due to losses of forest area and emission increases from decomposing wood products consumed in the State. For this reason, the 2020 projection assumes no net emissions from forests.

The agricultural sector GHG emissions shown in Table 3.6-1 are largely methane emissions from livestock, both from the animals and their waste. Emissions of GHG from fertilizer application are also important contributors from the agricultural sector. Opportunities to sequester CO_2 in the agricultural sector may also exist; however, additional research is needed to identify and quantify potential sequestration benefits.

3.6.2 Regulatory Framework

Federal

The U.S. Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address global climate change. The federal government administers a wide array of public-private partnerships to reduce GHG intensity generated by the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions.

The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October of 2009. The Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufactures of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions.

On November 10, 2010, the USEPA published the “PSD and Title V Permitting Guidance for Greenhouse Gases.” USEPA's new guidance document is directed at state agencies responsible for air pollution permits under the federal CAA to help them understand how to implement new GHG reduction requirements while mitigating costs for industry.

On January 2, 2011, the USEPA implemented the first phase of the Tailoring Rule for GHG emissions Title V Permitting. Under the first phase of the Tailoring Rule, all new sources of emissions are subject to GHG Title V permitting if they are otherwise subject to Title V for another air pollutant and they emit at least 75,000 metric tons of CO_2e per year. Under the first phase, no sources are required to obtain a Title V permits solely due to GHG emissions. The second phase of the Tailoring Rule went into effect on July 1, 2011. Since then, new sources are subject to GHG Title V permitting if the source emits 100,000 metric tons of CO_2e per year, or they are otherwise subject to Title V permitting for another pollutant and emit at least 75,000 metric tons of CO_2e per year.

State

Executive Order S-3-05

On June 1, 2005, Executive Order (E.O.) S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The Executive Order establishes State GHG emission targets of 1990 levels by 2020 and 80 percent below 1990 levels by 2050. It calls for the Secretary of California Environmental Protection Agency (Cal/EPA) to be responsible for coordination of State agencies and progress reporting. A recent California Energy Commission report concludes, however, that the primary strategies to achieve this target should be major “decarbonization” of electricity supplies and fuels, and major improvements in energy efficiency.

In response to the E.O., the Secretary of the Cal/EPA created the Climate Action Team (CAT). California’s CAT originated as a coordinating council organized by the Secretary for Environmental Protection. It included the Secretaries of the Natural Resources Agency, and the Department of Food and Agriculture, and the Chairs of the Air Resources Board (ARB), Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the State. The council was given formal recognition in E.O. S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the executive order. The CAT has since expanded and currently has members from 18 State agencies and departments. The CAT also has ten working groups which coordinate policies among their members. The working groups and their major areas of focus are:

- *Agriculture*: Focusing on opportunities for agriculture to reduce GHG emissions through efficiency improvements and alternative energy projects, while adapting agricultural systems to climate change;
- *Biodiversity:* Designing policies to protect species and natural habitats from the effects of climate change;

- *Energy:* Reducing GHG emissions through extensive energy efficiency policies and renewable energy generation;
- *Forestry:* Coupling GHG mitigation efforts with climate change adaptation related to forest preservation and resilience, waste to energy programs and forest offset protocols;
- *Land Use and Infrastructure:* Linking land use and infrastructure planning to efforts to reduce GHG from vehicles and adaptation to changing climatic conditions;
- *Oceans and Coastal:* Evaluating the effects sea level rise and changes in coastal storm patterns on human and natural systems in California;
- *Public Health:* Evaluating the effects of GHG mitigation policies on public health and adapting public health systems to cope with changing climatic conditions;
- *Research:* Coordinating research concerning impacts of and responses to climate change in California;
- *State Government:* Evaluating and implementing strategies to reduce GHG emissions resulting from State government operations; and
- *Water:* Reducing GHG impacts associated with the State's water systems and exploring strategies to protect water distribution and flood protection infrastructure.

The CAT is responsible for preparing reports that summarize the State's progress in reducing GHG emissions. The most recent CAT Report was published in December 2010. The CAT Report discusses mitigation and adaptation strategies, State research programs, policy development, and future efforts.

Assembly Bill 32

In September 2006, the State passed the California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32, into law. AB 32 focuses on reducing GHG emissions in California, and requires the California Air Resources Board (CARB) to adopt rules and regulations that would achieve GHG emissions equivalent to Statewide levels in 1990 by 2020. To achieve this goal, AB 32 mandates that the CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce Statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, it is expected that the regulations would affect many existing sources of GHG emissions and not just new general development projects. Senate Bill (SB) 1368, a companion bill to AB 32, requires the California Public Utilities Commission and the California Energy Commission to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the State.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills. On October 25, 2007, CARB tripled the set of previously approved early action measures. The approved measures include improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing PFCs from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing sulfur hexaflouride emission from the non-electricity sector.

The CARB AB 32 Scoping Plan contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by the CARB with input from the CAT and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the State economy. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. Key approaches for reducing greenhouse gas emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a Statewide renewable electricity standard of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets; and
- Adopting and implementing measures to reduce transportation sector emissions, including California's.

According to CARB's Scoping Plan, the 2020 target of 427 million metric tons (MMT) CO_2e requires the reduction of 169 $MMTCO_2e$, or approximately 28.4 percent, from the State's projected 2020 business-as-usual (BAU) emissions level of 596 $MMTCO_2e$. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. In August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. This document includes expanded analysis of project alternatives as well as updates the 2020 emission projections in light of the current economic forecasts (i.e., as influenced by the economic downturn) and reduction measures that are already in place. Considering the updated 2020 BAU estimate of 507 MMTCO2e, a 16 percent reduction below the estimated BAU levels would be necessary to return to 1990 levels by 2020.

CARB has also developed the GHG mandatory reporting regulation, which required reporting beginning on January 1, 2008 pursuant to requirements of AB 32. The regulations require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. The regulation language identifies major facilities as those that generate more than 25,000 metric tons of CO_2 per year. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons of CO_2 per year, make up 94 percent of the point source CO_2 emissions in California.

CEQA Guidelines Amendments

SB 97 required the Governor's Office of Planning and Research (OPR) to develop *CEQA Guidelines* "for the mitigation of GHG emissions or the effects of GHG emissions." The CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. Noteworthy revisions to the *CEQA Guidelines* include:

- Lead agencies should quantify all relevant GHG emissions and consider the full range of project features that may increase or decrease GHG emissions as compared to the existing setting;
- Consistency with the CARB Scoping Plan is not a sufficient basis to determine that a project's GHG emissions would not be cumulatively considerable;
- A lead agency may appropriately look to thresholds developed by other public agencies, including the CARB's recommended CEQA thresholds;
- To qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project. General compliance with a plan, by itself, is not mitigation;
- The effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis; and
- Given that impacts resulting from GHG emissions are cumulative, significant advantages may result from analyzing such impacts on a programmatic level. If analyzed properly, later projects may tier, incorporate by reference, or otherwise rely on the programmatic analysis.

CARB Guidance

The CARB has published draft guidance for setting interim GHG significance thresholds (October 24, 2008). The guidance is the first step toward developing the recommended Statewide interim thresholds of significance for GHG emissions that may be adopted by local agencies for their own use. The guidance does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that are responsible for substantial GHG emissions (i.e., industrial, residential, and commercial projects). CARB believes that thresholds in these important sectors will advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

SCAQMD Guidance

SCAQMD has convened a GHG CEQA Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that will provide input to SCAQMD staff on developing GHG CEQA significance thresholds. On December 5, 2008, SCAQMD Governing

Board adopted the staff proposal for an interim GHG significance threshold for industrial (stationary source) projects where the SCAQMD is the lead agency. The SCAQMD has not adopted guidance for CEQA projects under other lead agencies.

Local

Green LA Action Plan

The City of Los Angeles has issued guidance promoting green building to reduce GHG emissions with the Green LA Action Plan (Plan). The goal of the Plan is to reduce greenhouse gas emissions 35 percent below 1990 levels by 2030 (City of Los Angeles, 2007). The Plan identifies objectives and actions designed to make the City a leader in confronting global climate change. The measures would reduce emissions directly from municipal facilities and operations, and create a framework to address Citywide GHG emissions. The Plan lists various focus areas in which to implement GHG reduction strategies. Focus areas listed in the Plan include energy, water, transportation, land use, waste, port, airport, and ensuring that changes to the local climate are incorporated into planning and building decisions. The Plan discusses City goals for each focus area, as follows:

Energy

- Increase the generation of renewable energy;
- Encourage the use of mass transit;
- Develop sustainable construction guidelines;
- Increase City-wide energy efficiency; and
- Promote energy conservation.

Water

- Decrease per capita water use to reduce electricity demand associated with water pumping and treatment.

Transportation

- Power the City vehicle fleet with alternative fuels; and
- Promote alternative transportation (e.g., mass transit and rideshare).

Other Goals

- Create a more livable City through land use regulations;
- Increase recycling, reducing emissions generated by activity associated with the Port of Los Angeles and regional airports;
- Create more City parks, promoting the environmental economic sector; and
- Adapt planning and building policies to incorporate climate change policy.

ClimateLA

In order to provide detailed information on action items discussed in Green LA, the City published implementation document titled "ClimateLA." ClimateLA presents the existing GHG inventory for the City, includes enforceable GHG reduction requirements, provides mechanisms to monitor and evaluate progress, and includes mechanisms that allow the plan to be revised in order to meet targets. To meet the targets, the City has developed strategies that focus on energy, water use, transportation, land use, waste, open space and greening, and economic factors.

3.6.3 Methodology

Construction-related GHG emissions were estimated using a similar methodology to that described for criteria air pollutants in Section 3.2, Air Quality. GHG emissions were estimated for equipment exhaust, truck trips, and worker commute trips using a calculation spreadsheet. Equipment engine emissions were estimated using the OFFROAD2007 model, and truck and worker commute trips emissions were estimated using the EMFAC2011 model. The resulting CO_2 emissions from the models were then converted into metric tons of CO_2e by applying the proper global warming potential value. As mentioned in Section 3.2 Air Quality, installation of the pipeline is scheduled to be completed over five years (2014 to 2019).

It should be noted that aside from the GHG emissions that would be generated from the heavy-duty construction equipment associated with the project, additional GHG emissions would also be “embodied” in the materials selected for construction, and the level of embodied GHG emission can vary substantially according to which materials are selected. These embodied emissions are sometimes referred to as “lifecycle emissions.” The California Natural Resources Agency (CNRA) has stated that lifecycle analyses are not required under CEQA, and in December 2009 CNRA issued new energy conservation guidelines for Draft EIRs that make no reference to lifecycle emissions. The CNRA explained that: (1) there exists no standard regulatory definition for lifecycle emissions; and (2) even if a standard definition for ‘lifecycle’ existed, the term might be interpreted to refer to emissions “beyond those that could be considered ‘indirect effects’” as defined by the *CEQA Guidelines*, and therefore, beyond what a Draft EIR is required to estimate.

Given the nature of the project as a replacement trunk line for water transportation, no GHG emissions are anticipated for the project during operations.

3.6.4 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this analysis and consistent with Appendix G of the *CEQA Guidelines*, the proposed project would result in potentially significant impacts if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As noted above, the increased concentration of GHGs in the atmosphere has been linked to global warming, which can lead to climate change. The proposed project would incrementally contribute to GHG emissions along with past, present and future activities, and the CEQA Guidelines acknowledge this as a cumulative impact. As such, impacts of GHG emissions are analyzed here on a cumulative basis.

SCAQMD has not formally adopted a significance threshold for GHG emissions generated by a proposed project for which SCAQMD is not the lead agency, or a uniform methodology for analyzing impacts related to GHG emissions on global climate change. In the absence of any industry-wide accepted standards, SCAQMD's significance threshold of 10,000 metric tons of CO2e per year for projects in which it is the lead agency is the most relevant air district-adopted GHG significance threshold and is used as a benchmark for the project. It should be noted that the SCAQMD's significance threshold of 10,000 metric tons of CO2e per year for industrial projects is intended for long-term operational GHG emissions. SCAQMD has developed guidance for the determination of the significance of GHG construction emissions that recommends that total emissions from construction be amortized over 30 years and added to operational emissions and then compared to the threshold (SCAQMD, 2008).

Impacts Discussion

Impact 3.6-1: Implementation of the proposed project would not generate GHG emissions in exceedance of established thresholds. (Less-Than-Significant)

As discussed previously, construction-related GHG emissions associated with the project were estimated using the OFFROAD2007 and EMFAC2011 models. The project's construction GHG emissions are shown in **Table 3.6-2**, which shows that it is estimated that project construction would generate approximately 133 metric tons of CO_2e per year, which would be less than the 10,000 metric tons of CO_2e per year quantitative significance threshold. Therefore, the proposed project would result in a less-than-significant impact related to GHG emissions.

TABLE 3.6-2
ANNUAL GREENHOUSE GAS EMISSIONS

Source	Carbon Dioxide Equivalent (metric tons per year)
Construction Emissions Amortized	133
Localized Significance Threshold	**10,000**
Exceed Threshold?	No

SOURCE: Terry A. Hayes Associates Inc., 2013.

Significance: Less-Than-Significant Impact.

Impact 3.6-2: Implementation of the proposed project would be consistent with the CARB Scoping Plan and the City's ClimateLA goals. (Less-Than-Significant)

The proposed project would generate temporary construction GHG emissions but would not generate GHG emissions during operations. The proposed project would create redundancy and improve reliability within the FTL by installing a 54-inch trunk line consistent with other segments of the FTL system. Once completed, the proposed project would increase LADWP’s ability to reliably transport water throughout the Sunland/Tujunga Service Area. In addition, if the FTL goes out of service, Sheldon Pump Station alone cannot provide water in full capacity to the 1449-foot system. The more efficient water transfer and water loss management would result in less energy to be consumed during the water conveyance process.

Overall, implementation of the proposed project would be consistent with State and local GHG reduction policies and plans. Therefore, the proposed project would result in a less-than-significant impact related to consistency with applicable plans, policies, and regulations.

Significance: Less-Than-Significant Impact.

3.7 Hazards and Hazardous Materials

This section provides an assessment of potential impacts related to hazards and hazardous materials that could result from implementation of the proposed project. Potential hazards addressed in this section include exposure to hazardous materials in soil and groundwater during construction, releases of hazardous materials during construction, and interference with emergency response plans. Refer to Section 3.2, Air Quality, for discussion of toxic air contaminants. Refer to Section 3.8, Hydrology and Water Quality, for a discussion of proposed project effects on groundwater quality.

3.7.1 Environmental Setting

The term "hazardous material" can have varying definitions for different regulatory programs. In this Draft EIR, the term "hazardous materials" refers to both hazardous materials and hazardous waste. The California Health and Safety Code Section 25501(K) defines hazardous materials as follows:

> *"Hazardous material means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment."*

A waste is hazardous if it exhibits one or more of the characteristics defined below:

- Toxic: Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substances involved and is chemical-specific). Carcinogens (substances that can cause cancer) are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).
- Ignitable: Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.
- Corrosive: Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).
- Reactive: Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Soil and groundwater can become contaminated by hazardous material in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most chemical disposals were unregulated, resulting in numerous industrial properties and public landfills being used as dumping grounds for unwanted chemicals. The largest and most contaminated of these sites became Superfund sites, so named for their eligibility to receive cleanup money from a federal fund established under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Sites are added to a National Priorities List following a hazard ranking system. The United States Environmental Protection Agency (EPA) maintains the list of federal Superfund sites, as well as a more extensive list of all sites with potential to be listed as Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS).

Numerous smaller properties also have been designated as contaminated sites by local and regional agencies. Often these sites are gas stations where leaking underground storage tanks (LUSTs) were upgraded under a federal requirement in the late 1980s. Generally, potentially contaminated sites are referred to as “brownfield sites” – they are previously used, often abandoned sites that because of actual or suspected contamination are undeveloped or underused. Both the EPA and California Department of Toxic Substances Control (DTSC) maintain lists of known brownfield sites. These sites are often difficult to inventory due to their owners’ reluctance to publicly label their property as potentially contaminated.

An underground storage tank (UST) system is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. Federal UST regulations apply to underground tanks and piping storing either petroleum or certain hazardous substances. When the federal UST program began, there were approximately 2.1 million regulated tanks in the U.S. Today, there are fewer USTs since many substandard UST systems have been closed. Nearly all USTs that have been closed contained petroleum. These closed sites include marketers who sold gasoline to the public (such as service stations and convenience stores) and non-marketers who used tanks solely for their own needs (such as fleet service operators and local governments). A number of USTs installed in the past may have also been abandoned in place. EPA estimates about 25,000 tanks nationwide now hold hazardous substances covered by the UST regulations. The greatest potential hazard from a leaking UST is that the petroleum or other hazardous substance can seep into the soil and contaminate groundwater, the source of drinking water for nearly half of all Americans (although not such a high percentage in the Southern California area). A leaking UST can present other health and environmental risks, including the potential for fire and explosion. Until the mid-1980s, most USTs were made of bare steel, which is likely to corrode over time and allow UST contents to leak into the environment. Faulty installation or inadequate operating and maintenance procedures also can cause USTs to release their contents into the environment.

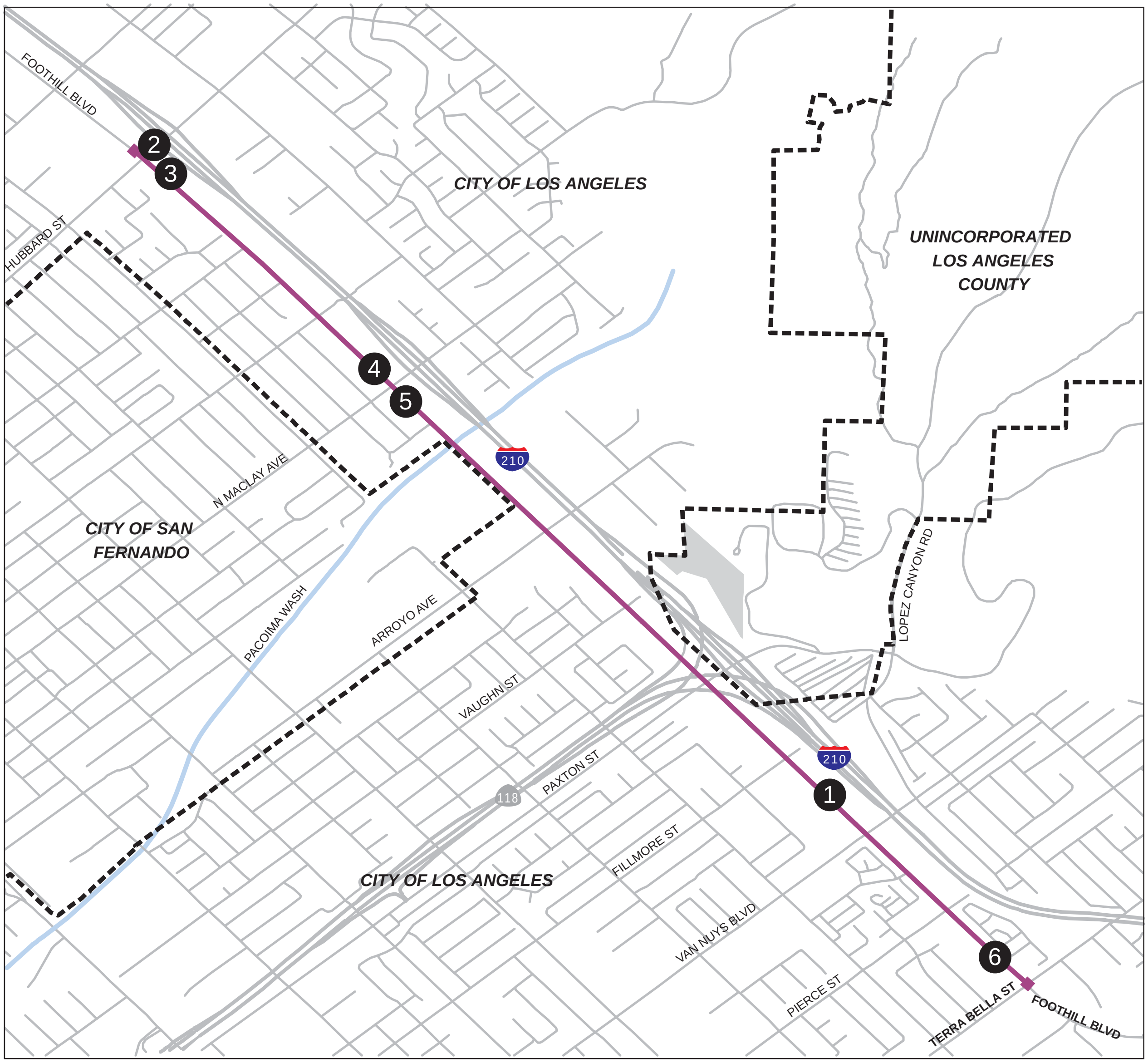
Title 40 of the Code of Federal Regulations (40 CFR) and Title 22 of the California Code of Regulations define and identify hazardous materials and wastes and provide threshold levels for these substances. Regulatory agencies determine what constitutes a substantial hazard or an insignificant level of hazardous materials on a case-by-case basis, depending on the proposed uses, potential exposure, and degree and type of hazard.

California Code of regulations 19 CCR 2620, et seq., requires local governments to regulate local business storage of hazardous materials in excess of certain quantities. The law also requires that entities storing hazardous materials be prepared to respond to releases. Those using and storing hazardous materials are required to submit a Hazardous Materials Business Plan (HMBP) to their local Certified Unified Program Agency (CUPA) and to report releases to their CUPA and the State Office of Emergency Services. The Los Angeles Fire Department is the designated CUPA for the City of Los Angeles. There are a number of industrial uses operating in the vicinity of the project site that use hazardous materials in their operations. Commercial and industrial land uses located along the proposed Foothill Trunk Line Unit 3 (FTL U3) alignment that have reported hazardous materials incidents are identified below in **Table 3.7-1** and shown on **Figure 3.7-1**.

TABLE 3.7-1
HAZARDOUS SITES ON THE PROJECT ALIGNMENT

Facility Name	Address	Site Type	Status
Miller Stephenson Chemical Company	1221 Foothill Blvd.	Evaluation	No Further Action
Foothill Shell Inc.	13641 Foothill Blvd.	Permitted UST	In Operation
Exxon Mobil	13617 Foothill Blvd.	LUST Cleanup Permitted UST/WDR	Completed – Case Closed
Chevron Station	13153 Foothill Blvd.	LUST Cleanup/ Permitted UST/WDR	Completed – Case Closed
76 Station	13131 Foothill Blvd.	LUST Cleanup/ Permitted UST/WDR	Completed – Case Closed
RPM Gasoline Service Station	11910 Foothill Blvd.	LUST Cleanup/ Permitted UST/WDR	Completed – Case Closed

SOURCE: State Water Resources Control Board - Geotracker website accessed February 12, 2013
http://geotracker.waterboards.ca.gov/map/default.asp
Department of Toxic Substance Control – Envirostor website accessed February 12, 2013
http://www.envirostor.dtsc.ca.gov/public/mapfull.asp



LADWP Trunk Line

City of Los Angeles Boundary

Hazardous Materials Site Locations

1. Miller Stephenson Chemical Company - 1221 Foothill Boulevard
2. Foothill Shell Inc. - 13641 Foothill Boulevard
3. Exxon Mobil - 13617 Foothill Boulevard
4. Chevron Station - 13153 Foothill Boulevard
5. 76 Station - 13131 Foothill Boulevard
6. RPM Gasoline Service Station - 11910 Foothill Boulevard

0 960
Feet

SOURCE: TAHA, 2013.

Figure 3.7-1
Hazardous Materials Site Locations

3.7.2 Regulatory Framework

Federal

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA) oversees and enforces regulations associated with the handling of hazardous materials in the work environment. The regulations established in the Code of Federal Regulations (CFR) Title 29 are designed to protect workers from hazards at the work site. By regulation, relevant training, operating procedures, and protective equipment are required to be used at work sites where hazardous materials may be present.

Resource Conservation and Recovery Act

Individual states may employ their own hazardous waste programs in lieu of the Resource Conservation and Recovery Act (RCRA), which gives the EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. As long as the state program is at least as stringent as the federal RCRA requirements; it must be approved by the EPA. California‘s RCRA program, known as the Hazardous Waste Control Law (HWCL), was approved by the EPA in 1992.

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA was created to protect water, air, and land resources from historical chemical disposal practices. Also known as the Superfund Act, the sites listed under it are known as Superfund sites. Per CERCLA, the EPA manages a list, called the CERCLIS, of all contaminated sites in the nation that have undergone or are currently undergoing clean-up activities. The CERCLIS details current and potential hazardous waste sites, as well as ongoing remedial activities. Sites on the National Priorities List (NPL), or being considered for the NPL, are included.

State

California Code of Regulations

The California Code of Regulations (CCR), Title 22, Section 66261.20-24, contains technical descriptions of characteristics that would classify waste material, including soil, as hazardous waste. When excavated, soils and concentrations of contaminants higher than certain acceptable levels must be handled and disposed of as hazardous waste.

California Hazardous Materials Release Response Plans and Inventory Law

The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires that businesses that store hazardous materials on-site prepare a business plan and submit it to local health and fire departments. The business plan must include details of the facility and business conducted at the site, an inventory of hazardous materials that are handled and stored on-site, an emergency response plan, and a safety and emergency response training program for new employees with an annual refresher course.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal OSHA) regulates worker safety in the state of California similar to the federal OSHA.

Department of Toxic Substance Control

DTSC is responsible for regulating the use, storage, transport, and disposal of hazardous substances in the State. The DTSC maintains a Hazardous Waste and Substances Site List for site cleanup. This list is commonly referred to as the Cortese list. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

Hazardous Materials Emergency Response

Per the Emergency Service Act, California has developed an Emergency Response Plan to coordinate emergency services provided by federal, State, and local governmental agencies and private individuals. Response to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES). The OES coordinates the responses of other agencies, including the EPA, California Highway Patrol (CHP), California Department of Fish and Game (CDFG), the Regional Water Quality Control Boards (RWQCBs), the local air districts, and other local agencies. Pursuant to the Business Plan Law, local agencies are required to develop area plans for the response to releases of hazardous materials and wastes. These emergency response plans depend to a large extent on the Business Plans submitted by businesses that handle hazardous materials. An area plan must include pre-emergency planning and procedures for emergency response, notification, and coordination of affected government agencies and responsible parties, training, and follow up.

Hazardous Materials Transportation

The State of California has adopted U.S. Department of Transportation (USDOT) regulations for the intrastate movement of hazardous materials; State regulations are contained in 26 CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR). Both regulatory programs apply in California.

The two State agencies with primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the CHP and the California Department of Transportation (Caltrans). The CHP enforces hazardous materials and hazardous waste labeling and packing regulations to prevent leakage and spills of material in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are the responsibility of the CHP, which conducts regular inspection of licensed transporters to ensure regulatory compliance. Caltrans has emergency chemical spill identification teams at locations throughout the State that can respond quickly in the event of a spill.

Hazardous Waste Management and Handling

In California, the California EPA and DTSC, a department within California EPA, regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. DTSC has primary hazardous material regulatory responsibility, but can delegate enforcement responsibilities to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the HWCL.

The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe the management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in ordinary landfills. Hazardous waste manifests must be retained by the generator for a minimum of three years. Hazardous waste manifests provide a description of the waste, its intended destination, and regulatory information about the waste. A copy of each manifest must be filed with the State. The generator must match copies of hazardous waste manifests with receipts from treatment, storage, and disposal facilities.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) and the RWQCBs administer the requirements of the Clean Water Act that regulate pollutant discharges into waterways of the U.S. The Los Angeles RWQCB enforces site cleanup regulations for illicit discharges that have resulted in contamination of groundwater in the project area.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In January 1996, California EPA adopted regulations that implemented a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements, including: (1) hazardous waste generators and hazardous waste on-site treatment; (2) underground storage tanks; (3) aboveground storage tanks; (4) hazardous materials release response plans and inventories; (5) risk management and prevention programs; and (6) Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level, and the agency responsible for implementation of the Unified Program is called the Certified Unified Program Agency (CUPA).

Local

Certified Unified Program Agency

The CUPA, created by the DTSC, implements the United Program regulating underground tanks, hazardous materials, and any unauthorized release of hazardous material. The CUPA responsible for administering hazardous material programs in the City of Los Angeles is the Los Angeles Fire Department (LAFD). The Health and Hazardous Materials Division (HHMD) of the Los Angeles County Fire Department is a participating agency and regulates hazardous waste in the City of Los Angeles.

City of Los Angeles General Plan, Framework Element

The Safety Element of the General Plan addresses the issue of protecting people from unreasonable risks associated with natural disasters, fires, floods, and earthquakes. The Safety Element provides a contextual framework for understanding the relationship between hazard mitigation, response to a natural disaster and initial recovery from a natural disaster. Safety Element applicable policies are described below:

> **Policy 1.1.4:** Health/environmental protection. Protect the public and workers from the release of hazardous materials and protect City water supplies and resources from contamination resulting from accidental release or intrusion resulting from a disaster event, including protection of the environment and public from potential health and safety hazards associated with program implementation.

3.7.3 Methodology

For the purpose of this analysis, the project details were reviewed to determine the existing site conditions and regulations and to determine the proposed project's consistency with applicable federal, State, and local regulations pertaining to hazardous materials. Evaluation of potential hazardous materials associated with the construction and operation of the proposed project considers such factors as the on-site presence, planned transport, accident potential, and potential exposure/risk to the public of such materials.

3.7.4 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this analysis and consistent with Appendix G of the *CEQA Guidelines*, the proposed project would result in potentially significant impacts if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Result in hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

The lead agency determined in the NOP/IS (see **Appendix A**) that the following environmental issue areas would result in no impacts or less than significant impacts and were therefore scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue areas:

- Be located within an area covered by an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would result in a safety hazard for people residing or working in the project area;
- Be located within the vicinity of a private airstrip and would result in a safety hazard for people residing or working in the project area;
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Impact 3.7-1: Implementation of the proposed project would not routinely transport, use, dispose of, release, or emit hazardous materials or waste, nor is it located on a hazardous materials site. (Less-Than-Significant with Mitigation)

Construction activities of the FTL U3 would occur by open trench or pipe jacking between the Foothill Boulevard right-of-way (ROW), which ranges in width from 80 feet to 100 feet. Construction would only occur within roadway itself, which ranges in width from 52 feet to 80 feet. Construction would involve the excavation and transport of soil and the importation of sand, gravel bedding material, and slurry as bedding or backfill. As shown in Table 3.7-1, hazardous materials sites have been identified along the proposed project alignment; however, each hazardous site has been listed as being in operation or properly remediated and all of the cases that required cleanup have been closed or require no further action. Accordingly, contaminated soil or groundwater is not anticipated to be encountered during construction of the FTL U3. In the event that previously unidentified contaminated soil or water is encountered during construction, it would be removed and properly disposed of in accordance with local, State, and federal requirements. Compliance with **Mitigation Measure HAZ-1** would ensure potentially contaminated soils would be disposed of adequately.

Construction of FTL U3 would involve the use of fuels, oils, and lubricants that could be hazardous if accidentally released into the environment. To avoid the creation of a significant hazard to the public, construction crews would be required to implement OSHA workplace safety standards and other local, state, and federal regulations related to the use of hazardous materials. Adherence to hazardous materials regulations would minimize negative effects of accidental release near sensitive land uses. Therefore, the proposed project would result in a less-than-significant impact related to routine transport, use, disposal of or release of hazards and hazardous materials.

Mitigation Measures

> **HAZ-1:** If potentially contaminated soils (odorous, stained) are discovered during ground disturbing activities, construction shall stop until the soils are properly evaluated for contamination and if necessary removed and disposed of in accordance with local, state, and federal regulations.

Significance after Mitigation: Less-Than-Significant Impact.

Impact 3.7-2: Implementation of the proposed project would increase the risk of exposure to the environment, workers, and the public may increase the risk of exposure to the environment, workers, and the public. (Less-Than-Significant With Mitigation)

Construction of the FTL U3 would require equipment that uses hazardous materials such as gasoline, diesel fuel, hydraulic fluids, paint, and oil. During construction and transportation activities, such hazardous materials could accidently be spilled or otherwise released into the environment exposing construction workers, the public and/or the environment to potentially hazardous conditions.

Operation of the proposed project would not require the use of any hazardous materials. Therefore, potential impacts would be limited to the construction phase of the project. With implementation of **Mitigation Measure HAZ-2**, project impacts would be reduced to a less-than-significant level.

Mitigation Measures

HAZ-2: The construction crew shall be required to implement best management practices (BMPs) for handling hazardous materials during the project. The use of construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following**:**

- Follow manufacturers’ recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction;
- Avoid overtopping construction equipment fuel tanks;
- During routine maintenance of construction equipment, properly contain and remove grease and oils; and
- Properly dispose of discarded containers of fuels and other chemicals.

Significance After Mitigation: Less-Than-Significant Impact.

Impact 3.7-3: Implementation of the proposed project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of three elementary schools. (Less Than Significant With Mitigation)

The proposed project is located less than one-quarter mile from three elementary schools including Gridley Elementary, Valley Region, and Hillary T. Broadous. Impacts from the proposed project are expected to occur only during construction activities, which would be temporary and localized. Construction of the FTL U3 would require equipment utilizing hazardous materials such as petroleum fuel and oil. During construction and transportation activities, such hazardous materials could accidently be spilled or otherwise released into the environment exposing students, teachers, and the public to potentially hazardous conditions.

Operation of the proposed project would not require the use of hazardous materials.

Therefore, potential impacts would be limited to the construction phase of the project. With implementation of Mitigation Measure HAZ-1, project impacts would be reduced to a less than significant level.

Mitigation Measures

Implement Mitigation Measure **HAZ-1**.

Significance After Mitigation: Less-Than-Significant Impact.

Impact 3.7-4: Implementation of the proposed project would interfere with an adopted emergency response plan or emergency evacuation plan. (Less-Than-Significant With Mitigation)

Foothill Boulevard is not designated as a primary disaster route by the County of Los Angeles Department of Public Works but is designated as a secondary disaster route (LADPW, 2012). Construction of the proposed project could interfere with adopted emergency response plans and emergency evacuation plans due to temporary roadway closures on Foothill Boulevard, from Hubbard Street to Terra Bella Street. To minimize traffic congestion from temporary road closures that could interfere with emergency response plans, the proposed project would implement a Traffic Control Plan as required by Mitigation Measures **TR-1** through **TR-2**

The Traffic Control Plan would include changeable message signs, delineators, arrow boards, and K-Rails. These measures would be employed to minimize traffic disruption that could interfere with emergency response plans. The Traffic Control Plan would be implemented during construction of the proposed project within streets in the project vicinity and would conform to traffic control standards established by the City of Los Angeles Department of Transportation (LADOT). With the Traffic Control Plan in place to minimize traffic disruption from temporary road closures, the proposed project would not interfere with adopted emergency response plans. In addition, LADWP would provide the LAFD all building plans, construction plans, construction schedules, and, if applicable, proposed construction and street closures related to the proposed project for LAFD review and approval. Therefore, with mitigation implemented, the proposed project would result in a less-than-significant impact related to interference with emergency response or emergency evacuation plans.

Mitigation Measures

Implement Mitigation Measure **TR-1** and **TR-2**.

Significance After Mitigation: Less-Than-Significant Impact.

3.8 Hydrology, Water Quality, and Groundwater

This section describes local surface water and groundwater resources and discusses regional water quality issues. It also evaluates the impacts of the proposed project on hydrology and groundwater.

3.8.1 Environmental Setting

Regional Setting

The proposed project is located in north-central Los Angeles County in the San Fernando Valley within Los Angeles River Watershed, which covers approximately 834 square miles and includes 44 cities. The Los Angeles River, which shapes this watershed, has evolved from an uncontrolled, meandering river to a major flood protection waterway. The Los Angeles River flows from its headwaters in the mountains eastward to the northern corner of Griffith Park, then turns southward through the Glendale Narrows and flows across the coastal plain and into San Pedro Bay near Long Beach (LADPW, 2013). The San Fernando Valley is drained by the Los Angeles River and its tributaries (River Project, 2008).

The regional climate of the San Fernando Valley is semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Annual average temperature in Los Angeles is 65.0°F, with average temperatures ranging from approximately 55.0°F in winter to 75.0°F in the summer. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions. Precipitation in the San Fernando Valley ranges from 15 to 23 inches per year and averages about 17 inches (DWR, 2004).

Local Setting

The proposed project is located in the Tujunga/Pacoima Subwatershed, the largest subwatershed of the Los Angeles River Watershed. It includes both remote open space of the Angeles National Forest and the urbanized lands of the cities of Los Angeles and San Fernando, at elevations that range from about 560 to 7,130 feet. The watershed can generally be described in two parts: the upper watershed is relatively undisturbed open space, and the lower watershed which is mostly urbanized and highly degraded. Dozens of streams feed the three main tributaries: the Big Tujunga, Little Tujunga, and Pacoima washes. The Pacoima Wash becomes channelized below the Lopez Debris Basin. Big and Little Tujunga washes meet in the reservoir behind Hansen Dam. Below Hansen Dam, Pacoima Wash joins the channelized Tujunga Wash as it flows to its confluence with the Los Angeles River in Studio City (City of Los Angeles, 2012; River Project, 2008).

Groundwater

The Foothill Trunk Line Unit 3 (FTL U3) is located in the San Fernando Valley Groundwater Basin, which includes the water-bearing sediments beneath the San Fernando Valley, Tujunga Valley, Browns Canyon, and the alluvial areas surrounding the Verdugo Mountains near La Crescenta and Eagle Rock. The basin is bounded on the north and northwest by the

Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills.

Most of the rain runs off of concrete and asphalt and directly into the stormdrains, channelized washes, and the Los Angeles River. It is estimated that approximately eight percent of rainfall in urbanized areas percolates, the rest being lost to the ocean via the channelized system, carrying contaminants from urbanized land uses. The San Fernando Groundwater Basin currently provides nearly 15 percent of Los Angeles's drinking water (River Project, 2008).

Water levels in the San Fernando Valley Groundwater Basin have been fairly stable since the Basin was adjudicated approximately 20 years ago. Hydrographs show 1998 water levels roughly equal to or higher than water levels of 1980, except near La Crescenta where the 1998 water level is about 60 feet below that of 1980 (DWR, 2004). In January of 1985, depth to groundwater (from the ground surface) was measured at 215.9 feet at a well about six miles southwest of the project area near the intersection of Roscoe Boulevard and Noble Avenue (Well 02N15W28P001S) (DWR, 2013).

Flooding

100-Year Flood

Figure 3.8-1 illustrates the locations where the proposed project crosses areas designated by the Federal Emergency Management Agency (FEMA) as being within the 100- and 500-year flood hazard zones. Along the project route there is one area designated as being within the 100-year flood hazard zone located along the Pacoima Wash. Outside of the FEMA-designated flood hazard area, local flooding may also occur at low points where clogged storm drains back up storm waters.

Dam Failure Inundation

The Pacoima Dam is located in Pacoima Canyon, approximately four miles northeast of the proposed project. The Pacoima Dam is a variable radius arch dam with a capacity of 3,777 acre-feet of water. LADPW owns and operates the dam. The dam is monitored during storms, and there are measures in place to prevent hazards in the event of potential overflow. The City of Los Angeles has a comprehensive program in place to provide early notification to potentially affected locations in the event of possible flooding, emergency response, and disaster recovery. The City estimates the time of arrival between first water and dam failure is approximately two minutes closest to the dam and approximately 10 minutes in the vicinity of I-210. Pacoima Dam is under the jurisdiction of the Division of Dam Safety (City of Los Angeles, 2012).

Seiche, Tsunami and Mudflow

Earthquakes can cause flooding due to tsunamis, seiches, or dam failure. Tsunamis are a potential hazard at this site due to the close proximity of the coast and low elevation. Los Angeles County has not experienced a major tsunami. The offshore islands provide some protection to the coastline from the impacts of tsunamis originating from distant seismic events. Seiches are earthquake-induced waves in an enclosed or partially enclosed body of water, which may produce flooding in local areas.

The force of a mud flow's debris-laden water can be tens or hundreds of times greater than that generated by clear water and destroys retaining walls and other protective works. Mud and debris may fill drainage channels, river or stream channels, and sediment basins, causing otherwise normal runoff to suddenly inundate areas outside the floodplains. Also, sediment and debris are more damaging to houses and their contents than clear water. Frame structures are often total losses, and if they remain intact, sediment and mud must be removed and washed out. Major floods almost always involve heavy intrusions of mud, sediment and debris. Such conditions are caused or worsened by forest and brush fires. Once the hills have been denuded of vegetation, there is more runoff and less infiltration. Even light rainfall can develop into rapid runoff with severe erosion occurring in areas with little vegetation.

Storm Water Drainage

The storm drain system in the project area is maintained by the City of Los Angeles Bureau of Engineering. The system is an extensive network of underground pipes and open channels that were designed to prevent flooding. Runoff drains from the street into the gutter and enters the system through an opening in the curb called a catch basin. Curbside catch basins are the primary points-of-entry for urban runoff. From there, runoff flows into underground tunnels that empty into flood control channels such as the Los Angeles River and its tributaries. The flood control channels eventually discharge to over 65 shoreline outfalls along the coast. The storm drain system receives no treatment or filtering process and is completely separate from the City's sewer system (City of Los Angeles, 2012).

3.8.2 Regulatory Framework

Federal

Clean Water Act (CWA)

The Federal Water Pollution Control Act (33 U.S.C. 1251 et. sec.) as amended by the Federal Water Pollution Control Act Amendments of 1972, also known as the Clean Water Act (CWA), states that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Amendments to the CWA added a section that established a framework for regulating municipal and industrial (M&I) stormwater discharges under the NPDES program. On November 16, 1990, the United States Environmental Protection Agency (USEPA) published final regulations, under the 1987 CWA Amendments, that establish application requirements for stormwater permits.

CWA Section 402

CWA Section 402 regulates discharges to surface waters of the US through the NPDES program. In California, the USEPA authorizes the State Water Control Board oversee the NPDES program through the Regional Water Quality Control Boards. Through the authority of the Los Angeles RWQCB, the City of Los Angeles implements the NPDES program through its own regulations and standards.

Stormwater discharges are also regulated under CWA Section 402. Construction activities disturbing one acre of land or greater must be covered under the State Water Resources Control Board (SWRCB) General Construction Activity Stormwater Permit. The permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) for construction activities. A SWPPP prepared in compliance with the General Permit describes the site, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of post-construction sediment and erosion control measures and maintenance responsibilities, and non-stormwater management controls. Dischargers are also required to inspect construction sites before and after storms to identify stormwater discharge from construction activity, and to identify and implement controls where necessary.

CWA Section 303(d)

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are “impaired” (i.e., do not meet one or more of the water quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish Total Maximum Daily Load (TMDL) for the pollutant. A TMDL is the maximum amount of a pollutant that a water body can receive and still meet the water quality standards. Typically, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. On October 11, 2011, the USEPA approved a revised list of water quality limited segments (herein referred to as the 303(d) list) prepared by the RWQCB for California's 2008 through 2010.

CWA Section 401

Section 401 of the federal CWA requires that any activity, including the crossing of rivers or streams during road, pipeline, or transmission line construction, that might result in discharges of dredged or fill material into a state water body, be certified by the RWQCB. This certification ensures that the proposed activity does not violate state or federal water quality standards. A water quality certification (or waiver thereof) pursuant to Section 401 of the federal CWA would also be required from the Los Angeles RWQCB.

CWA Section 404

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface water or groundwater, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the U.S. Army Corps of Engineers, which generally defines wetlands through consideration of three criteria: hydrology, soils, and vegetation. Under Section 404 of the CWA, the Army Corps of Engineers is responsible for regulating the discharge of dredged or fill material into waters of the United States. The term “Waters of the U.S.” includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations.

State

Porter-Cologne Water Quality Act

The Porter-Cologne Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California and defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. The SWRCB administers water rights, water pollution control, and water quality functions throughout the State, while the RWQCB conducts planning, permitting, and enforcement activities. The Porter-Cologne Act requires the RWQCB to establish water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses. Beneficial uses, together with the corresponding water quality objectives, are defined as standards, per Federal regulations. Therefore, the regional plans form the regulatory standards for meeting State and federal requirements for water quality control. Changes in water quality are only allowed if the change is consistent with the maximum beneficial use designated by the State, does not unreasonably affect the present or anticipated beneficial uses, and does not result in water quality less than that prescribed in the water quality control plans.

National Pollutant Discharge Elimination Program (NPDES)

The NPDES permit program is administered in the State of California by the RWQCBs, and was first established under the authority of the Clean Water Act to control water pollution by regulating point sources that discharge pollutants into “Waters of the U.S.” If discharges from industrial, municipal, and other facilities go directly to surface waters, those project applicants must obtain permits. An individual NPDES permit is specifically tailored to a facility. A general NPDES permit covers multiple facilities within a specific activity category such as construction activities. A general permit applies with same or similar conditions to all dischargers covered under the general permit.

There are nine RWQCB in the State of California. These boards have the mandate to develop and enforce water quality objectives and implementation plans within their regions. The project site is located within the jurisdiction of the Los Angeles RWQCB Region 4. On December 10, 2012, the RWQCB issued a general permit for construction dewatering (Waste Discharge Requirements for Discharges of Groundwater from Construction Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties Order No. R4-2012-0175, and NPDES No. CAS004001).

SWRCB Waste Discharge Requirements (WDRs)

To provide a consistent, statewide regulatory approach to address sanitary sewer overflow (SSO), the SWRCB adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 (Sanitary Sewer Systems WDR) on May 2, 2006. The Sanitary Sewer Systems WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board’s online SSO database (SWRCB, 2012).

The SWRCB also has issued General WDRs under Order No. R8-2003-0061, NPDES No. CAG 998001 (Dewatering General Permit) governing non-storm water construction-related discharges from activities such as dewatering, water line testing, and sprinkler system testing. The discharge requirements include provisions mandating notification, testing, and reporting of dewatering and testing-related discharges. The General WDRs authorize such construction-related discharges so long as all conditions of the permit are fulfilled.

Municipal Storm Water Permitting (MS4)

The State's Municipal Storm Water Permitting Program regulates storm water discharges from Municipal Separate Storm Sewer Systems (MS4s). MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES storm water permits for medium (serving between 100,000 and 250,000 people) and large (serving more than 250,000 people) municipalities. As part of the Phase II, the SWRCB adopted a General Permit for small MS4s (serving less than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and hospital complexes.

The NPDES permits for nonpoint sources are required for municipalities and unincorporated communities of populations greater than 100,000 to control urban stormwater runoff. The municipal permits require the preparation of Storm Water Management Plans (SWMPs) that reflect the environmental concerns of the local community.

Implementation of the proposed project would be subject, as applicable, to the waste discharge requirements issued by the RWQCB for the MS4 Permit. The City of Los Angeles is a co-permittee under the MS4 Permit, and therefore has joint/concurrent legal authority to enforce the terms of the permit within its jurisdiction. The MS4 Permit is intended to ensure that combinations of site planning, source control and treatment control practices are implemented to protect the quality of receiving waters. The permit requires that new development employ best management practices (BMPs) designed to control pollutants in stormwater runoff to the maximum extent practicable (MEP), details specific sizing criteria for BMPs, and specifies flow control requirements. These BMPs include structural practices, source control and treatment techniques and systems, and site design planning principles addressing water quality.

Local

Sylmar Community Plan

The proposed project is within the City of Los Angeles Sylmar Community Plan Area, applicable policies relevant to the proposed project are provided below:

> **Policy LU7.2** Permeable Surfaces. Increase areas of permeability by minimizing driveway and curb cut widths, limiting driveway paving to the width required to access a garage, and utilizing permeable surfaces on driveways, walkways, trails, and outdoor spaces in order to capture, infiltrate, and store water underground.
>
> **Policy CF10.1** Watershed Revitalization. Promote watershed management policies that integrate flood protection with water conservation, improve the quality of stormwater

runoff and groundwater, and reduce the pollution of water resources while preserving and creating recreation and habitat areas.

Policy CF10.1 Watershed Revitalization. Promote watershed management policies that integrate flood protection with water conservation, improve the quality of stormwater runoff and groundwater, and reduce the pollution of water resources while preserving and creating recreation and habitat areas.

Policy CF10.4 Flood Protection. Enhance railroad rights-of-way to increase flood protection, provide a trail, create swales for stormwater capture, and improve water quality.

Policy CF10.5 Interdepartmental Coordination. Support the development of a new comprehensive flood management plan for the watershed through coordination among City departments.

3.8.3 Methodology

Potential significant impacts to hydrology and water quality associated with the proposed project were identified based on a review of existing data on water quality and groundwater in the project area, water features, and project site characteristics. The following section discusses impacts and the measures that would be incorporated to mitigate significant impacts.

3.8.4 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this Draft EIR and consistent with Appendix G of the *CEQA Guidelines*, a project would have a significant impact to hydrology, water quality, or groundwater if it would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge;
- Substantially alter the existing drainage patterns in a manner that would result in substantial erosion or siltation on or off the site;
- Substantially alter the existing drainage patterns in a manner that would result in substantial flooding on or off the site;
- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place structures within a 100-year flood hazard area that would impede or redirect flood flows; or

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result in the failure of a levy or dam
- Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow; or

The lead agency determined in the NOP/IS (see **Appendix A)** that the following environmental issue areas would result in no impacts or less-than-significant impacts and were therefore scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue areas:

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; and
- Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

Impacts Discussion

Water Quality

Impact 3.8-1: Construction activities could promote soil erosion or result in chemical spills that would pollute storm water runoff and adversely affect local receiving water quality. (Less-Than-Significant With Mitigation)

Installation of the trunk line may involve the use of chemicals associated with heavy machinery and equipment such as oils, fuels, and lubricants. In the event of an accidental release of such chemicals, such as spills during fueling of equipment or vehicles, the chemicals could come into contact with stormwater runoff and flow into the storm drains and Pacoima Wash, thus affecting surface water quality, and/or absorbed into the soil and affect groundwater quality.

Prior to construction activities, a Stormwater Pollution Prevention Plan (SWPPP) would be prepared by the LADWP to minimize impacts from storm water to local receiving water in compliance with the City's existing storm water management program. The LADWP would be required to obtain coverage under the NPDES General Construction Permit or prepare a SWPPP. Through the SWPPP, BMPs to control erosion, sedimentation, and hazardous materials release would be implemented to ensure that water quality would not be impaired. The Los Angeles RWQCB would require that BMPs be implemented to obtain WDRs. Implementation of **Mitigation Measures HYDRO-1** and **HYDRO-2**, would ensure impacts to water quality from construction activities would be less than significant.

Mitigation Measures

> **HYDRO-1:** LADWP shall prepare a SWPPP for the construction activities associated with the proposed project. The SWPPP shall be maintained at the construction site for the entire duration of construction. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of storm water discharge and implement BMPs to reduce pollutants

in storm water discharges during construction and post construction. The SWPPP shall include the following:

- Source identification;
- Site map;
- Description of construction materials, practices, and equipment storage and maintenance;
- List of pollutants with potential to contact storm water;
- Estimate of the construction site area and percent impervious area;
- Erosion and sedimentation control practices, including soils stabilization, revegetation, and runoff control to limit increases in sediment in storm water runoff, such as detention basins, fiber rolls, silt fences, check dams, geofabrics, drainage swales, and sandbag dikes;
- Using structural controls such as gravel bags or fiber roles retain sediment to avoid draining toward receiving waters;
- Proposed construction dewatering plans;
- List of provisions to eliminate or reduce discharge of materials to storm water;
- Description of waste management practices;
- Spill prevention and control measures;
- Maintenance and training practices; and
- Sampling and analysis strategy and sampling schedule for discharges from construction activities.
- Stabilize slopes of stockpiled sand/soil to eliminate or reduce sediment dispersal from construction site to surrounding areas and surface waters;
- Store all reserve fuel supplies only within the confines of a designated construction staging area;
- The use or storage of petroleum-powered equipment shall be accomplished in a manner to prevent the potential release of petroleum materials into receiving waters;
- Refueling will occur only within designated fueling zones that are equipped with secondary containment and spill clean-up equipment;

HYDRO-2: LADWP shall incorporate into contract specifications the requirements that:

- The construction staging areas shall be developed to contain surface runoff so that contaminants such as oil, grease, and fuel products do not drain towards receiving waters.
- If heavy-duty construction equipment is stored overnight at the construction staging areas, drip pans or plastic lines with edges shall be placed beneath the machinery engine block and hydraulic systems to prevent any leakage from entering runoff or receiving waters.
- Vehicle fueling shall be conducted in a manner to protect impacting the Pacoima Wash and all fueling activities shall include the uses of drip pans and spill kits.
- Any spills shall be cleaned up immediately and disposed of off-site.
- Spill kits capable of containing hazardous spills will be stored on-site. Required materials shall be specified in contractor specifications.

Significance After Mitigation: Less-Than-Significant Impact.

Groundwater Recharge and Supply

Impact 3.8-2: The proposed project would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume in the local groundwater table level. (Less-Than-Significant)

The proposed project would replace an existing trunk line and would not require the use of groundwater for construction or operation. Additionally, the proposed project is not anticipated to develop additional paved areas and would not increase impervious surfaces. Thus, the proposed project is not anticipated to substantially deplete groundwater supplies or interfere substantially with groundwater recharge, impacts would be less than significant.

Significance: Less-Than-Significant Impact.

Drainage Alteration

Impact 3.8-3: The proposed project could substantially alter the existing drainage pattern of the project area through the alteration of the course of a stream or river that would result in substantial erosion or siltation and/or flooding on or off-site. (Less-Than-Significant With Mitigation)

The proposed project is not expected to substantially alter existing drainage patterns within the project area because the proposed project is located within an existing roadway that would be restored to existing conditions upon completion of construction. Because the proposed project construction activities are located solely within an existing ROW, the proposed project would not alter the drainage pattern of any stream or river. In accordance with Mitigation Measures HYDRO-1 and HYDRO-2, the proposed project would be required to adhere to the NPDES permits of the Los Angeles region which specify requirements to protect the beneficial uses of all receiving waters. Furthermore, they require the permittees to develop and implement BMPs to control/reduce the discharge of pollutants to waters of the United States to the maximum extent practicable (MEP). With adherence to these requirements, the proposed improvements would include design measures to minimize potential impacts to receiving waters to less-than-significant levels.

Because the proposed project would be installed within the extent of the roadway area of Foothill Boulevard, no substantial changes in runoff or drainage patterns would occur as the site is presently in a developed condition. The proposed project would utilize the existing storm water drainage and control system located within Foothill Boulevard. Therefore, the proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site.

Mitigation Measures

Implement Mitigation Measures **HYDRO-1** and **HYDRO-2**.

Significance after Mitigation: Less-Than-Significant Impact.

Stormwater Capacity Exceedance

Impact 3.8-4: The proposed project would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial sources of polluted runoff. (Less-Than-Significant With Mitigation)

The proposed project would be located in the existing Foothill Boulevard which contains an improved storm drain. The proposed project is a replacement project and would not generate new sources of runoff that could cause storm drains to exceed capacity as the project would return the site to existing conditions upon completion of construction. Additionally, in accordance with Mitigation Measures HYDRO-1 and HYDRO-2, construction activities would comply with applicable requirements of the SWRCB and RWQCB, including compliance with NPDES permit regulations. BMPs would be employed during project construction to control any potential erosion or siltation impacts related to construction activities. Implementation of BMPs and compliance with NPDES requirements would ensure that impacts would be less than significant.

The project would be required to adhere to the NPDES permits of the Los Angeles region which specify requirements to protect the beneficial uses of all receiving waters. Furthermore, they require the permittees to develop and implement BMPs to control/reduce the discharge of pollutants to waters of the United States to the MEP. With adherence to these requirements, the proposed improvements would include design measures to minimize potential impacts to receiving waters to less-than-significant levels.

Mitigation Measures

Implement Mitigation Measures **HYDRO-1** and **HYDRO-2**.

Significance After Mitigation: Less-Than-Significant Impact.

Floodplain Modification

Impact 3.8-5: The proposed project would be constructed within the 100-year floodplain and could impede or redirect flood flows. (Less-Than-Significant With Mitigation)

The proposed project would be required to cross-over the 100-year flood plain at the Pacoima Wash. For regulatory purposes, the floodplain is divided into two areas based on water velocity: the floodway and the flood fringe. The floodway includes the channel & the portion of the adjacent floodplain required to pass the 100-year flood without increasing flood heights. Typically, this is the most hazardous portion of the floodplain where the fastest flow of water occurs. Due to the high degree of hazard, most floodplain regulations require that proposed floodway developments do not block the free flow of flood water that would dangerously increase that water's depth and velocity.

The proposed project includes the construction of a 54-inch pipeline that would be suspended by concrete piers placed on either side of the 100-year flood hazard area of the Pacoima Wash. The piers would be designed so as not to raise the 100-year water surface elevation more than one foot and cast-in drilled-hole (CIDH) piers have been selected as the most appropriate method of pier construction for supporting the pipe bridge and would thus not affect the local floodplain or increase the risk of flooding in other areas. With the implementation of **Mitigation Measure HYDRO-3**, impacts would be less than significant.

Mitigation Measures

> **HYDRO-3:** Prior to the initiation of any construction activities, LADWP shall coordinate with the Los Angeles County Flood Control District (LACFCD) to ensure the portions of the proposed project located within the 100-year flood plan would conform to LACFCD structural development requirements.

Significance After Mitigation: Less-Than-Significant Impact.

Dam Inundation

Impact 3.8-6: The proposed project would be constructed within the Pacoima Dam Inundation area and could expose people or structures to a significant risk due to dam failure. (Less-Than-Significant)

Inundation due to water storage facility failure is a potential hazard. The portion of the proposed project that is located within the dam inundation area as designated by the City of Los Angeles General Plan Inundation & Tsunami Hazard Areas map. Portions of the proposed project would be located aboveground on concrete piers placed on either side of the Pacoima Wash. The proposed project would convey water over the wash and in the event of dam inundation and structural damage to the pipe, would release water into the spillway. Although construction workers would be exposed to potential dam inundation during work at and near the Pacoima Wash, the construction activities would be temporary and the likelihood of significant risk is low. Therefore, impacts associated with dam inundation would be less than significant.

Significance: Less-Than-Significant Impact.

3.9 Land Use and Planning

This section provides an overview of City of Los Angeles and regional land use plans and polices and evaluates the construction impacts associated with the proposed project. Topics addressed include land use compatibility and land use consistency.

3.9.1 Environmental Setting

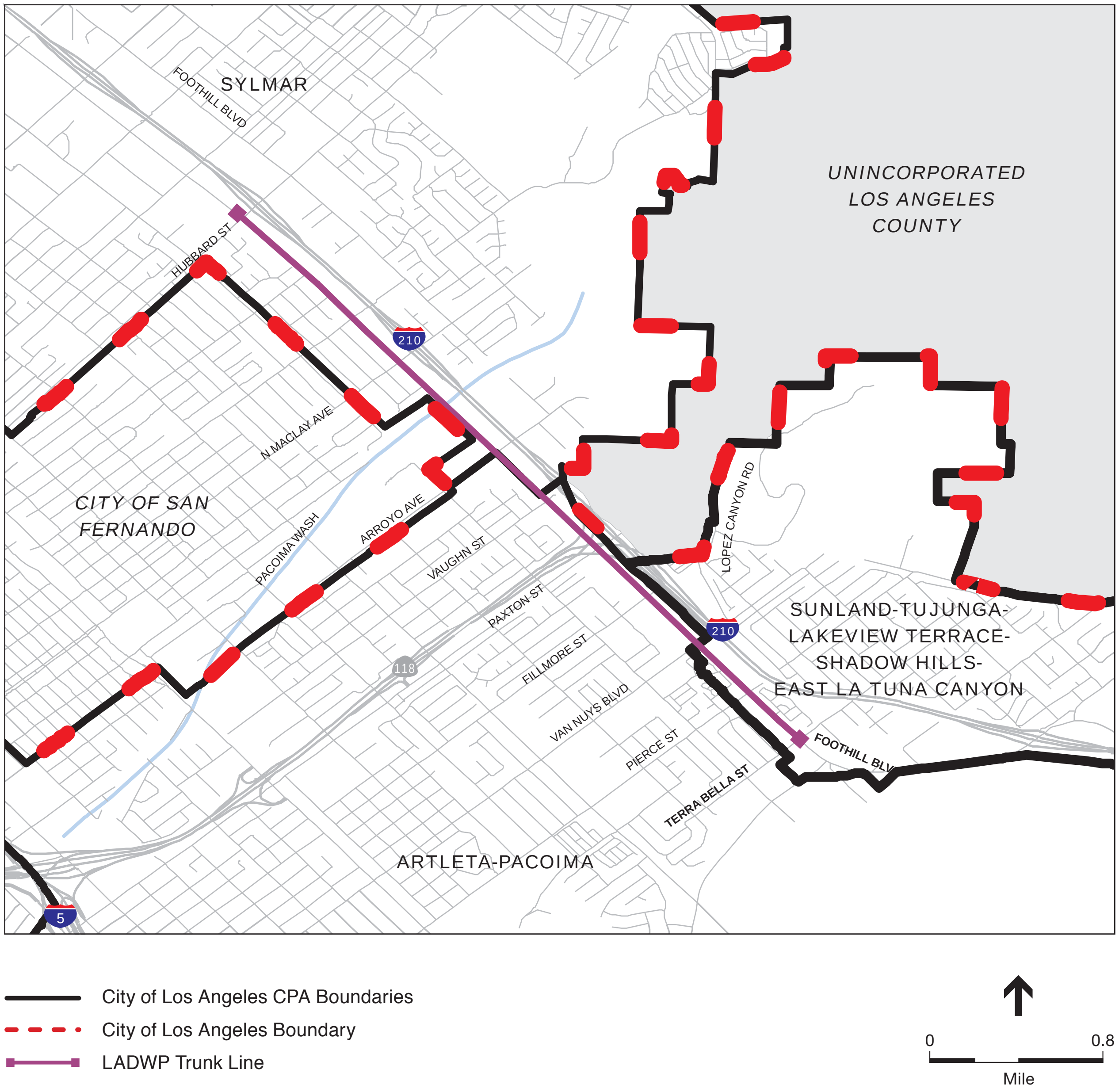
Regional Setting

The proposed project is located in the North Valley planning area of the City of Los Angeles within the County of Los Angeles. The proposed alignment is within three City of Los Angeles Community Plan Areas (CPAs), and abuts the border of the City of San Fernando for a brief segment. As shown in **Figure 3.9-1**, the proposed Foothill Trunk Line Unit 3 (FTL U3) alignment traverses the Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon CPAs from northwest to southeast. North and east of the area is the City of Los Angeles' border with unincorporated County of Los Angeles. The foothills of the San Gabriel Mountains are located to the north and east of the proposed project. Both Foothill Boulevard and the Foothill Freeway (I-210) are aligned with the base of these foothills near the proposed project.

The predominant land use in the project area is low to low-medium density residential. A number of large open space areas including portions of the Angeles National Forest and the Hansen Dam Recreation Area are located nearby. There are concentrations of industrial land uses located in the Sylmar and Pacoima area. Commercial land uses are located primarily along major arterial roadways such as Foothill Boulevard, Van Nuys Boulevard, and Hubbard Street.

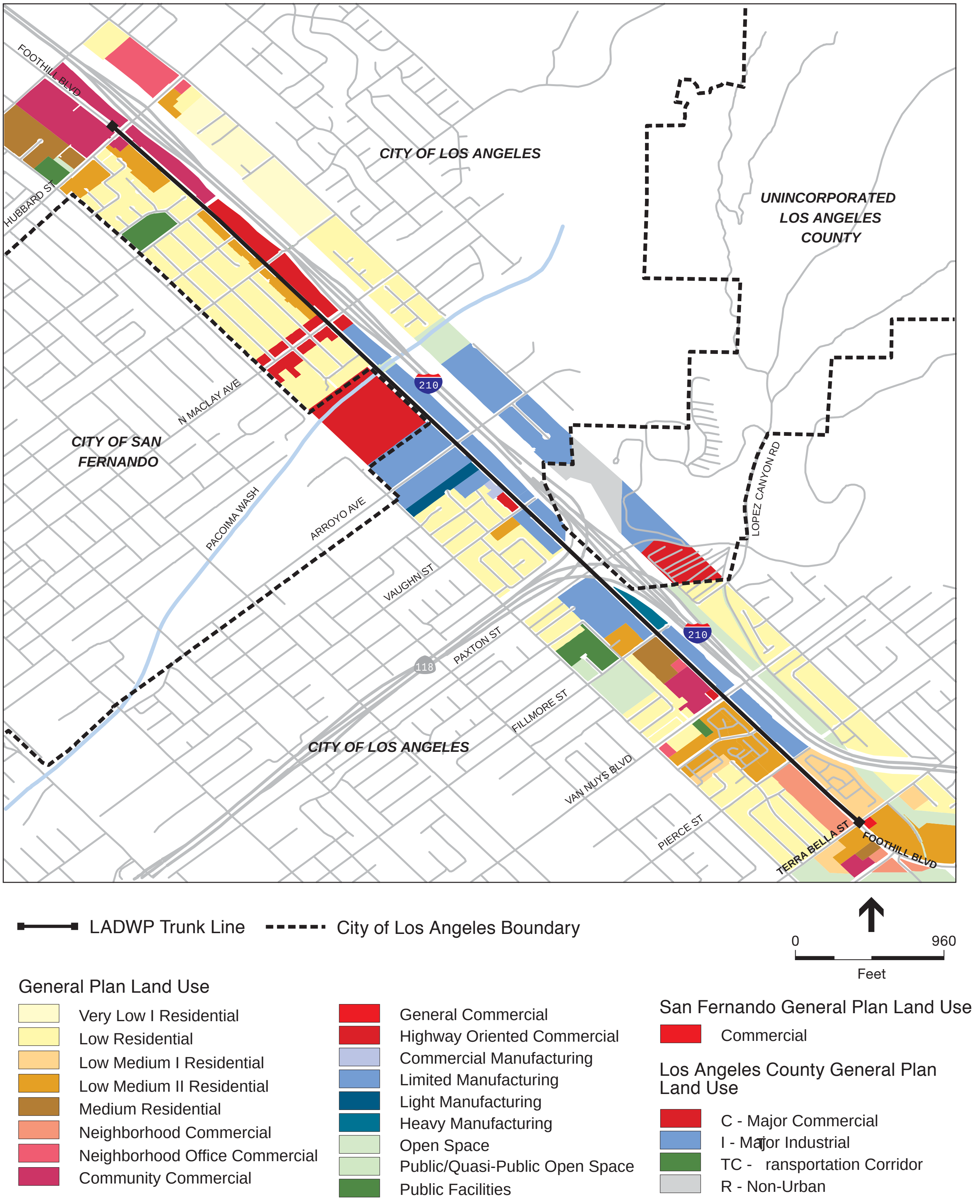
Local Setting

The alignment of the proposed project would be located within the public right-of-way (ROW) of Foothill Boulevard, beginning at approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard and continuing southeast along Foothill Boulevard, ending at Terra Bella Street. Currently, the existing FTL underlies this same segment of Foothill Boulevard. The entire Foothill Boulevard ROW, where the alignment is proposed, including sidewalks and nearly all adjacent parcels are located within the City of Los Angeles. Parcels located on the southwest side of Foothill Boulevard between the Pacoima Wash and Rods Way are located in the City of San Fernando. As shown in **Figure 3.9-2**, no parcels within unincorporated County of Los Angeles abut Foothill Boulevard at any location along the proposed alignment.



SOURCE: TAHA, 2013.

Figure 3.9-1
Planning Areas and Jurisdictions



SOURCE: TAHA, 2013.

Figure 3.9-2
General Plan Land Uses Within 0.25 Miles of the Proposed Alignment

Foothill Boulevard is two-lanes in either direction, often with a center lane, and ranges in width from approximately 80 feet to 100 feet. Construction would be limited to the roadway itself, which ranges in width from 52 feet to 80 feet. Street parking and sidewalks are not consistently present along Foothill Boulevard. According to the City of Los Angeles' General Plan Land Use Map, Foothill Boulevard is designated as a Major Highway Class II. For the entire length of the proposed alignment, I-210 parallels Foothill Boulevard to the northeast and is buffered from the roadway be development and for a segment by an undeveloped berm, screening the highway from view. Two features that cross the proposed alignment create physical barriers. The Pacoima Wash, a concrete-lined channel, passes beneath Foothill Boulevard and the existing FTL, bisecting the proposed alignment where the City of San Fernando abuts the Foothill Boulevard ROW. Where Foothill Boulevard intersects with the Pacoima Wash, adjacent land uses are buffered from the Pacoima Wash by wide undeveloped areas, as illustrated in Figure 3.1-1 (View C) in Section 3.1 (Aesthetics), and include industrial land uses to the northeast and southeast, commercial land uses to the southwest, and residential land uses to the northwest. State Route 118 (SR-118) passes above Foothill Boulevard via four freeway pillars near the southeastern portion of the proposed alignment. Parcels along Foothill Boulevard near the pillars remain undeveloped or are being used as parking lots creating buffer for nearby land uses. Industrial uses surround SR-118 at Foothill Boulevard. The proposed project would cross under this segment of SR-118.

General Plan Land Use designations adjacent to Foothill Boulevard along the proposed alignment are illustrated in Figure 3.9-2. **Table 3.9-1** summarizes the amount of each general land use that occurs along the proposed alignment by acres. Properties located along either side of Foothill Boulevard, have been designated by the City of Los Angeles's General Plan as Community Commercial, Neighborhood Commercial, Highway Oriented Commercial, Neighborhood Office Commercial, Low Residential, Low Medium I Residential, Low Medium II Residential, Commercial Manufacturing, Light Industrial, Heavy Industrial, Open Space, and Public Facilities. Properties located along the west side of Foothill Boulevard within the City of San Fernando are designated as Commercial by the City of San Fernando's General Plan.

TABLE 3.9-1
LAND USES ADJACENT TO THE PROPOSED ALIGNMENT

Generalized Land Use	General Plan Land Uses (acres)	General Plan Land Use (% of Acreage)	Zoning (acres)	Zoning (% of acreage)
Commercial	72.3	27.6	20.7	8.0
Industrial	88.8	34.9	82.1	31.3
Residential	66.2	25.3	97.8	37.3
Open Space/Public Facilities	34.6	13.2	61.3	23.4
Total	**261.9**	**101***	**261.9**	**100**

*does not equal 100 percent due to rounding.

SOURCE: Geographic Information System, City of Los Angeles 2011, and Southern California Association of Governments 2008.

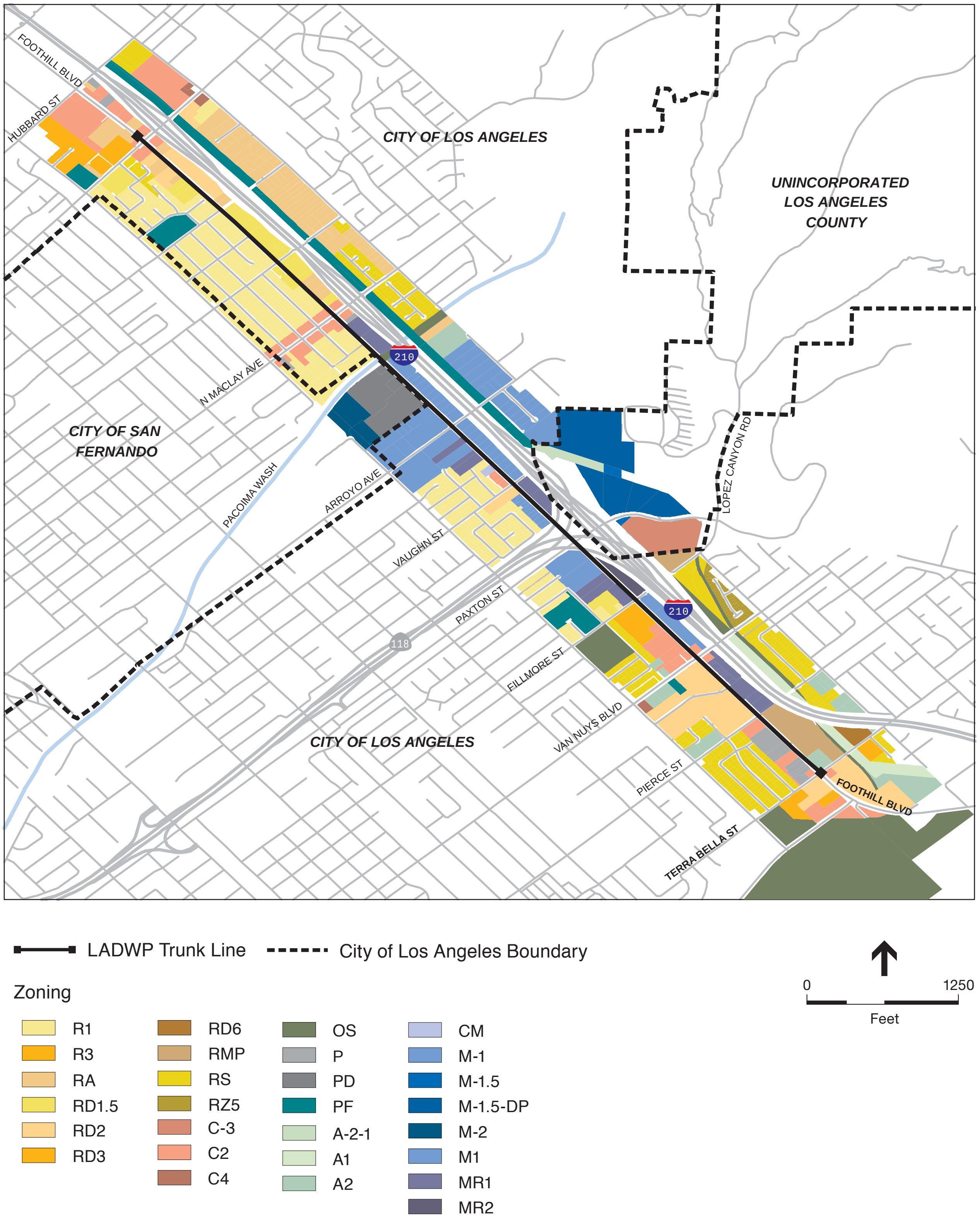
The zoning designations of properties adjacent to the proposed alignment are shown in **Figure 3.9-3**. Zoning varies widely along either side of Foothill Boulevard. Residential zoning includes One-Family (R1), Multiple Dwelling (R3), Restricted Density Multiple Dwelling (RD1.5, and RD2), and Mobile Home (RMP).

Commercial and Industrial zoning includes Commercial (C2), Commercial Manufacturing (CM), Limited Industrial (M1), and Restricted Industrial (MR1 and MR2). Other zoning includes Agriculture (A2), Suburban (RA), Automobile Parking (P), Open Space (OS), and Public Facilities (PF).

Properties located along the southwest side of Foothill Boulevard within the City of San Fernando are zoned Precise Development Overlay (PD). Properties located along the southwest side of Foothill Boulevard between Fillmore Street and Van Nuys Boulevard and the northeast and southeast corners of the Foothill Boulevard/Van Nuys Boulevard intersection are located within the Pacoima Community Design Overlay District.

Along the proposed project alignment there is often a disparity between the General Plan Land Use designation of parcels, zoning of parcels, and/or the existing land use. This occurs along the east side of Foothill Boulevard, southeast of its intersection with Hubbard Street, where land is designated as Community Commercial and Highway Oriented Commercial, but is zoned RD1.5, RD2, and RA, and developed with multi-family residential or has remained undeveloped. In a number of other locations where land is designated as Limited Manufacturing and zoned M1, single-family residences occur, i.e., along the southwest side of Foothill Boulevard approximately between Vaughn Street and SR-118. It is not uncommon along the proposed alignment to encounter a cluster of single-family homes between industrial uses.

Existing land uses along Foothill Boulevard include single- and multi-family residential, commercial, and industrial uses. The northern portion of the proposed project to the Pacoima Wash is generally residential in character, consisting of multi-family developments and single-family homes. Further, southeast along Foothill Boulevard, the area around the proposed project alignment transitions from residential to industrial land uses. However, several retail strips and pockets of single-family homes also occur. South of Fillmore Street, the northeast side of the proposed alignment has an industrial character, while the southwest side transitions to a residential character, consisting of large multi-family developments. Commercial and industrial buildings along the proposed alignment are typically one to two stories.



SOURCE: SCAG, 2009 and TAHA, 2013.

Figure 3.9-3
Zoning Within 0.25 Miles of
the Proposed Alignment

3.9.2 Regulatory Framework

Federal

No federal land use regulations related to land use are applicable to the proposed project.

State

California Government Code Section 65300

Per California Government Code Section 65300, each city and county in California is required to prepare and adopt a comprehensive, long-term general plan for the physical development of the community and any land outside the community's boundaries that may have an impact on the community's ability to plan for its future growth. A general plan is the essential planning document for all future development within a community.

Local

City of Los Angeles General Plan, Infrastructure and Public Services

The General Plan Framework (Framework), adopted December 1996 and amended most recently in August 2001, is a long range, Citywide, comprehensive growth strategy. The Framework is a special element of the General Plan that defines Citywide policies that influence most of the City's General Plan Elements. Policies from the Framework related to land use applicable to the proposed project are listed below:

> **Policy 9.9.4** Work to improve water quality and reliability of supply from the State Water Project and other sources.
>
> **Policy 9.9.6** Identify the needs for land and facilities necessary to provide an adequate and reliable water supply and develop those facilities in an environmentally and socially sensitive way.
>
> **Policy 9.9.9** Clean or replace where necessary, deficient water distribution lines in the City.

City of Los Angeles General Plan Land Use Element

The Land Use Element of the City's General Plan is divided into 35 Community Plans for the purpose of developing, maintaining and implementing the General Plan. These Community Plans collectively comprise the Land Use Element of the General Plan. The proposed alignment traverses the Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon CPAs. These community plans identify significant planning and land use issues and opportunities affecting each CPA, establishes a vision, and set forth goals, objectives, policies, and implementation programs that pertain to the area. Each community plan calls for the undergrounding of utilities when feasible and the availability of adequate sewers, drainage facilities, fire protection services and facilities and other public utilities to support development in these areas.

In order to keep the Community Plans up-to-date, the City established a Community Plan Program. Community plans will be updated under this program to:

- Encourage wise growth;
- Identify appropriate locations for new development;
- Assess public infrastructure, service, and facility needs;
- Minimize lengthy discretionary approvals; and
- Provide certainty and predictability for developers, homeowners and anyone else concerned with the future development of Los Angeles.

However, updated community plans for the Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon CPAs have not yet been adopted.

Pacoima Community Design Overlay (CDO) Design Guidelines and Standards

The Pacoima CDO, approved in 2003, provides Design Guidelines and Standards for both public and private development projects in the Community of Pacoima. The intent of the CDO is to provide guidance and direction in the design of buildings and storefronts that contribute to the appearance of the area. The Pacoima CDO applies to the commercial area in Pacoima on Van Nuys Boulevard between the Golden State Freeway (I-5) and Foothill Boulevard. Standards applicable to the proposed project include Standard 6c which requires that new utility services are located underground where feasible and Standards 6d which requires the screening of all mechanical equipment.

3.9.3 Methodology

The impacts of the proposed project on land use were analyzed, focusing on consistency between planned and permitted uses under applicable land use plans. The determination of compatibility is based on the anticipated environmental effects of proposed uses and the sensitivity of adjacent uses to those effects.

3.9.4 Impacts and Mitigation Measures

Significance Criteria

This section addresses potential impacts of the proposed project related to land use. Impact significance criteria are based on guidance provided in Appendix G of the *CEQA Guidelines* regarding significant environmental effects. For this Draft EIR, the proposed project would have a significant impact if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect; or

- Conflict with any applicable habitat conservation plan or natural community conservation plan.

The lead agency determined in the NOP/IS (see **Appendix A**) that the following environmental issue area would result in no impacts or less than significant impacts and was therefore scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue area:

- Physically divide an established community.

Impacts Discussion

Existing Land Use and Land Use Plans

Impact 3.9-1: Implementation of the proposed project would not result in conflict with applicable land use plans, policies, or regulations. (Less-Than-Significant)

Upgrading the existing FTL would upsize the pipeline to allow for more stabilized flow throughout the FTL and would increase LADWP's ability to reliably transport water throughout the Sunland/Tujunga Service Area. Additionally, replacing the aging infrastructure would improve water quality throughout the system. The pipeline upgrade would allow for increased capacity reserved for use if/when other portions of the system are out of service for maintenance or during an emergency event. The project objectives are consistent with Policies 9.9.4, 9.9.6, 9.9.9 of the City's General Plan Framework, which all call for the provision of an adequate and reliable water supply.

Upon completion of construction activities, most of the FTL U3 would be located underground within the Foothill Boulevard ROW and would not be visible, consistent with existing conditions and the provisions of the Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon Community Plans. The proposed project is also consistent with the Pacoima CDO Design Guidelines and Standards which call for the undergrounding of utilities, when feasible, other than appurtenant structures. The only visible segment of the proposed project would be where it crosses the Pacoima Wash. The existing FTL is currently visible where it crosses the Pacoima Wash. Minor appurtenant facilities, such as air valves and a rectifier station cabinet, would also be constructed aboveground within the ROW as part of the proposed project. These facilities would be discrete and designed in such a way as to blend in with the built environment. The location of these facilities has not yet been determined; however, similar facilities currently exist along Foothill Boulevard and would, therefore, not introduce new uses along the alignment. Accordingly, the FTL U3 and its minor appurtenant facilities would not be incompatible with existing uses including residences, and industrial and commercial businesses.

Due to the developed nature of the proposed project area, operation of the proposed project would not conflict with any applicable land use plan, policy, or regulation including the Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon Community Plans and the Pacoima CDO Design Guidelines and Standards. Therefore, the operation of the FTL U3 would result in a less-than-significant impact related to land use and planning.

Significance after Mitigation: Less-Than-Significant Impact.

Habitat Conservation and Natural Community Conservation Plans

Impact 3.9-2: Implementation of the proposed project would not result in conflict with applicable habitat conservation plans or natural community conservation plans. (Less-Than-Significant)

The proposed project is located in an existing roadway in an urban built-up environment and is not located with a designated Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) area. There would be no impacts associated with conflicts to provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Significance: Less-Than-Significant Impact.

3.10 Noise

This section provides an overview of the fundamentals of noise and vibration, and evaluates the construction impacts associated with the proposed project. The analysis examines the potential for the proposed project to result in impacts associated with a substantial temporary increase in ambient noise levels in the vicinity of the proposed project area; exposure of people in the proposed project vicinity to excessive noise levels, groundborne vibration, or groundborne noise levels and whether this exposure is in excess of standards established in the local general plan or noise ordinance; and exposure of people residing or working in the project area to excessive noise levels associated with a nearby public airport.

3.10.1 Environmental Setting

Noise Principles and Descriptors

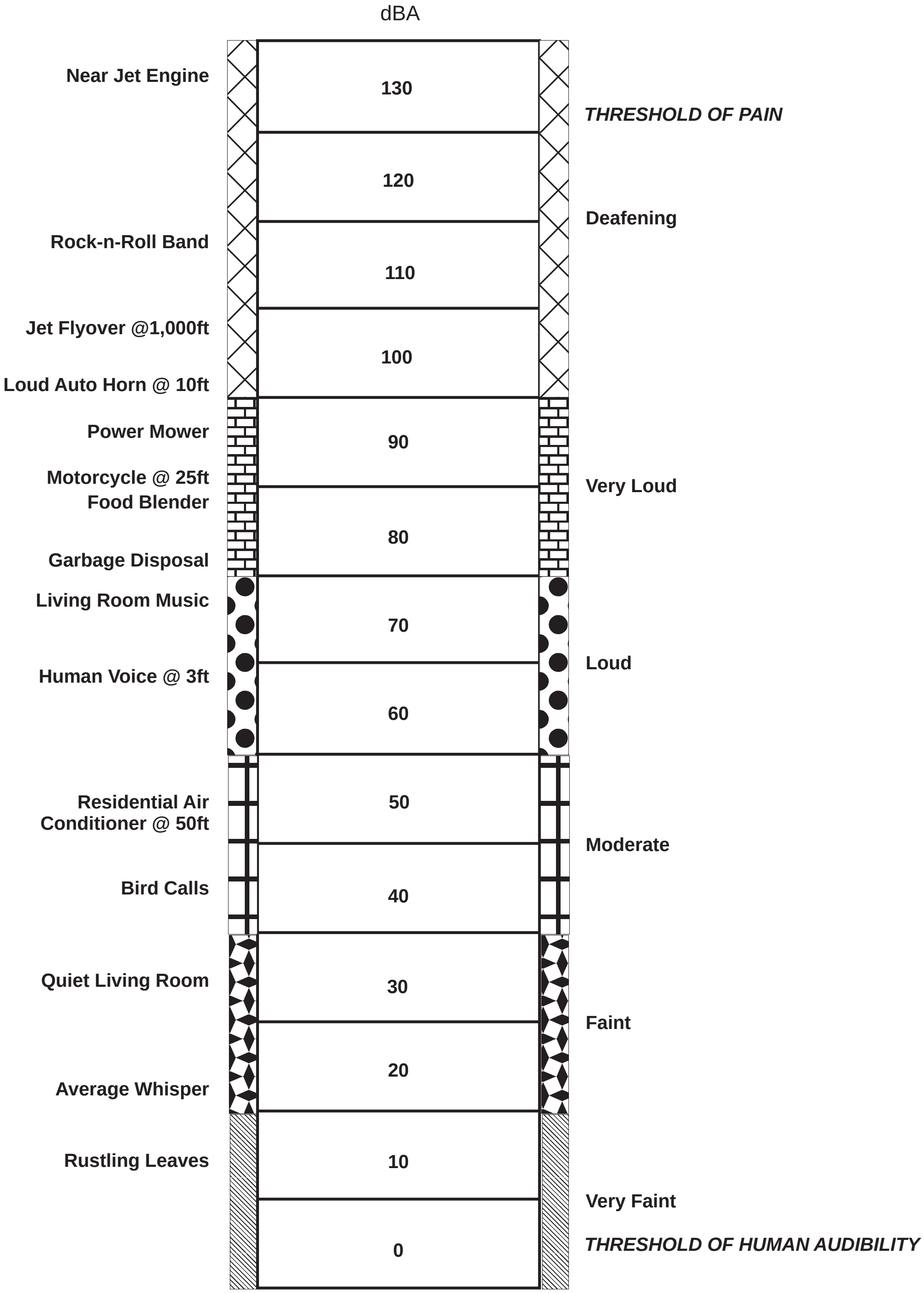
Sound is technically described in terms of the loudness (amplitude) and frequency (pitch) of the sound. The standard unit of measurement for sound is the decibel (dB). The human ear is not equally sensitive to sound at all frequencies. The “A-weighted scale,” abbreviated dBA, reflects the normal hearing sensitivity range of the human ear. On this scale, the range of human hearing extends from approximately 3 to 140 dBA. **Figure 3.10-1** provides examples of A-weighted noise levels from common sounds.

Noise Exposure and Community Noise

This noise analysis discusses sound levels in terms of Community Noise Equivalent Level (CNEL) and Equivalent Noise Level (L_{eq}). These two noise metrics are described below.

Community Noise Equivalent Level (CNEL). CNEL is an average sound level during a 24-hour period that is obtained by adding an additional 5 dBA to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and 10 dBA to sound levels in the night from 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime hours, respectively. Because CNEL accounts for human sensitivity to sound, the CNEL 24-hour figure is always a higher number than the actual 24-hour average.

Equivalent Noise Level (L_{eq}). L_{eq} is the average acoustic energy content of noise for a stated time period. For instance, the L_{eq} for one hour is the energy average noise level during the hour. The L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy.



SOURCE: Cowan, James P., *Handbook of Environmental Acoustics*.

Figure 3.10-1
A-Weighted Decibel Scale

Effects of Noise on People

Noise is generally defined as unwanted sound. The degree to which noise can impact the human environment ranges from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects). Human response to noise is subjective and can vary greatly from person to person. Factors that influence individual response include the intensity, frequency, and pattern of noise; the amount of background noise present before the intruding noise; and the nature of work or human activity that is exposed to the noise source.

Noise Attenuation

Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately 3 dBA. A change of at least 5 dBA would be noticeable and would likely evoke a community reaction. A 10 dBA increase is subjectively heard as a doubling in loudness and would cause a community response.

Noise levels decrease as the distance from the noise source to the receiver increases. Noise generated by a stationary noise source or “point source,” will decrease by approximately 6 dBA over hard surfaces (e.g., reflective surfaces such as parking lots or smooth bodies of water) and 7.5 dBA over soft surfaces (e.g., absorptive surfaces such as soft dirt, grass, or scattered bushes and trees) for each doubling of the distance. For example, if a stationary noise source produces a noise level of 89 dBA at a reference distance of 50 feet, then the noise level would be 83 dBA at a distance of 100 feet from the noise source, 77 dBA at a distance of 200 feet, and so on. Noise generated by a mobile source will decrease by approximately 3 dBA over hard surfaces and 4.8 dBA over soft surfaces for each doubling of the distance.

Generally, noise is most audible when traveling by direct line-of-sight. Line-of-sight is an unobstructed visual path between the noise source and the noise receptor. Barriers, such as walls, berms, or buildings that break the line-of-sight between the source and the receiver greatly reduce noise levels from the source since sound can only reach the receiver by bending over the top of the barrier. However, if a barrier is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is greatly reduced.

Fundamentals of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion’s amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration.

Effects of Vibration on People

High levels of vibration may cause physical personal injury or damage to buildings. However, groundborne vibration levels rarely affect human health. Instead, most people consider groundborne vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of groundborne vibration can damage fragile buildings or interfere with equipment that is highly sensitive to groundborne vibration (e.g., electron microscopes). To counter the effects of groundborne vibration, the Federal Transit Administration (FTA) has published guidance relative to vibration impacts.

Perceptible Vibration Changes

In contrast to noise, groundborne vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 RMS or lower, well below the threshold of perception for humans, which is around 65 RMS. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

Existing Noise Environment

The existing noise environment surrounding the proposed project is characterized by vehicular traffic (i.e., automobiles, trucks, and transit buses) from Foothill Freeway (I-210) and along local roadways. To a lesser extent, occasional aircraft flyovers and other typical urban noise sources (i.e., sirens, horns, and activation of car alarms) contribute to the existing noise environment. Ambient noise measurements were taken using SoundPro DL Sound Level Meter between 11:20 a.m. to 1:40 p.m. on January 16, 2013. These readings were used to establish existing ambient noise conditions during normal daytime hours when construction would occur. These measurements provide a baseline for evaluating construction noise impacts. Noise monitoring locations are shown in **Figure 3.10-2**. A representative sample of six measurement sites located intermittently along the alignment was used to characterize existing ambient noise levels. As shown in **Table 3.10-1**, the existing ambient sound levels in the vicinity of the proposed project's noise environment range between 57.7 and 65.4 dBA L_{eq}.

**TABLE 3.10-1
EXISTING NOISE LEVELS**

Key to Figure 3.10-2	Noise Monitoring Location	Sound Level (dBA, Leq)
1	Multi-Family Residences - 13715 Hubbard Street	65.4
2	Value Inn Motel - 13211 Maclay Street	65.0
3	Single-Family Residences - 12855 Vaughn Street	57.9
4	Single-Family Residences - 12500 Van Nuys Boulevard	65.2
5	Single-Family Residences - 12850 Eustace Street	59.1
6	Single-Family Residences - 11150 Dronfield Avenue	57.7

SOURCE: Terry A. Hayes Associates Inc., 2013.

There are no substantial sources of vibration along the proposed alignment. Based on field observation, the primary source of existing vibration within the vicinity of the proposed alignments is vehicular travel on the local roadways.

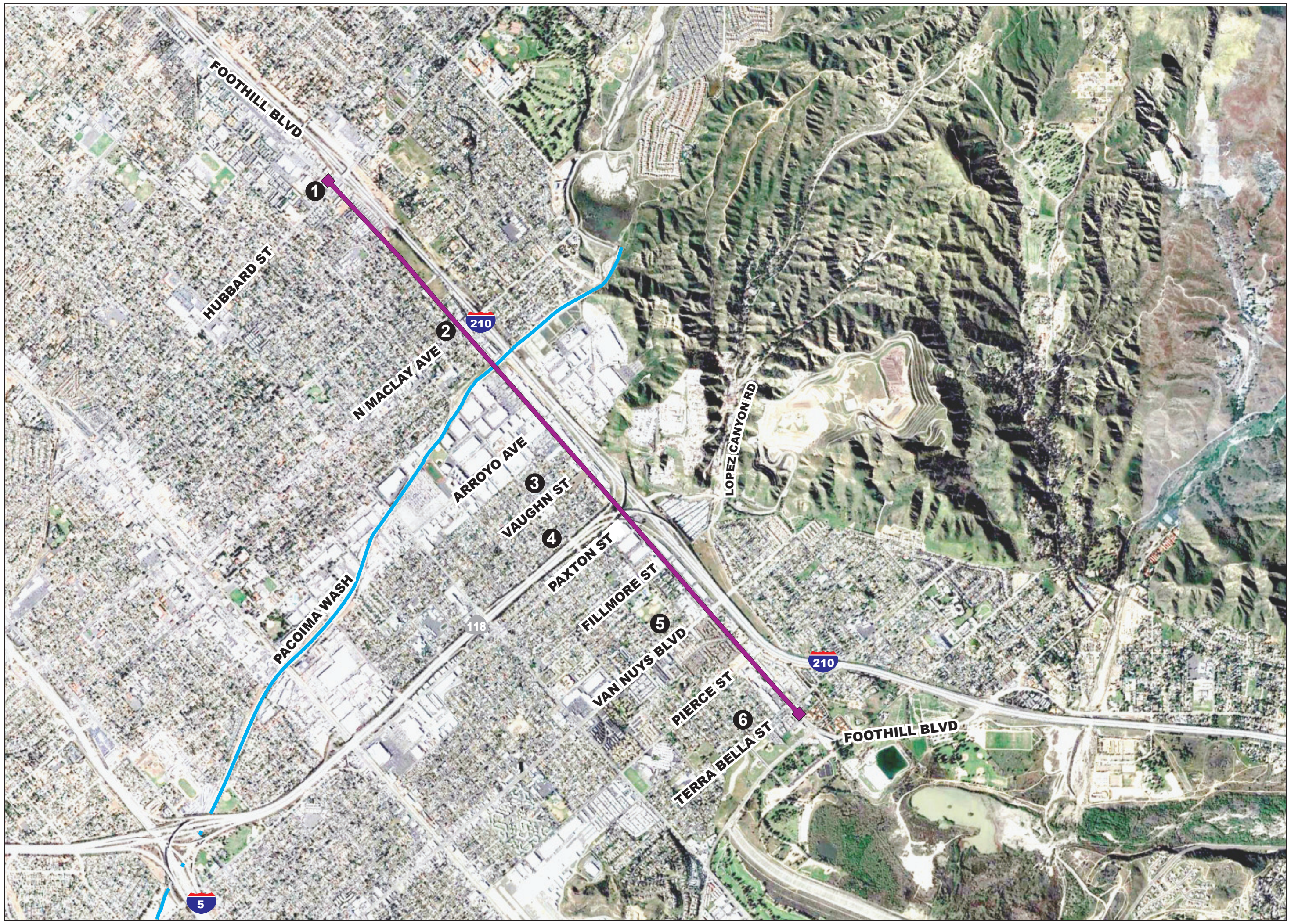
Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise- and vibration-sensitive and may warrant unique measures for protection from intruding noise.

As shown in **Figure 3.10-3**, sensitive receptors near the proposed alignment include the following:

- Single- and multi-family residences located adjacent to the proposed alignment;
- Value Inn Motel located approximately 130 feet to the southwest;
- Hillery T. Broadous Elementary School and Education Center located south of SR-118 and approximately 660 feet west of the alignment;
- Gridley Elementary School located south of Hubbard Street and approximately 660 feet west of the alignment ;
- Hubert H. Humphrey Memorial Recreation Center located south of SR-118 and approximately 660 feet west of the alignment;
- Valley Region Elementary School #8 located north of the Pacoima Wash and approximately 725 feet west of the alignment; and
- Hansen Dam Recreation Center located approximately 835 feet to the south/southeast.

The above sensitive receptors represent the nearest land uses with the potential to be impacted by the proposed project. Additional sensitive receptors are located further from the proposed project and would be less affected by noise and vibration than the above sensitive receptors.



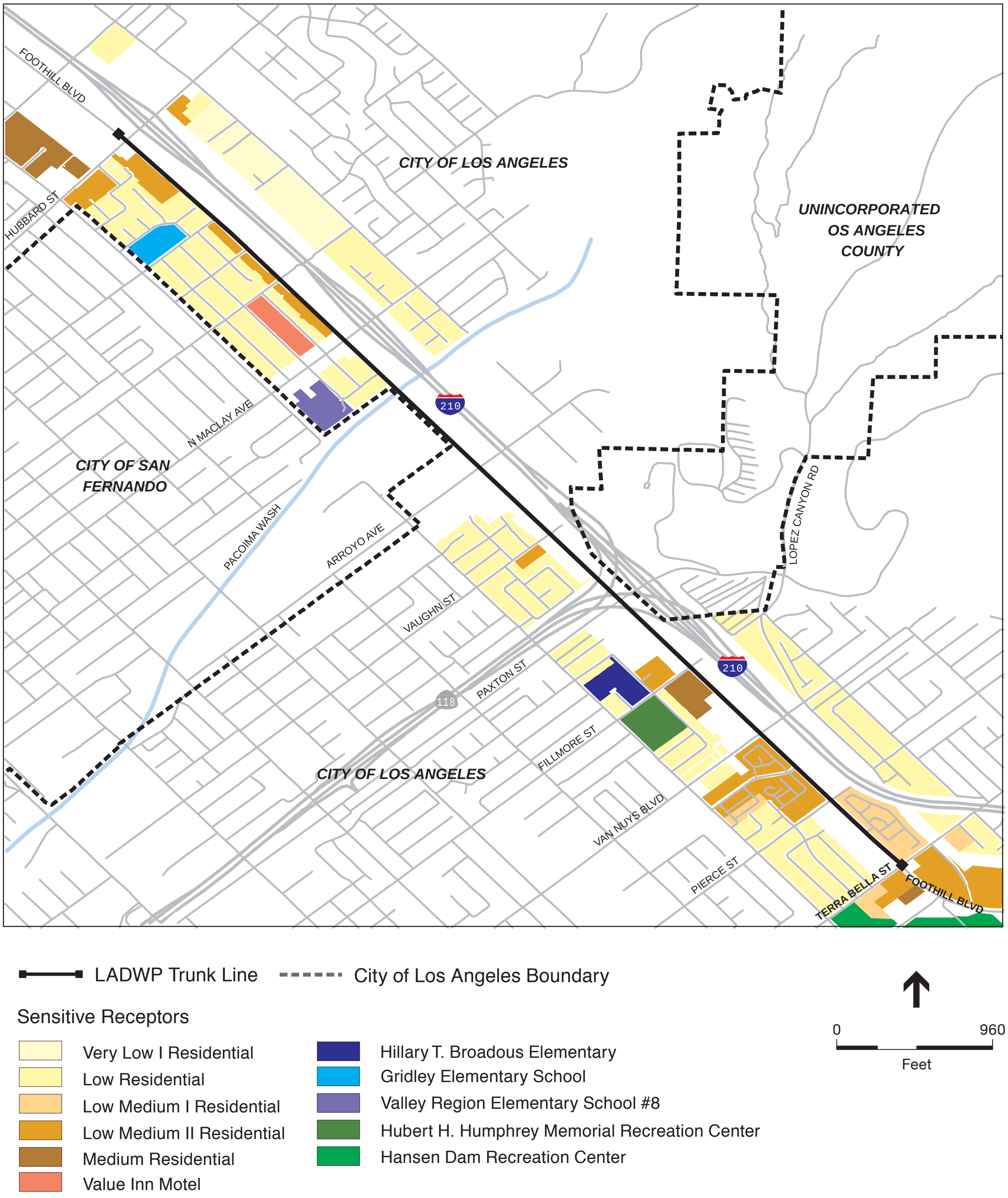
LADWP Trunk Line

Noise Monitoring Locations

1. Multi-Family Residences - 13715 Hubbard Street
2. Value Inn Motel - 13211 Maclay Street
3. Single-Family Residence - 12855 Vaughn Street
4. Single-Family Residence - 12500 Van Nuys Boulevard
5. Single-Family Residence - 12850 Eustace Street
6. Single-Family Residence - 11150 Dronfield Avenue

SOURCE: Google Earth and TAHA, 2013.

Figure 3.10-2
Noise Monitoring Locations



SOURCE: TAHA, 2013.

Figure 3.10-3
Noise Sensitive Receptor Locations

3.10.2 Regulatory Framework

Federal

The Federal Noise Control Act of 1972 established programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, United States Environmental Protection Agency (USEPA) administrators determined that subjective issues such as noise would be better addressed at more local levels of government, thereby allowing more individualized control for specific issues by designated federal, state, and local government agencies. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to specific federal agencies, and state and local governments. However, noise control guidelines and regulations contained in USEPA rulings in prior years remain in place. No federal noise regulations are directly applicable to the proposed project.

The Federal Transit Administration (FTA) has published guidance for assessing potential building damage associated with construction activity. According to the FTA, non-engineered timber and masonry buildings can be exposed to groundborne vibration levels of 0.2 inches per second without experiencing structural damage (FTA, 2006). Building extremely susceptible to vibration damage (e.g., historic buildings) can be exposed to groundborne vibration levels of 0.12 inches per second without experiencing structural damage.

State

The State of California has adopted noise standards in areas of regulation that is not preempted by the federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation. State regulations governing noise levels generated by individual motor vehicles and occupational noise control are not applicable to planning efforts nor are these areas typically subject to CEQA analysis.

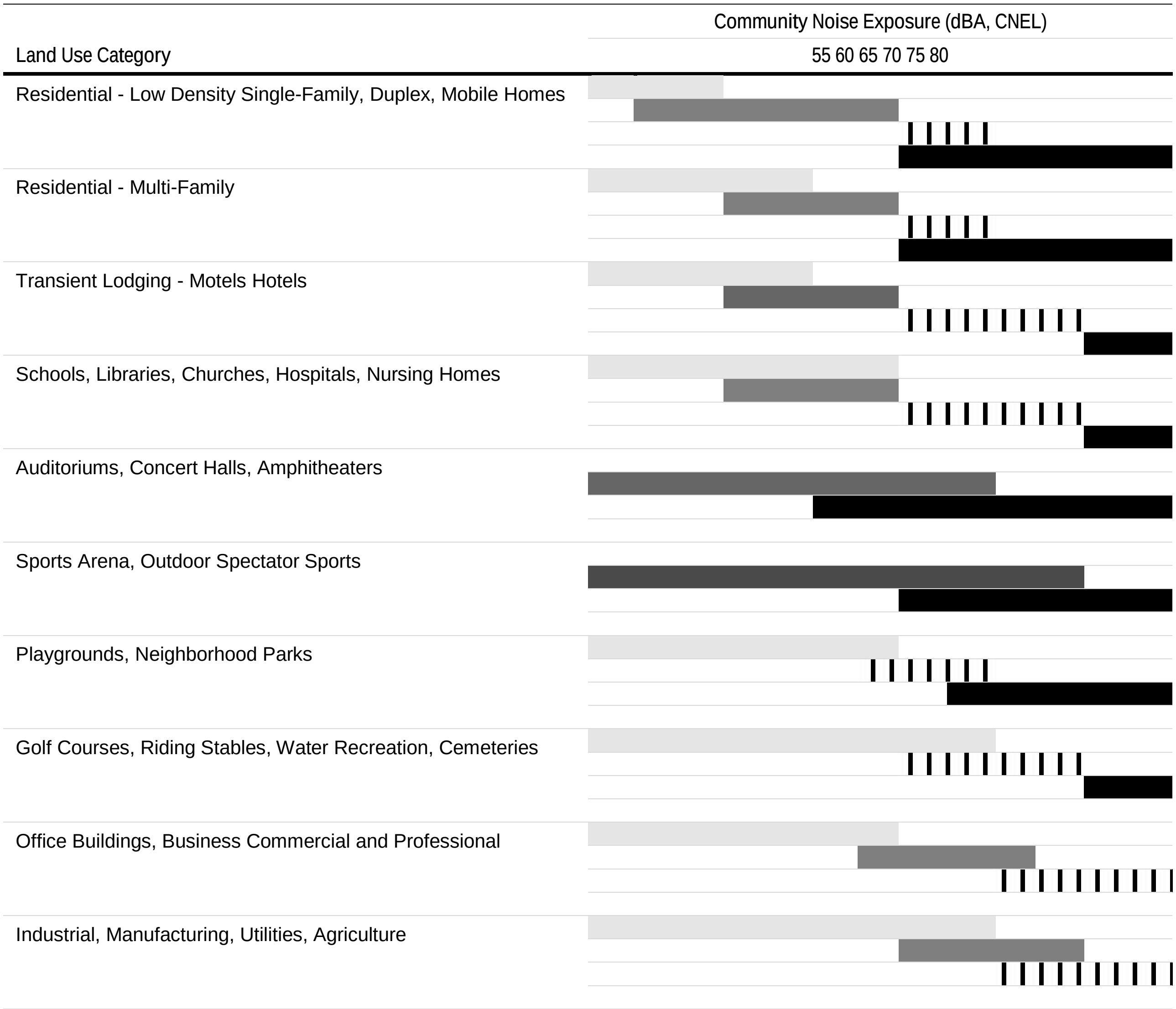
Local

City of Los Angeles General Plan, Noise Element

The City of Los Angeles has adopted a Noise Element as part of the General Plan to guide in the development of noise regulations (City of Los Angeles, 1999). It addresses noise mitigation regulations, strategies and programs and delineates federal, State and City jurisdiction relative to rail, automotive, aircraft and nuisance noise. Programs included in the Noise Element that are relevant to the proposed project include:

- For a proposed development project that is deemed to have a potentially significant noise impact on noise sensitive uses, as defined by this chapter, require mitigation measures, as appropriate, in accordance with CEQA and City procedures.
- Use, as appropriate, the “Guidelines for Noise Compatible Land Use” (**Table 3.10-2**), or other measures that are acceptable to the city, to guide land use and zoning reclassification, subdivision, conditional use and use variance determinations and environmental assessment considerations.

TABLE 3.10-2
LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



░	**Normally Acceptable** - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
▒	**Conditionally Acceptable** - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice.
▥	**Normally Unacceptable** - New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
■	**Clearly Unacceptable** - New construction or development should generally not be undertaken.

SOURCE: State of California, Governor's Office of Planning and Research, *General Plan Guidelines*, 2003.

City of Los Angeles Municipal Code (LAMC)

The City of Los Angeles has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise sensitive land uses. Section 41.40 (Noise Due to Construction, Excavation Work – When Prohibited) of the LAMC indicates that no construction or repair work shall be performed between the hours of 9:00 p.m. and 7:00 a.m., since such activities would generate loud noises and disturb persons occupying sleeping quarters in any adjacent dwelling, hotel, apartment or other place of residence. No person, other than an individual home owner engaged in the repair or construction of his/her single-family dwelling, shall perform any construction or repair work of any kind or perform such work within 500 feet of land so occupied before 8:00 a.m. or after 6:00 p.m. on any Saturday or on a federal holiday, nor at any time on any Sunday. Under certain conditions, the City may grant a waiver to allow limited construction activities to occur outside of the limits described above.

Section 112.05 (Maximum Noise Level of Powered Equipment or Powered Hand Tools) of the LAMC also specifies the maximum noise level of powered equipment or powered hand tools. Any powered equipment or hand tool that produces a maximum noise level exceeding 75 dBA at a distance of 50 feet is prohibited. However, this noise limitation does not apply where compliance is technically infeasible. Technically infeasible means the above noise limitation cannot be met despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of equipment.

3.10.3 Methodology

The primary sources of noise associated with the proposed project would be construction activities along the proposed project alignment. Aside from noise levels, groundborne vibration would also be generated during project construction by various construction-related activities and equipment. Thus, both the noise and groundborne vibration levels generated during project construction have also been quantitatively estimated and compared to applicable thresholds of significance. The noise and vibration analysis focuses on construction activity at temporary construction locations along the alignment. Additionally a majority of the proposed project would be located underground and would not generate any substantial increase in noise levels as the proposed project would be shielded from neighboring uses.

Construction Noise Levels

Construction noise levels were estimated based on data provided in the City's *CEQA Thresholds Guide* and published by USEPA. Potential noise levels are identified for off-site locations that are sensitive to noise, including the existing single- and multi-family residential uses located adjacent to the proposed project alignment. These noise levels are then analyzed against the applicable construction noise standards established by the City to determine whether an exceedance of allowable noise levels would occur at the off-site locations that are sensitive to noise. The noise level increases generated by the project are temporary at various locations along the alignment during the construction of the project.

Groundborne Vibration Levels

Groundborne vibration levels resulting from project construction activities were estimated by data published by the FTA in its *Transit Noise and Vibration Impact Assessment* (2006) document. Potential vibration levels resulting from construction of the proposed project are identified at nearby off-site locations, including the existing single- and multi-family residential uses located adjacent to the proposed project, based on their distance from construction activities. As the City has not adopted any thresholds for construction or operational groundborne vibration impacts, the potential vibration levels at off-site sensitive locations are analyzed against the vibration thresholds established by the FTA to determine whether an exceedance of allowable vibration levels would occur**.**

3.10.4 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this analysis and consistent with Appendix G of the *CEQA Guidelines*, the proposed project would result in potentially significant impacts if it would result in:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- Exposure of people residing or working in the project area to excessive noise levels (for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport); and/or
- Exposure of people residing or working in the project area to excessive noise levels (for a project within the vicinity of a private airstrip).

The City of Los Angeles has established significance thresholds for noise in its *CEQA Thresholds Guide*. The following specific significance thresholds are relevant to the proposed project.

A significant impact related to construction activity would occur if:

- Construction activities lasting more than ten days in a three-month period would exceed existing ambient noise levels by 5 dBA or more at a noise sensitive use; and/or
- Construction activities would exceed the ambient noise level by 5 dBA at a noise sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or anytime on Sunday.

The *CEQA Guidelines* states the potential for any excessive vibration levels must be analyzed; however, it does not define the term "excessive" vibration. Numerous public and private organizations and governing bodies have provided guidelines to assist in the analysis of vibration; however, the federal, State, and local governments have yet to establish specific vibration requirements. Additionally, there are no federal, State, or local vibration regulations or guidelines directly applicable to the proposed action.

Publications of the FTA and Caltrans are two of the seminal works for the analysis of vibration relating to transportation and construction-induced vibration. The proposed project is not subject to FTA or Caltrans regulations; however, these guidelines serve as a useful tool to evaluate vibration impacts.

The FTA's *Transit Noise and Vibration Impact Assessment* guidance includes criteria for vibration assessments. Based on federal guidelines, the proposed project would result in a significant construction vibration impact if it would:

- Expose buildings to construction vibration levels that exceed the PPV thresholds shown in **Table 3.10-3**.

TABLE 3.10-3
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category		PPV (Inches/Second)
I.	Reinforced-concrete, steel or timber (no plaster)	0.5
II.	Engineered concrete and masonry (no plaster)	0.3
III.	Non-engineered timber and masonry	0.2
IV.	Buildings extremely susceptible to vibration damage	0.12

SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

The lead agency determined in the NOP/IS (see **Appendix A**) that the following environmental issue areas would result in no impacts or less than significant impacts and were therefore scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue areas:

- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Exposure of people residing or working in the project area to excessive noise levels (for a project within the vicinity of a private airstrip).

Impacts Discussion

Impact 3.10-1: Construction activity would expose people to noise levels in excess of standards established in the local general plan or noise ordinance. (Significant and Unavoidable)

Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers. Construction activities typically require the use of numerous pieces of noise-generating equipment. Typical noise levels from various types of equipment that may be used during construction are listed in **Table 3.10-4**.

TABLE 3.10-4
CONSTRUCTION EQUIPMENT NOISE LEVEL RANGES

Construction Equipment	Noise Level at 50 feet (dBA, L_{eq})
Backhoe	73-95
Scraper/Grader	80-93
Cranes (derrick)	86-89
Saws	72-82
Compressors	75-87
Trucks	82-95
Concrete Mixers	75-88

SOURCE: City of Los Angeles*, CEQA Thresholds*, 2006.

Table 3.10-4, above, presents anticipated noise levels when construction equipment is operating under full power conditions. However, equipment used on construction sites often operates at less than full power. To more accurately characterize construction-period noise levels, the average noise level was calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction phase. The noise levels shown in **Table 3.10-5** take into account the likelihood that multiple pieces of construction equipment would be operating simultaneously and the typical overall noise levels that would be expected for each phase of construction. When considered as an entire process with multiple pieces of equipment, excavation activity similar to that required during the trenching process would generate a noise level of approximately 89 dBA at 50 feet.

TABLE 3.10-5
TYPICAL OUTDOOR CONSTRUCTION NOISE LEVELS

Construction Equipment	Noise Level at 50 feet (dBA, L_{eq})
Ground Clearing	84
Grading/Excavation	89
Foundations	78
Structural	85
Finishing	89

SOURCE: USEPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

Cut and Cover Trenching. Installation of the proposed pipeline would occur within the right-of-way (ROW) of Foothill Boulevard. A majority of the installation, approximately 13,100 feet would employ an open trench construction technique – including saw cutting of the pavement, where applicable, trench excavation, pipe installation, backfill operations, and resurfacing to original conditions. The trenching area would be approximately eight feet wide by 10 feet deep and lies within a staging and work area that varies in width from approximately 25 feet to approximately 55 feet wide. Trenches would be excavated and the areas surrounding the trenches would be barricaded with chain link fencing within the construction area to minimize safety concerns after working hours. The proposed project would consist of 10 linear feet of trenching per day to minimize long-term disruption within an area. Construction noise would be temporary and intermittent at specific locations as activity proceeds along the length of the alignment. Nonetheless, construction noise would affect the areas immediately adjacent to the proposed alignment, specifically areas that are less than 500 feet from construction activities.

Table 3.10-6 shows the projected construction noise levels at nearby sensitive receptors. Cut and cover trenching activity would incrementally increase noise levels by more than 5 dBA at multiple land uses along the alignment, including residences and the Value Inn Motel. Construction activity near the residences and motel would occur during daytime hours when most people are active and not sleeping. Nonetheless, noise levels related to construction activity is a 15.8 dBA increase which would exceed the 5 dBA significance threshold. Therefore, the proposed project would result in a significant impact related to cut and cover trenching activity.

In general, noise-sensitive land uses located between 20 and approximately 500 feet of the proposed alignment could experience noise level increases that exceed 5 dB over existing ambient noise level. Table 3.10-6 shows that the residences located at noise measurement Location 1 (See Figure 3.1-2), would be exposed to the highest noise levels during construction. Additionally, as shown in Table 3.10-6, the sensitive receptor at noise measurement Location 2 would also be exposed to a substantial increase in ambient noise levels during project construction. As there are numerous other sensitive receptors that are also located at a similar distance to the construction areas along the proposed project alignment as noise measurement Locations 1 and 2, these receptors would also be exposed to high noise levels during project construction.

However, as these construction areas would be considered a point source, noise levels would generally decrease by approximately 6 dBA over hard surfaces (e.g., reflective surfaces such as parking lots or smooth bodies of water) and 7.5 dBA over soft surfaces (e.g., absorptive surfaces such as soft dirt, grass, or scattered bushes and trees) for each doubling of the distance. In addition, due to the presence of existing structures located adjacent to the temporary construction areas, these structures would serve to further attenuate noise levels emanating from the construction area. Typically, a row of buildings in front of a noise source would reduce noise levels by approximately 1.5 dBA. Nevertheless, even with the existence of intervening structures and implementation of mitigation measures, the noise impacts to off-site sensitive land uses would remain significant and unavoidable due to their proximity to the construction areas.

Pipe Jacking Activity. Pipe jacking would be used to minimize traffic disruptions at critical intersections or where ground surface cannot be disturbed. This construction method employs a horizontal boring machine that is advanced in a tunnel bore to remove material ahead of the pipe. A jacking pit typically measures 14 feet by 40 feet and the receiving pit typically measures 10 feet by 20 feet with a depth varying from 30 to 40 feet. Jacking and receiving pits would be temporarily located on either end of the segment. Hydraulic jacks are used to push steel casting pipes through the ground. Pipe jacking would install approximately 3,400 feet at the following five intersections along Foothill Boulevard:

- Foothill Boulevard and Hubbard Street;
- Foothill Boulevard and Maclay Street;
- Foothill Boulevard and Arroyo Street;
- Foothill Boulevard under the SR-118/I-210 Connector; and
- Foothill and Van Nuys Boulevards.

TABLE 3.10-6
CONSTRUCTION NOISE LEVELS – TRENCHING ACTIVITY

Key to Figure 3.10-2	Sensitive Receptor	Distance (feet) [a]	Maximum Construction Noise Level (dBA) [b]	Monitored Existing Ambient (dBA, L_{eq}) [c]	New Ambient (dBA, L_{eq}) [d]	Increase [e] (dBA)
1	Single- and Multi-Family Residences Located Adjacent to Project	20	97.0	65.4	97.0	**31.6**
2	Value Inn Motel Located to the Southwest	130	80.7	65.0	80.8	**15.8**
3	Hubert H. Humphrey Memorial Recreation Center Located Adjacent to Project	660	60.6	65.2	66.5	1.3
4	Hillery T. Broadous Elementary Located to the Southwest	660	60.6	65.2	66.5	1.3
5	Gridley Elementary School Located to the Southwest	660	60.6	65.4	66.6	1.2
6	Hillery T. Broadous Early Education Center Located to the Southwest	685	60.3	65.2	66.4	1.2
7	Valley Region Elementary School #8 Located to the Southwest	725	59.8	65.0	66.1	1.1
8	Hansen Dam Recreation Center Located to the South/Southwest	835	58.5	57.7	61.2	3.5

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[a] Distance of noise source from receptor.
[b] Construction noise source's sound level at receptor location, with distance and building adjustment. Where applicable, noise attenuation resulting from intervening structures has been taken into account.
[c] Pre-construction activity ambient sound level at receptor location.
[d] New sound level at receptor location during the construction period, including noise from construction activity.
[e] An incremental noise level increase of 5 dBA or more would result in a significant impact.

SOURCE: Terry A. Hayes Associates Inc., 2013.

Four out of the five pipe jacking locations would be within 500 feet of residential land uses and the Value Inn Motel, and could potentially increase ambient noise levels at these receptors. Sensitive land uses were not identified within 500 feet of the Foothill Boulevard and Arroyo Street intersection. Based on the FTA Roadway Construction Noise Model (RCNM), the maximum noise level for a horizontal boring hydraulic jack is 82 dBA at 50 feet. However, since equipment used on construction sites often operates at less than full power, an acoustical usage factor is applied. The acoustical usage factor is a percentage of time that a particular piece of equipment is anticipated to be in full power operation during a typical construction day. The acoustical usage factor for a hydraulic jack is 25 percent and the noise level for the hydraulic jack is typically 80 dBA at 50 feet.

The projected construction noise levels associated with the proposed project's pipe jacking activities at nearby sensitive receptors are depicted in **Table 3.10-7**. There are no sensitive receptors located near the pipe jacking locations at the Foothill Boulevard and Arroyo Street intersection.

TABLE 3.10-7
CONSTRUCTION NOISE LEVELS – PIPE JACKING

Sensitive Receptor	Distance (feet) [a]	Maximum Construction Noise Level (dBA) [b]	Monitored Existing Ambient (dBA, L_{eq}) [c]	New Ambient (dBA, L_{eq}) [d]	Increase [e] (dBA)
Foothill Boulevard and Hubbard Street					
Multi-Family Residences Located to the Southwest	165	69.6	65.4	71.0	**5.6**
Foothill Boulevard and Maclay Street					
Value Inn Motel Located to the Southwest	130	71.7	65.0	72.5	**7.5**
Multi-Family Residences Located to the Southwest	190	68.4	65.0	70.0	**5.0**
Foothill Boulevard under the SR-118/I-210 Connector					
Single-Family Residences Located to the Northwest	140	71.1	57.7	71.3	**13.6**
Foothill and Van Nuys Boulevards					
Single-Family Residences Located to the Southwest	55	79.2	65.2	79.3	**14.1**

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[a] Distance of noise source from receptor.
[b] Construction noise source's sound level at receptor location, with distance and building adjustment.
[c] Pre-construction activity ambient sound level at receptor location.
[d] New sound level at receptor location during the construction period, including noise from construction activity.
[e] An incremental noise level increase of 5 dBA or more would result in a significant impact.

SOURCE: Terry A. Hayes Associates Inc., 2013.

As shown in Table 3.10-7, pipe jacking would incrementally increase noise levels by more than 5 dBA along the proposed project alignment, including nearby residences and the Value Inn

Motel. Noise levels related to construction activity would exceed the 5 dBA significance threshold. Therefore, impacts associated with pipe jacking activity would be significant.

As discussed and shown in Tables 3.10-6 and 3.10-7, project construction-related noise levels would result in a significant impact at nearby sensitive receptors. The following mitigation measures are recommended to reduce the proposed project’s construction-related noise impacts. **Mitigation Measure NOISE-1** would reduce construction noise levels by 3 dBA. **Mitigation Measures NOISE-2** through **NOISE-8,** although difficult to quantify, would assist in attenuating construction noise levels. However, even after implementation of Mitigation Measures NOISE-1 through NOISE-8, it was determined that construction noise levels would still exceed the significance threshold for sensitive receptors located within approximately 370 feet to the proposed project alignment. This distance was determined based on a noise level of 89 dBA at 50 feet with the hard site distance attenuation rate of 6 dBA for every doubling of distance and a 3 dB reduction from Mitigation Measure NOISE-1. As there are sensitive receptors along the proposed alignment within 370 feet of construction activities, these receptors would be exposed to noise levels above the significance threshold of more than 5 dBA above existing ambient noise levels. Therefore, the proposed project would result in a significant and unavoidable impact related to construction noise.

Mitigation Measures

NOISE-1: All construction equipment shall be properly maintained and equipped with mufflers and other suitable noise attenuation devices.

NOISE-2: The Los Angeles Department of Water and Power (LADWP) or the grading and construction contractors shall endeavor to use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment), when feasible. Noisy equipment shall be switched off when not in use.

NOISE-3: To ensure vehicle staging areas are located away from noise-sensitive receptors, the LADWP or the construction contractor shall ensure that large construction equipment is stored at the off-site staging area, when feasible. Construction equipment that must remain on-site shall be stored within the construction work area.

NOISE-4: Prior to any construction activities, the public shall be notified of the location and dates of construction. Residents shall be kept informed of any changes to the construction schedule.

NOISE-5: A dedicated public liaison from the Los Angeles Department of Water and Power for the proposed project shall be identified who will be responsible for addressing public concerns about construction activities, including excessive noise. The public liaison shall determine the cause of the concern (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures to address the concern.

NOISE-6: The LADWP and the construction contractor shall develop a Noise Mitigation Plan (which will include a construction schedule), to reduce construction noise, where feasible and to minimize sensitive receptor exposure to construction noise. The Noise Mitigation Plan shall identify areas near sensitive receptors where it is feasible to install temporary noise around noisy equipment. The temporary noise barrier shall be of sufficient height to obstruct the line-of-sight of the noise-sensitive receptor from the noise source shall be employed when staging sites are restricted to residential neighborhoods.

NOISE-7: The LADWP construction supervisors shall receive training on project-specific noise requirements, noise issues for sensitive land uses adjacent to the proposed project alignment, and/or equipment operations.

NOISE-8: Haul routes shall be restricted to major arterial roads and cannot be designated through residential areas. If not feasible, haul routes shall be reviewed and approved by the City of Los Angeles Department of Transportation in consultation with the Los Angeles Department of Water and Power before haul route can be on major arterial roads in residential areas.

Significance After Mitigation: Significant and Unavoidable Impact.

Impact 3.10-2: Construction activity would not expose people to excessive vibration levels. (Less-Than-Significant)

Construction activity can result in varying degrees of vibration, depending on the equipment and construction methods employed. Operation of construction equipment causes vibrations that spread through the ground and diminish in strength with distance. Directional drilling and standard construction equipment (e.g., a large bulldozer) generate vibration levels of approximately 0.089 inches per second at 25 feet. **Table 3.10-8** presents the typical vibration levels at 12 to 150 feet for a bulldozer. As other equipment used during construction activity, such as jackhammers, would generate less vibration than that presented for a large bulldozer, the vibration levels for a bulldozer are used to analyze the project's vibration-related impacts during construction.

TABLE 3.10-8
VIBRATION VELOCITIES FOR BULLDOZER

Distance from Equipment (feet)	Peak Particle Velocity (inches per second)
12	0.268
15	0.191
20	0.124
25	0.089
50	0.031
75	0.017
100	0.011
125	0.008
150	0.006

SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

Vibration is a function of the distance of the receiver from the vibration source (i.e., construction equipments). As shown in Table 3.10-8, vibration dissipates rapidly with distance (e.g., the vibration level at 15 feet is more than 1.5 times greater in comparison to vibration level at 20 feet).

It is estimated that construction-related building damage could occur when construction equipment would be located within 100 feet of buildings extremely susceptible to vibration damage (i.e., historic buildings), 15 feet of residential or institutional buildings, or 12 feet of commercial buildings. The nearest vibration-sensitive land uses are single-family residences located approximately 20 feet from the proposed project alignment. The vibration level from a bulldozer at 20 feet would be 0.12 inches per second PPV, which would be less than FTA's 0.2 inches per second PPV significance threshold for non-engineered timber and masonry buildings. Additionally, the proposed project's construction activities would not be located within 100 feet of buildings extremely susceptible to vibration damage or within 12 feet of commercial buildings. Therefore, the proposed project would result in a less-than-significant impact related to construction vibration.

Significance: Less-Than-Significant Impact.

Impact 3.10-3: Construction activity would result in a substantial temporary and periodic increase of ambient noise levels at adjacent noise-sensitive land uses above levels existing without the proposed project. (Significant and Unavoidable)

As discussed in Impact 3.10-1, the proposed project's construction noise levels would exceed the 5 dBA significance threshold at multiple sensitive land uses. Although implementation of Mitigation Measures NOISE-1 through NOISE-8 would help to reduce noise levels, the proposed project's construction noise would continue to temporarily exceed the 5 dBA significance threshold at adjacent noise-sensitive land uses. As such, the proposed project would result in a significant impact related to a substantial temporary increase in ambient noise levels at adjacent noise-sensitive land uses above levels existing without the proposed project. Therefore, this impact would remain significant and unavoidable.

Mitigation Measures

Implement Mitigation Measures **NOISE-1** through **NOISE-8**.

Significance After Mitigation: Significant and Unavoidable Impact.

Impact 3.10-4: The proposed project would not expose construction workers at the project site to excessive operational noise levels related to Whiteman Airport. (Less-Than-Significant)

The proposed project is located approximately two miles north of the Los Angeles County-owned Whiteman Airport and involves temporary construction activities to install an underground trunk line. The proposed project would not create new permanent residences or workers at the project site that would be impacted by noise from the Whiteman Airport. The project would only introduce temporary construction workers to the project vicinity. Additionally, the Department of Public Works maintains a proactive noise mitigation program with operational restriction and limited activities during certain hours of the day for this airport. This monitoring program is intended to mitigate potential negative impacts from aircraft operations and enhance compatibility with the surrounding noise sensitive residential land uses. Also, pilots are requested to operate their aircraft in the quietest practical manner consistent with safety and Air Traffic Control instructions. Therefore, the proposed project would result in a less-than-significant impact at the project site related to airport noise from the Whiteman Airport.

Significance: Less-Than-Significant Impact.

3.11 Traffic and Circulation

This section addresses potential traffic and circulation impacts of the proposed project on the basis of information supplied by the Los Angeles Department of Water and Power (LADWP), the City of Los Angeles Department of Transportation (LADOT), and the California Department of Transportation (Caltrans).

The potential traffic impacts that would be caused by project construction were considered by LADWP, based on the initial set of construction work area assumptions, which were then revised to alleviate as many impacts as feasible. Traffic impacts were then re-analyzed based on the higher traffic-carrying capacity provided along some road segments by the revised construction work areas. The following analysis scenarios are presented herein, in order to provide a thorough picture of potential impacts:

- Future with Project conditions – Initial construction concept
- Future with Project conditions – Revised construction concept
- Existing plus Project conditions – Revised construction concept

3.11.1 Environmental Setting

The proposed project is located within the community planning areas of Sylmar, Pacoima, and Sunland-Tujunga-Lakeview Terrace-Shadow Hills-East La Tuna Canyon (see Figure 2-1). Sylmar is bounded by Los Angeles City boundary lines to the north and east, the City of San Fernando to the south and southeast, and Interstate 405 (I-405) and Interstate 5 (I-5) freeways on the west. Pacoima is bounded, approximately, to the southwest by the I-5, to the north by the City of San Fernando, community of Sylmar, and State Route 118 (SR 118), to the east by Interstate 210 (I-210) and Foothill Boulevard, and the communities of Sunland, Tujunga, Shadow Hills, and Lake View Terrace community to the east, and south. The project area is mostly urbanized.

Foothill Boulevard serves as a commercial corridor and link to multiple nearby I-210 access interchanges. Foothill Boulevard parallels I-210, and intersects roadways such as Van Nuys Boulevard are north-south trending facilities. **Figure 3.11-1** illustrates the area roadway network and the location of the project construction corridor.

Level of Service Definition

Level of service (LOS) is the term used to denote the different operating conditions that occur on a given roadway segment or intersection under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis, taking into account factors such as roadway geometries, signal phasing, travel speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS

SOURCE: KOA Corporation, 2013.

LADWP - Foothill Trunk Line Unit 3 EIR . 211490.15

Figure 3.11-1
Project Construction Corridor

designations range from A to F, with LOS A representing the best operating conditions, and LOS F representing the worst operating conditions. LOS designation is reported differently for unsignalized intersections, signalized intersections, road segments, and freeway mainline.

Table 3.11-1 provides general descriptions of operations on roadways and at signalized intersections for each LOS value, with related ranges of volume to capacity ratios. **Table 3.11-2** provides general descriptions of operations at unsignalized intersections for each LOS value, with related ranges of average delay (in seconds) for vehicle movements controlled by stop signs.

TABLE 3.11-1
LEVEL OF SERVICE (LOS) DESCRIPTIONS FOR ROADWAYS AND SIGNALIZED INTERSECTIONS

LOS	Traffic Flow Conditions	Volume to Capacity Ratio
A	LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the arterial classification. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.	0.00-0.60
B	LOS B represents reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the arterial classification. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays at signalized intersections are not bothersome. Drivers are not generally subjected to appreciable tension.	0.61-0.70
C	LOS C represents stable operations; however, ability to maneuver and change lanes in mid-block locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average speeds of about 50 percent of the average free-flow speed for the arterial classification. Motorists will experience appreciable tension while driving.	0.71-0.80
D	LOS D borders on a range in which small increases in flow may cause a substantial increase in delay and hence decreases in arterial speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these factors. Average travel speeds are about 40 percent of free-flow speed	0.81-0.90
E	LOS E is characterized by significant delays and average travel speeds of one-third the free-flow speed or less. Such operations are caused by some combination of adverse signal progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	0.91-1.00
F	LOS F characterizes arterial flow at extremely low speeds below one-third to one-fourth of the free-flow speed. Congestion is likely at critical signalized intersections, with high delays and extensive queuing. Adverse signal progression is frequently a contributor to this condition.	Over 1.00

TABLE 3.11-2
LEVEL OF SERVICE (LOS) DESCRIPTIONS FOR UNSIGNALIZED INTERSECTIONS

LOS	Traffic Flow Conditions	Average Delay (seconds per vehicle)
A	No delay for stop-controlled approaches.	< 10.0
B	Operations with minor delay.	10.1 – 15.0
C	Operations with moderate delays.	15.1 – 25.0
D	Operations with increasingly unacceptable delays.	25.1 – 35.0
E	Operations with high delays, and long queues.	35.1 – 50.0
F	Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	> 50.0

Existing Traffic Circulation Network

Regional Roadways

The following regional roadways provide regional access to the project site:

I-210, also known as the Foothill Freeway, is generally an east-west running freeway and is located north of the project site and parallel to the project alignment. It has four lanes in each direction with ramp access within the project area and runs parallel to the project.

I-5, also known as the Golden State Freeway, is a north-south running freeway and is located directly west of the project area. It has five mainline lanes in each direction with indirect ramp access to the project area.

SR 118, also known as the Ronald Regan Freeway, is a four-lane conventional highway that runs east-west and turns northeast crossing the project site.

Local Roadways

The proposed project alignment along Foothill Boulevard has two travel lanes in each direction. The right-of-way (ROW) of Foothill Boulevard varies in width between 80 feet to 100 feet throughout the proposed project alignment. Construction would be limited to the roadway itself, which ranges in width from 52 feet to 80 feet. On-street parking is generally permitted along most of the alignment. Parking is generally more restrictive near commercial areas. **Table 3.11-3** below summarizes the study segments by number of lanes, median type, parking restrictions, adjacent land uses, speed limits, and curb-to-curb physical width.

TABLE 3.11-3
FOOTHILL BOULEVARD ROADWAY CHARACTERISTICS

Study Segment	From	To	Functional Classification	Lanes		Median Type	Parking Restrictions		Land Use	Speed Limit	Street Width
				NB/EB	SB/WB		WB	EB			
A	Hubbard Street	Gridley Street	Major Hwy Class II	2	2	2LT	NSAT/PA	NSAT/PA	Residential	45	52’ to 69’
B	Harding Street	Maclay Street	Major Hwy Class II	2	2	DY	NSAT/PA	NSAT	Residential	45	48’ to 64’
C	Home Depot	Arroyo Street	Major Hwy Class II	2	2	2LT	PA	NSAT	Commercial	40	78’
D	Arroyo Street	Vaughn Street	Major Hwy Class II	2	2	2LT	PA	PA	Commercial	40	80’
E	Paxton Street	Filmore Street	Major Hwy Class II	2	2	2LT	NPAT	NPAT	Commercial	40	80’
F	Filmore Street	Van Nuys Blvd.	Major Hwy Class II	2	2	2LT	NPAT	NPAT/PA	Commercial Residential	40	64’ to 80’
G	Pierce Street	Terra Bella Street	Major Hwy Class II	2	2	2LT	PA	PA	Commercial Residential	45	80’

DY = Double Yellow
2LT = Dual Left Turn
PA = Parking Anytime
NSAT = No Stopping Anytime
NPAT = No Parking Anytime

NB/EB = Northbound/Eastbound
SB/WB = Southbound/Westbound
WB = Westbound
EB = Eastbound

SOURCE: KOA, 2013

Existing Area Transit Service

The project area is served by public transit bus lines operated by the County of Los Angeles Metropolitan Transportation Authority (Metro) and LADOT. **Table 3.11-4** provides a description of the transit lines that serve the area.

TABLE 3.11-4
TRANSIT SERVICE SUMMARY

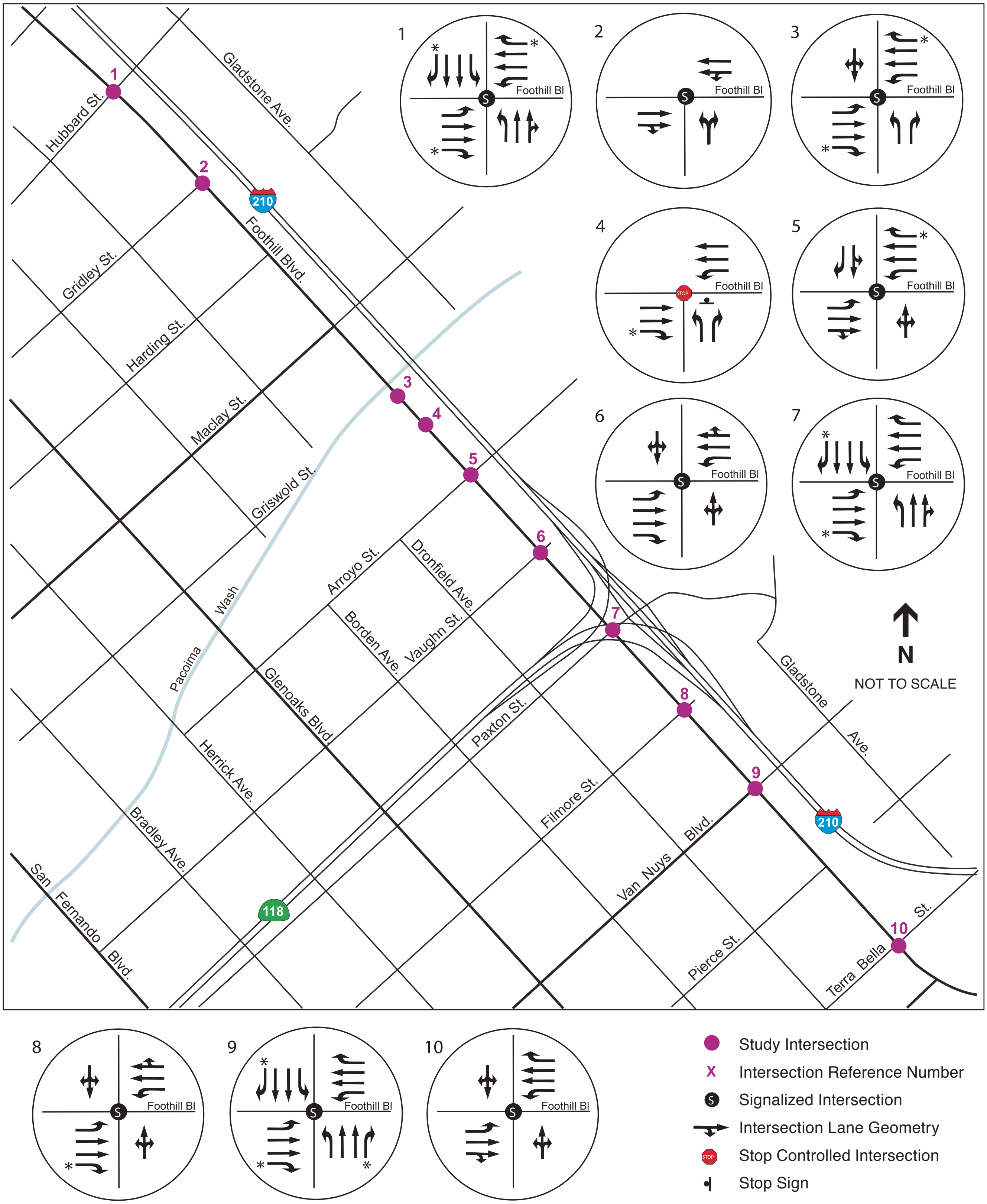
Agency	Line	From	To	Via	Approx. Peak Frequency
Metro	233	Lake View Terrace	Westwood	Van Nuys Blvd., Foothill Blvd., Terra Bella Street	12 to 15 minutes
Metro	290	Sylmar	Sunland	Foothill Blvd.	20 to 30 minutes
Metro Rapid Bus	761	Pacoima	Westwood	Van Nuys Blvd., Foothill Blvd., Paxton Street	8 to 20 minutes
LA DOT Commuter Rapid Express	409	Sylmar	Downtown Los Angeles	Foothill Blvd.	10 to 20 minutes

Source: KOA, 2013

Existing Intersection Conditions

For the traffic impact analysis, 10 locations were defined as project study intersections. Existing intersection traffic volumes were collected on Tuesday, December 11, 2012 (see **Appendix E** of this Draft EIR for the existing traffic movement volumes at the intersections). The following are the nine signalized study intersections and one unsignalized study intersection (**Figure 3.11-2** depicts intersection approach lanes and control configurations):

1. Hubbard Street and Foothill Boulevard
2. Gridley Street and Foothill Boulevard
3. West driveway of Home Depot commercial center and Foothill Boulevard
4. Middle driveway of Home Depot commercial center and Foothill Boulevard (unsignalized)
5. Arroyo Street and Foothill Boulevard
6. Vaughn Street and Foothill Boulevard
7. Paxton Street and Foothill Boulevard
8. Filmore Street and Foothill Boulevard
9. Van Nuys Boulevard and Foothill Boulevard
10. Terra Bella Street and Foothill Boulevard



Note:
⁎ *A de facto right-turn lane was assumed due to a wide curb lane.*

SOURCE: KOA Corporation, 2013.

Figure 3.11-2
Intersection Lane Configurations

Study intersection #4 is located to the south of the signalized study intersection #3. Both intersections provide driveway access for a commercial center that also has a third driveway to the south, which provides minor access on the west end of the commercial center. However, due to its minor importance to the commercial center, the third access driveway was not included as a study intersection. As shown in **Table 3.13-5**, all intersections in the project vicinity currently operate at LOS C or better during the a.m. and p.m. peak hours.

TABLE 3.11-5
INTERSECTION LEVEL OF SERVICE (LOS) – EXISTING CONDITIONS

Study Intersection		AM Peak Hour V/C or Delay*	AM Peak Hour LOS	PM Peak Hour V/C or Delay*	PM Peak Hour LOS
1	Hubbard Street & Foothill Boulevard	0.549	A	0.605	B
2	Gridley Street & Foothill Boulevard	0.391	A	0.493	A
3	Home Depot-Sam's Club & Foothill Boulevard	0.461	A	0.478	A
4	Home Depot, Sams, Pollo Loco, KFC Driveway & Foothill Boulevard (unsignalized)	19.4	C	16.4	C
5	Arroyo Street & Foothill Boulevard	0.589	A	0.563	A
6	Vaughn Street & Foothill Boulevard	0.329	A	0.311	A
7	Paxton Street & Foothill Boulevard	0.476	A	0.538	A
8	Filmore Street & Foothill Boulevard	0.339	A	0.349	A
9	Van Nuys Boulevard & Foothill Boulevard	0.491	A	0.429	A
10	Terra Bella Street & Foothill Boulevard	0.635	B	0.487	A

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* Intersection LOS is defined by the volume-to-capacity ratio (V/C) at signalized intersections, and by average vehicle delay (seconds per vehicle) for unsignalized intersections.

SOURCE: KOA, 2013

Existing Roadway Segments

Traffic counts were collected in December 2012 on seven roadway segments along Foothill Boulevard. **Table 3.11-6** below depicts a summary of the average daily traffic (ADT) volumes on those roadway segments. Although the ADT volumes are informative as to existing conditions, the determination of project impacts were made on the basis of changes to traffic volumes during the a.m. and p.m. peak hours (presented in the Subsection 3.11.4, below).

TABLE 3.11-6
PROJECT ROADWAY SEGMENTS – EXISTING (2012) WEEKDAY DAILY VEHICLE VOLUMES

Street Segments		Existing ADT
A	Foothill Boulevard between Hubbard Street and Gridley Street	17,696
B	Foothill Boulevard between Harding Avenue and Maclay Street	19,177
C	Foothill Boulevard between Home Depot Driveways	25,460
D	Foothill Boulevard between Arroyo Street and Vaughn Street	24,014
E	Foothill Boulevard between Paxton Street and Filmore Street	23,779
F	Foothill Boulevard between Filmore Street and Van Nuys Boulevard	23,109
G	Foothill Boulevard between Pierce Street and Terra Bella Street	17,392

SOURCE: KOA, 2013

3.11.2 Regulatory Framework

The development and regulation of the transportation network in the vicinity of the proposed project primarily involves state and local jurisdictions. All roads within the project area are under the jurisdiction of state and local agencies. Applicable state and local laws and regulations related to traffic and transportation issues are discussed below.

Federal

There are no federal traffic and transportation regulations related to land use applicable to the proposed project.

State

California Department of Transportation (Caltrans)

Caltrans manages interregional transportation, including management and construction of the California highway system. In addition, Caltrans is responsible for permitting and regulation of the use of State roadways.

Caltrans construction practices require temporary traffic control planning "during any time the normal function of a roadway is suspended" (FHWA, 2003). In addition, Caltrans requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbance. Caltrans regulations would apply to construction activity of the proposed project (e.g., hauling materials to and from the project work sites) that require use of nearby state highways (e.g., I-210, I-5, and SR 118).

Local

Los Angeles Department of Transportation

LADOT is responsible for transportation issues within the City of Los Angeles boundaries. LADOT reviews the transportation/traffic studies prepared for all types of projects for which the City is the lead agency, in addition to other public agency projects located within, or that may affect, the City. LADOT internal procedures are described in its Traffic Study Policies and Procedures Manual.

LADWP

Temporary lane closures along streets as required for construction would be coordinated with the other City of Los Angeles entities such as the Bureau of Engineering and LADOT. LADWP is a member of the California Joint Utility Traffic Control Committee, which in 1996 published the Work Area Protection and Traffic Control Manual. The traffic control plans and associated text depicted in this manual conform to the guidelines established by the Federal and State Departments of Transportation.

3.11.3 Methodology

The following assessment evaluates the potential for the proposed project to adversely affect traffic and circulation at the project site and in the surrounding area. The assessment of potential impacts includes the following: traffic counts, review and evaluation of documents, plans and aerial photographs, and site visits to determine the characteristics of roads that are proposed to accommodate construction-generated vehicle trips. Road characteristics include the number of vehicle lanes, traffic control (signals or stop signs), on-street parking (permitted or prohibited), bicycle routes, transit service (including bus stops), and land uses served by the affected roads (e.g., sensitive uses like fire stations, schools, etc.); and estimated highest number of vehicle trips that project-related activities would generate, on both a daily and peak-hour basis.

As described above, in response to internal review of the initial construction concept impact results, modifications to the draft construction plans were made by LADWP. During the initial project design process, LADWP initially determined the proposed project would be required to utilize the pipe jacking method of pipe installation under four intersections. The proposed project was redesigned to include a fifth pipe jacking location at the intersection of Arroyo Street and Foothill Boulevard to avoid impedance of traffic turning movements onto Foothill Boulevard, ultimately resulting in better ingress and egress for the area. Additionally, several intersection construction work areas were reduced in size to provide increased turning lanes onto local roadways.

Additionally, some construction areas at the following intersections were reduced to similarly avoid impedance of traffic turning movements off Foothill Boulevard: the Home Depot-Sam's Club access driveway and Foothill Boulevard, Vaughn Street and Foothill Boulevard, Paxton Street and Foothill Boulevard, Fillmore Street and Foothill Boulevard, and Van Nuys Street and Foothill Boulevard.

3.11.4 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this Draft EIR and consistent with Appendix G of the *CEQA Guidelines*, a project that would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system is considered to have a significant impact on the environment. The project is also considered to have a potentially significant impact if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

A significant impact related to decreased performance of the circulation system (at an intersection or on a roadway segment), caused by either an increase in traffic or a decrease in traffic-carrying capacity, is identified if the project would cause levels of service to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if a facility (intersection or roadway segment) is already operating below the acceptable level of service, and the project would cause a further decline below a threshold. For purposes of this EIR, the project would cause a significant impact if the LOS for study intersections or roadway segments would degrade from an acceptable LOS D or better to LOS E or F. If the service level is already LOS E or F, then if the V/C ratio (for signalized intersections or roadway segments) would increase by 0.010 or more, or the vehicle delay (for unsignalized intersections) would increase by two seconds or more, then the project would cause a significant impact.

The LADOT has established specific thresholds for project-related increases in the volume-to-capacity ratio of signalized intersections (including increases when the service levels remain at LOS C or D). However, because those thresholds are oriented toward analysis of impacts associated with long-term traffic increases from operation of new development, and not temporary construction traffic, the LADOT thresholds of significance are not used for this analysis.

The lead agency determined in the NOP/IS (see **Appendix A**) that the following environmental issue area would result in no impacts or less than significant impacts and were therefore scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue area:

- 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.

Impacts Discussion

Impact 3.11-1: The proposed project would temporarily conflict with an applicable plan, ordinance, or policy for establishing measures of effectiveness for the performance of the circulation system at certain intersections and roadway segments during construction. (Significant and Unavoidable with Mitigation)

Impacts to the study intersections and roadway segments during construction were determined by comparing “future without project” conditions to “future with project” conditions. Project construction is anticipated to be completed by the end of 2019. Traffic projections also incorporate a factor for future growth and include consideration of traffic generated by other projects occurring within the project area. In order to forecast year 2019 baseline traffic volumes, year 2012 peak-hour volumes were increased by an ambient growth rate of 1.0 percent per year. The rate was applied as a compounded factor of 1.072. The application of the annual growth rate is consistent with the sub-regional growth data defined by the County of Los Angeles CMP document.

Three 1.5-mile radius lines, from Foothill Boulevard at Hubbard Street, Arroyo Street, and Terra Bella Street, were used to define a capture area for area approved and pending (cumulative) projects that potentially would contribute measurable traffic volumes to the project area during the future analysis period. The list of area projects was compiled based on information provided by LADOT Development Review staff. From this process, 12 projects were considered within the project area for inclusion in the cumulative conditions analysis. The projects included for future period analysis, and their trip generation estimates are provided in Appendix E of this Draft EIR.

The future-without-project LOS at study intersections is depicted in **Table 3.11-7.** Under the Future (2019) Without Project Construction Conditions scenario, all of the study intersections would continue to operate at LOS D or better during the weekday a.m. and p.m. peak hours. Study intersections 4 and 5 would operate at LOS D in the a.m. peak hour, while the remainder of the study intersections would operate at LOS C or better. The analyzed peak-hour traffic volumes at the study intersections and LOS analysis worksheets for this scenario are provided in the Traffic Report (Appendix E of this Draft EIR).

TABLE 3.11-7
INTERSECTION LEVEL OF SERVICE – FUTURE (2019) WITHOUT PROJECT CONSTRUCTION CONDITIONS

Study Intersection		AM Peak Hour		PM Peak Hour	
		V/C or Delay*	LOS	V/C or Delay*	LOS
1	Hubbard Street & Foothill Boulevard	0.733	C	0.726	C
2	Gridley Street & Foothill Boulevard	0.442	A	0.556	A
3	Home Depot-Sam's Club & Foothill Boulevard	0.587	A	0.541	A
4	Home Depot, Sams, Pollo Loco, KFC Driveway & Foothill Boulevard (unsignalized)	27.0	D	18.7	C
5	Arroyo Street & Foothill Boulevard	0.816	D	0.679	B
6	Vaughn Street & Foothill Boulevard	0.394	A	0.353	A
7	Paxton Street & Foothill Boulevard	0.623	B	0.609	B
8	Filmore Street & Foothill Boulevard	0.383	A	0.388	A
9	Van Nuys Boulevard & Foothill Boulevard	0.567	A	0.581	A
10	Terra Bella Street & Foothill Boulevard	0.694	B	0.533	A

* Intersection LOS is defined by the volume-to-capacity ratio (V/C) at signalized intersections, and by average vehicle delay (seconds per vehicle) for unsignalized intersections.

SOURCE: KOA, 2013

The future-without-project average daily traffic volumes for year-2019 conditions at the study roadway segments, based on the application of ambient growth and the calculated daily trips from the included area projects are depicted in **Table 3.11-8.** The highest daily vehicle volume would be on Foothill Boulevard between the Home Depot commercial center driveways.

TABLE 3.11-8
PROJECT ROADWAY SEGMENTS – FUTURE (YEAR 2019) WITHOUT-PROJECT DAILY VEHICLE VOLUMES

Street Segments		Year 2019 ADT
A	Foothill Boulevard between Hubbard Street and Gridley Street	19,887
B	Foothill Boulevard between Harding Avenue and Maclay Street	21,768
C	Foothill Boulevard between Home Depot Driveways	28,859
D	Foothill Boulevard between Arroyo Street and Vaughn Street	26,751
E	Foothill Boulevard between Paxton Street and Filmore Street	26,001
F	Foothill Boulevard between Filmore Street and Van Nuys Boulevard	25,283
G	Foothill Boulevard between Pierce Street and Terra Bella Street	18,880

SOURCE: KOA, 2013

Project Construction

Temporary lane closures along streets as required for construction would be coordinated with the other City of Los Angeles entities such as the Bureau of Engineering (LABOE) and the Department of Transportation (LADOT). LADWP is a member of the California Joint Utility Traffic Control Committee, which in 1996 published the *Work Area Protection and Traffic Control Manual*. The traffic control plans and associated text depicted in this manual conform to the guidelines established by the Federal and State Departments of Transportation.

LADWP would follow the recommendations in the Manual regarding basic standards for the safe movement of traffic upon highways and streets in accordance with Section 21400 of the California Vehicle Code. These recommendations include provisions for safe access of police, fire, and other rescue vehicles. In addition, LADWP would obtain roadway encroachment permits and would submit traffic management plans to LABOE and LADOT for review and approval.

In roadways, trucks would be used to haul material, typically as it is excavated from the trenches. As trucks are filled with spoils, they would leave the work areas and be replaced by empty trucks. Delivery trucks carrying materials and pipeline elements would arrive as-needed during construction. As part of the final construction activities, roadway pavement would be restored.

The work areas necessary to install the proposed project within Foothill Boulevard is planned to be completed in segments, and the maximum number of lanes provided on Foothill Boulevard would be two (one in each direction). Where feasible, major intersection approach lanes would be kept intact. Construction closures would be established in segments along the project corridor, with two active closures for trenching activities and a third for pipe jacking activities. The assumed approach lane configurations for the proposed project construction period traffic analysis were created based on initial project construction drawings and the subsequently revised construction drawings. Construction activity would occur Monday through Friday from approximately 7:00 a.m. to 6:00 p.m. and on Saturday from 8:00 a.m. to 4:00 p.m., with construction truck trips occurring over an eight-hour period each day. The City of Los Angeles Rush Hour Ordinance limits in-street construction on weekdays to the hours of 9:00 a.m. through 3:30 p.m., and it is anticipated that a variance to the Mayor’s Executive Order No. 2 to allow construction outside those times would be requested by LADWP and approved by the city, for this project. Such a variance would provide for flexibility in the construction of the project, and for project construction to be completed in a fewer number of days.

The distribution of construction truck trips was assumed to be primarily freeway-oriented. For the I-210 freeway to the north of the project area, 100 percent of the truck trips were assigned to that corridor, and roadways between Foothill Boulevard and the applicable I-210 interchanges. The distribution pattern for analyzed employee trips assumed that employees would arrive on-site from the I-210 freeway. One hundred percent of traffic was distributed to and from the I-210 freeway, as the project corridor is adjacent to the freeway.

Project Construction Trip Generation

Project trip generation calculations included construction truck trips and construction worker vehicle trips, based on the most-intense period of construction activity for the project.

The maximum number of daily truck trips during project construction would be 34 one-way trips, with 28 trips generated by open-cut trenching construction activities and six trips generated by pipe jacking activities. Truck trips were converted to Passenger Car Equivalents (PCE), using a PCE factor of 2.5. This metric is used to account for the additional roadway space and design capacity required by larger and slower trucks. The applied value of 2.5 passenger cars per truck is a factor typically used in studies that include trips generated by haul trucks, and is based on conservative factors defined by the Southern California Association of Governments Heavy Duty Truck Model. The analysis assumes that project-generated truck trips would be spread over an eight-hour period that begins during the a.m. peak period, and ends during the p.m. peak period.

The maximum number of employees at project roadway segment sites during project construction would be 48 workers. For open cut trenching activities, there would be two 18-worker crews. For pipe jacking activities, there would be one 12-worker crew. It is assumed that construction workers would arrive and depart the work sites via personal vehicles, although some workers are expected to be dropped off and picked up at the start and end of their work day, respectively, generating outbound trips during the a.m. peak hour and inbound trips during the p.m. peak hour. The morning arrival by employees was assumed to overlap the a.m. peak hour by 50 percent, with the remaining 50 percent of employees assumed to be at the sites before 7:00 a.m. The same pattern was assumed to occur during the p.m. peak hour, with 50 percent of employees assumed to depart the site before 4:00 p.m. Daily trips were based on one inbound trip per employee and one outbound trip per employee.

As shown in **Table 3.11-9**, project construction would generate a daily total of 181 passenger car equivalent trips, with 72 trips occurring during the a.m. peak hour and 72 trips occurring during the p.m. peak hour. The impacts of project-generated traffic (described below) would be the combined effects from worker vehicles and trucks).

TABLE 3.11-9
PROJECT TRIP GENERATION

				AM Peak Hour			PM Peak Hour		
	Average Daily Trips			Truck Trips*	Worker Trips	Total Trips	Truck Trips*	Worker Trips	Total Trips
Trip Type	**Trucks***	**Workers**	**Total**	**In / Out**	**In / Out**	**In / Out**	**In / Out**	**In / Out**	**In / Out**
Field Personnel	0	96	96	0 / 0	24 / 6	24 / 6	0 / 0	6 / 24	6 / 24
Trucks – Open Cut	70	0	70	18 / 18	0 / 0	18 / 18	18 / 18	0 / 0	18 / 18
Trucks – Pipe Jacking	15	0	15	3 / 3	0 / 0	3 / 3	3 / 3	0 / 0	3 / 3
Total	**85**	**96**	**181**	**21 / 21**	**24 / 6**	**45 / 27**	**21 / 21**	**6 / 24**	**27 / 45**

* Truck trips are presented as Passenger Car Equivalents, using a PCE factor of 2.5.

SOURCE: KOA, 2013

Intersection Impacts (Initial Construction Concept)

The highest daily vehicle volume is between the Home Depot Commercial Center driveways (intersections 3 and 4) on Foothill Boulevard, and to provide a worst-case scenario from project-related construction traffic, those driveway intersections were each analyzed with the other driveway closed, with the effects of roadway lane reconfigurations for the project. All of the other study intersection construction period configurations were based on work area boundaries and related lane reconfigurations. Additionally, with implementation of the proposed project, shifts in traffic to other turning movements at intersections were assumed, and anticipated major shifts in traffic were applied through the proposed project area to the next freeway interchange.

The study intersection operations in future year 2019 with the initial construction concept are summarized below in **Table 3.11-10**. As shown, construction of the proposed project would create significant impacts at six of the ten study intersections, as traffic operating conditions at those six intersections would worsen during the project construction period to LOS E or F in either the a.m. and/or p.m. peak hour.

TABLE 3.11-10
FUTURE 2019 INTERSECTIONS LOS WITH INITIAL PROJECT CONSTRUCTION CONCEPT

		AM Peak Hour		PM Peak Hour		
Study	**Intersection**	**V/C or Delay***	**LOS**	**V/C or Delay***	**LOS**	**Significant Impact?**
1	Hubbard Street & Foothill Boulevard	1.143	**F**	1.075	**F**	**Yes**
2	Gridley Street & Foothill Boulevard	0.819	D	0.631	B	No
3	Home Depot-Sam's Club & Foothill Boulevard	1.338	**F**	1.101	**F**	**Yes**
4	Home Depot, Sams, Pollo Loco, KFC Driveway & Foothill Boulevard (unsignalized)	>100	**F**	>100	**F**	**Yes**
5	Arroyo Street & Foothill Boulevard	1.368	**F**	1.252	**F**	**Yes**
6	Vaughn Street & Foothill Boulevard	0.855	D	0.781	C	No
7	Paxton Street & Foothill Boulevard	1.274	**F**	1.487	**F**	**Yes**
8	Filmore Street & Foothill Boulevard	0.754	C	0.812	D	No
9	Van Nuys Boulevard & Foothill Boulevard	1.031	**F**	0.818	D	**Yes**
10	Terra Bella Street & Foothill Boulevard	0.814	D	0.831	D	No

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* Intersection LOS is defined by the volume-to-capacity ratio (V/C) at signalized intersections, and by average vehicle delay (seconds per vehicle) for unsignalized intersections.

SOURCE: KOA, 2013

Identified impacts would be significant and unavoidable during the construction period, but only when each specific work zone for each crew is established. Not all of the work zones will be active at the same time.

Intersection Impacts (Revised Construction Concept)

As described above, because of the level of unacceptable LOS projected to occur under the initial construction project conditions, a revised construction concept was analyzed to potentially reduce the degree of impact at the ten intersections. The study intersections operations in future year 2019 with the revised construction concept are summarized below in **Table 3.11-11.**

TABLE 3.11-11
FUTURE 2019 INTERSECTIONS LOS WITH REVISED CONSTRUCTION CONCEPT

Study Intersection		AM Peak Hour		PM Peak Hour		Significant Impact?
		V/C or Delay*	LOS	V/C or Delay*	LOS	
1	Hubbard Street & Foothill Boulevard	0.961	**E**	1.041	**F**	**Yes**
2	Gridley Street & Foothill Boulevard	0.578	A	0.494	A	No
3	Home Depot-Sam's Club & Foothill Boulevard	1.284	**F**	0.950	**E**	**Yes**
4	Home Depot, Sams, Pollo Loco, KFC Driveway & Foothill Boulevard (unsignalized)	48.5	**E**	32.4	D	**Yes**
5	Arroyo Street & Foothill Boulevard	1.233	**F**	1.114	**F**	**Yes**
6	Vaughn Street & Foothill Boulevard	0.396	A	0.638	B	No
7	Paxton Street & Foothill Boulevard	1.090	**F**	1.103	**F**	**Yes**
8	Filmore Street & Foothill Boulevard	0.610	B	0.693	B	No
9	Van Nuys Boulevard & Foothill Boulevard	0.820	D	0.781	C	No
10	Terra Bella Street & Foothill Boulevard	0.836	D	0.829	D	No

* Intersection LOS is defined by the volume-to-capacity ratio (V/C) at signalized intersections, and by average vehicle delay (seconds per vehicle) for unsignalized intersections.

SOURCE: KOA, 2013

Construction of the proposed project under the revised construction concept would result in significant impacts at five of the ten study intersections (one fewer than the initial construction concept). Although the commercial center access driveways (Intersection #3 and Intersection #4) would operate with poor LOS when project construction occurred in their area, the driveways would have full access based on the roadway lane reconfigurations analyzed for this scenario. In addition, turning movements into and from Arroyo Street at Foothill Boulevard would also be restored. Some of these and other capacity improvements during the construction period were enabled by the planned use of additional pipe jacking areas (a total of five under the revised construction scenario), avoiding surface disruption. Jacking and receiving pits were placed back from intersection approaches, in order to minimize intersection disruption as much as possible.

Although significant impacts would continue to occur at other study intersections, a comparison of Tables 3.11-10 and 3.11-11 shows that the overall traffic conditions would be somewhat better under the revised construction scenario than under the initial construction scenario. Conditions would improve by at least one service level (e.g., LOS D or E instead of LOS F) during at least one of the peak hours at seven of the ten intersections, and where LOS F conditions would continue, the V/C ratio would be lower. The level of service calculation worksheets for the revised construction concept are provided in the Traffic Study (Appendix E of this Draft EIR).

Project Roadway Segment Impacts

Shifts in traffic due to lane closures at some of the study intersections will differ between the two project construction scenarios. The most conservative scenario – the initial construction concept – was analyzed here, to provide an evaluation of potential roadway segment impacts; however, the conclusions regarding roadway segment impacts would not be different between scenarios, as the reduction in travel lanes is the primary cause of impacts, and that reduction would be the same with either construction scenario.

The peak-hour traffic volumes on the study roadway segments under existing, future base and future with project conditions are provided in **Table 3.11-12**. The future base volumes account for ambient growth and approved and pending projects. As shown, all of the analyzed roadway segments would operate at LOS E or F under project conditions, which is considered a significant impact.

Existing Plus-Project Traffic Conditions and Impacts

Intersection Impacts (Revised Construction Concept)

As described at the start of this section, an existing-plus-project analysis was conducted for the revised construction concept. This additional analysis scenario provides the reader (and decision-makers) with information about project impacts with the baseline condition at the time of the Notice of Preparation. The study intersections operations under existing-plus-project conditions with the revised construction concept are summarized below in **Table 3.11-13.**

Construction of the proposed project under the revised construction concept would result in significant impacts at four of the ten study intersections. Although the commercial center access driveways (Intersection #3 and Intersection #4) would operate with poor LOS when project construction occurred in their area, the driveways would have full access based on the roadway lane reconfigurations analyzed for this scenario. In addition, turning movements into and from Arroyo Street at Foothill Boulevard would also be restored. Some of these and other capacity improvements during the construction period were enabled by the planned use of additional pipe jacking areas (a total of five under the revised construction scenario), avoiding surface disruption. Jacking and receiving pits were placed back from intersection approaches, in order to minimize intersection disruption as much as possible.

TABLE 3.11-12
PEAK HOUR TRAFFIC VOLUMES AND LEVEL OF SERVICE ON AREA ROADWAY SEGMENT (EXISTING, FUTURE BASE, AND FUTURE WITH PROJECT CONDITIONS)

			Base Volumes									Proposed Project					
					Existing				Future Base						Future with Project		
Street Segments		Peak Period	# of Lanes	Capacity	Volumes	V/C	LOS	Area Projects	Volumes	V/C	LOS	# of Lanes	Capacity	Project Only	Volumes	V/C	LOS
A	Foothill Boulevard between Hubbard Street and Gridley Street	AM	4	3,200	1,281	0.400	A	113	1,486	0.464	A	2	1,600	29	1,515	0.947	E
		PM			1,451	0.453	A	77	1,668	0.521	A			29	1,697	1.061	F
B	Foothill Boulevard between Harding Avenue and Maclay Street	AM	4	3,200	1,444	0.451	A	135	1,683	0.526	A	2	1,600	29	1,712	1.070	F
		PM			1,639	0.512	A	102	1,892	0.591	A			29	1,921	1.201	F
C	Foothill Boulevard between Home Depot Driveways	AM	4	3,200	1,779	0.556	A	419	2,326	0.727	C	2	1,600	14	2,340	1.463	F
		PM			1,923	0.601	B	110	2,480	0.775	C			14	2,494	1.559	F
D	Foothill Boulevard between Arroyo Street and Vaughn Street	AM	4	3,200	1,578	0.493	A	245	1,937	0.605	B	2	1,600	14	1,951	1.219	F
		PM			1,911	0.597	A	72	2,294	0.717	C			14	2,308	1.443	F
E	Foothill Boulevard between Paxton Street and Filmore Street	AM	4	3,200	1,782	0.557	A	84	1,994	0.623	B	2	1,600	29	2,023	1.264	F
		PM			1,983	0.620	B	41	2,210	0.691	B			29	2,239	1.399	F
F	Foothill Boulevard between Filmore Street and Van Nuys Boulevard	AM	4	3,200	1,683	0.526	A	84	1,888	0.590	A	2	1,600	29	1,917	1.198	F
		PM			1,952	0.610	B	41	2,177	0.680	B			29	2,206	1.379	F
G	Foothill Boulevard between Pierce Street and Terra Bella Street	AM	4	3,200	1,382	0.432	A	35	1,517	0.474	A	2	1,600	29	1,546	0.966	E
		PM			1,515	0.473	A	18	1,659	0.518	A			29	1,688	1.055	F

SOURCE: KOA, 2013

TABLE 3.11-13
EXISTING PLUS PROJECT INTERSECTIONS LOS WITH REVISED CONSTRUCTION CONCEPT

		AM Peak Hour		PM Peak Hour		
Study	**Intersection**	**V/C or Delay***	**LOS**	**V/C or Delay***	**LOS**	**Significant Impact?**
1	Hubbard Street & Foothill Boulevard	0.811	D	0.899	D	No
2	Gridley Street & Foothill Boulevard	0.505	A	0.435	A	No
3	Home Depot-Sam's Club & Foothill Boulevard	1.087	**F**	1.079	**F**	**Yes**
4	Home Depot, Sams, Pollo Loco, KFC Driveway & Foothill Boulevard (unsignalized)	>100	**F**	>100	**F**	**Yes**
5	Arroyo Street & Foothill Boulevard	0.766	C	0.951	**E**	**Yes**
6	Vaughn Street & Foothill Boulevard	0.326	A	0.662	B	No
7	Paxton Street & Foothill Boulevard	0.848	D	1.023	**F**	**Yes**
8	Filmore Street & Foothill Boulevard	0.769	C	0.662	B	No
9	Van Nuys Boulevard & Foothill Boulevard	0.802	D	0.734	C	No
10	Terra Bella Street & Foothill Boulevard	0.779	C	0.805	D	No

* Intersection LOS is defined by the volume-to-capacity ratio (V/C) at signalized intersections, and by average vehicle delay (seconds per vehicle) for unsignalized intersections.

SOURCE: KOA, 2013

Project Roadway Segment Impacts

The peak-hour traffic volumes on the study roadway segments under existing, future base and future with project conditions are provided in **Table 3.11-14**. The future base volumes account for ambient growth and approved and pending projects. As shown, all of the analyzed roadway segments would operate at LOS E or F under project conditions, which is considered a significant impact.

Impact Summary

As described above, significant impacts at area intersections would remain as a result of the revised construction concept. However, the impacts from the initial construction concept would be reduced (i.e., one significant and unavoidable impact would not occur, and the V/C ratios would be lower (better) under the revised construction concept than under the initial construction concept). Impacts on all of the roadway segments in the project area would be significant during project construction under either construction concept, though again the V/C ratios would be lower (better) under the revised construction concept than under the initial construction concept.

TABLE 3.11-14
PEAK HOUR TRAFFIC VOLUMES AND LEVEL OF SERVICE ON AREA ROADWAY SEGMENT (EXISTING AND EXISTING PLUS PROJECT CONDITIONS)

			Existing Conditions					Existing Plus Project Conditions					
Street Segments		Peak Period	# of Lanes	Capacity	Volumes	V/C	LOS	# of Lanes	Capacity	Project Only	Volumes	V/C	LOS
A	Foothill Boulevard between Hubbard Street and Gridley Street	AM	4	3,200	1,281	0.400	A	2	1,600	29	1,310	0.819	D
		PM			1,451	0.453	A			29	1,480	0.925	**E**
B	Foothill Boulevard between Harding Avenue and Maclay Street	AM	4	3,200	1,444	0.451	A	2	1,600	29	1,473	0.921	**E**
		PM			1,639	0.512	A			29	1,668	1.043	**F**
C	Foothill Boulevard between Home Depot Driveways	AM	4	3,200	1,779	0.556	A	2	1,600	14	1,793	1.121	**F**
		PM			1,923	0.601	B			14	1,937	1.211	**F**
D	Foothill Boulevard between Arroyo Street and Vaughn Street	AM	4	3,200	1,578	0.493	A	2	1,600	14	1,592	0.995	**E**
		PM			1,911	0.597	A			14	1,925	1.203	**F**
E	Foothill Boulevard between Paxton Street and Filmore Street	AM	4	3,200	1,782	0.557	A	2	1,600	29	1,811	1.132	**F**
		PM			1,983	0.620	B			29	2,012	1.258	**F**
F	Foothill Boulevard between Filmore Street and Van Nuys Boulevard	AM	4	3,200	1,683	0.526	A	2	1,600	29	1,712	1.070	**F**
		PM			1,952	0.610	B			29	1,981	1.238	**F**
G	Foothill Boulevard between Pierce Street and Terra Bella Street	AM	4	3,200	1,382	0.432	A	2	1,600	29	1,411	0.882	D
		PM			1,515	0.473	A			29	1,544	0.965	**E**

SOURCE: KOA, 2013

Mitigation Measures

TR-1: Prior to project construction, the Los Angeles Department of Water and Power shall prepare a project specific Traffic Control Plan for the project area for review and approval by the Los Angeles Department of Transportation. The Traffic Control Plan shall include, at a minimum, signage within the Foothill Boulevard corridor in advance of the start of construction, warning of potential delays once construction starts. The Traffic Control Plan shall include signage to alert motorists to temporary limited access points to adjacent properties; appropriate barricades for lane closures; construction speed limit signage through the construction zone; and parking restrictions during construction.

TR-2: An alternative routing plan shall be developed, including identification of way-finding signage locations, to encourage traffic diversions for through traffic to multiple parallel routes such as Glenoaks Boulevard and other corridors.

TR-3: Traffic shall be controlled during construction by adhering to the guidelines contained in Standard Specifications for Public Works Construction used by many municipalities in California and the California Manual on Uniform Traffic Control Devices, Part 6, “Temporary Traffic Control” and applicable City requirements. These guidelines provide methods to minimize construction effects on traffic flow.

TR-4: At the unsignalized Home Depot Center Secondary Driveway (study intersection #4), temporary traffic signal shall be installed and operational during periods when the construction work zone is established across the signalized main Center access driveway (study intersection #3). Although full access will be provided at the main driveway intersection during construction, lane capacity will be reduced.

With implementation of Mitigation Measures TR-1 through TR-4, impacts associated with the proposed project would be reduced, though temporary impacts would still occur during the proposed project construction period. Therefore, the proposed project would result in a temporary significant and unavoidable impact related to increased traffic during construction.

Significance After Mitigation: Significant and Unavoidable.

Impact 3.11-2: Construction activity would not exceed the level of service standards established by the county congestion management agency for designated roads or highways. (Less-Than-Significant)

The Congestion Management Program (CMP) was created statewide because of Proposition 111 and has been implemented locally by the Los Angeles County Metropolitan Transportation Authority (LACMTA). The CMP for Los Angeles County requires the analysis of the traffic impacts of individual development projects with potentially regional significance. A specific system of arterial roadways plus all freeways comprises the CMP system. In conformance with CMP Transportation Impact Analysis (TIA) Guidelines, a traffic impact analysis is conducted at:

- CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where the proposed project would add 50 or more vehicle trips during either morning or afternoon weekday peak hours.
- CMP mainline freeway-monitoring locations, where the project would add 150 or more trips, in either direction, during either the morning or afternoon weekday peak hours.

Truck trips within the totals below have been adjusted by a PCE factor of 2.5, as explained within the analysis. Construction employee vehicle trips have also been included.

The nearest CMP monitoring location to the project area is Sierra Highway at Placerita Canyon Road, which is located approximately 11 miles north of the project site. Based on the trip generation and distribution of the project, it is not expected that 50 or more construction project trips would be added to the nearby CMP intersections. Therefore, there would be a less-than-significant contribution to the impacts to a CMP arterial monitoring area.

The nearest CMP mainline freeway-monitoring locations to the project site are on the I-210 freeway at Polk Street and at Terra Bella Street. The proposed project is expected to add less than 150 new trips per hour, in either direction, to any freeway segment based on the project trip generation defined in Table 3.11-9. Therefore, there would be a less-than-significant contribution to the impacts to a CMP mainline monitoring area.

Significance: Less-Than-Significant Impact.

Impact 3.11-3: The proposed project would not create a safety hazard by closing two through lanes during construction in the Foothill Boulevard ROW. (Less-Than-Significant With Mitigation)

As part of the traffic analysis for the project, the analyzed peak-period trip generation totals of project construction were analyzed to determine the general operating conditions that would exist at the site during construction. Construction access to Foothill Boulevard would occur via local roadways. Although temporary lane closures along the proposed project alignment would occur, two-way travel along the affected roadways would be maintained (though with restricted capacity while work area boundaries are maintained).

Additionally, implementation of the proposed project would not result in a permanent modification to the configuration of the roadway and therefore would not introduce any roadway hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. All truck trips and deliveries would utilize roadways permitted for the associated vehicle type, size, and weight, in accordance with regulations by Caltrans and local roadway agency regulations. Additionally, the proposed project would implement Mitigation Measures TR-1 through TR-4 to further reduce potential traffic impacts to the project area. Therefore, impacts associated with the creation of a safety hazard in Foothill Boulevard would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measures **TR-1** through **TR-4**.

Significance After Mitigation: Less-Than-Significant Impact.

Impact 3.11-4: The proposed project site is a dedicated emergency disaster route and may result in inadequate emergency access through the project site. (Less-Than-Significant With Mitigation)

According to the County of Los Angeles Disaster Routes with Road Districts for North Los Angeles County, Foothill Boulevard is a designated disaster route (LA County, 2008). Construction of the proposed project would require transportation of equipment and materials that could interfere with emergency response or evacuation plans. Portions of roadways would be temporarily blocked due to construction activities and/or storage of construction equipment and material deliveries. However, there would remain two lanes open on Foothill Boulevard at all times for vehicle travel. The effect of project construction on emergency response and evacuation plans would be reduced by the creation of and implementation of a Traffic Control Plan, specifically mitigation measures TR-1, TR-2, and TR-3, would reduce potential impacts associated with emergency access. Therefore, impacts associated with emergency access on Foothill Boulevard would be less-than-significant with mitigation.

Mitigation Measures

Implement Mitigation Measures TR-1 through TR-3.

Significance After Mitigation: Less-Than-Significant Impact.

Impact 3.11-5: The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities in the project area. (Less-Than-Significant)

The City of Los Angeles 2010 Bicycle Plan, Designated Bikeways map, designates Foothill Boulevard as a future (bike lane) bikeway (LA Bike Plan, 2011). The 2010 Bicycle Plan defines bicycle lanes as being part of the street design that is dedicated only for bicycles and identified by a striped lane separating vehicle lanes from bicycle lanes. Currently, Foothill Boulevard does not contain a designated bike lane, and because project implementation would be temporary, it would not hinder the future creation of bike lanes on Foothill Boulevard. Impacts to bicycle facilities would be less than significant. Moreover, the map does not show Foothill Boulevard as having an existing or proposed rail or busway station. Additionally, because a majority of the construction activities would occur within the Foothill Boulevard roadway and not on public sidewalks, construction activities would not hinder pedestrian facilities. Thus, the proposed project would not adversely affect bike lanes, public transit facilities or pedestrian facilities, and impacts would be less than significant.

Significance: Less-Than-Significant Impact.

3.12 Utilities and Service Systems

This section describes the affected environment and regulatory setting of the proposed project pertaining to demand for operational utilities (water, stormwater control, wastewater, and solid waste disposal). This section describes existing infrastructure and levels of service and evaluates whether mitigation measures are necessary to reduce impacts to less than significant levels.

3.12.1 Environmental Setting

The proposed project is located with the Los Angeles County Flood Control District's jurisdiction for flood control systems and storm drain systems. FTL U3 would be developed adjacent to two 72-inch, one 12-inch, and one 48-inch Los Angeles County Flood Control District (LACFCD) storm drains, all located within the Foothill Boulevard ROW between Hubbard Street and Gridley Street. The alignment would cross over the LACFCD flood channel (Pacoima Wash) along Foothill Boulevard between Brand Boulevard and Arroyo Street. The FTL U3 would also cross under a segment of the SR-118 along Foothill Boulevard between Vaughn Street and Paxton Street. All utility crossings are depicted on the proposed project's construction drawings.

The collection, disposal and recycling of solid waste for the City of Los Angeles is managed by the Bureau of Sanitation (BOS) and private waste management companies. The majority of solid waste generated by residential land uses is collected by the BOS (City of Los Angeles, 2001). Multi-family residences located in certain areas of the City and all industrial and commercial buildings contract with private waste haulers to collect, dispose, and recycle solid waste. Construction waste generated in the City of Los Angeles is collected by private waste haulers.

The Department of Resources Recycling and Recovery (CalRecycle) maintains a Solid Waste Information System (SWIS) which lists disposal sites in Los Angeles County by disposal facility activity, regulatory status, and operational status. According to the SWIS, there are four active Class III landfills (landfills that are only permitted to accept non-hazardous solid waste) within a 20-mile radius of the alignment that conduct solid waste disposal activities and accept construction and demolition material. These landfills are the Sunshine Canyon, Vulcan Materials Landfill, Scholl Canyon and Calabasas Sanitary landfills. The nearest landfills to the proposed alignment are the Sunshine Canyon Landfill, located at 14747 San Fernando Road in Sylmar, approximately four miles northwest of the Hubbard Street and Foothill Boulevard intersection. The Vulcan Materials Landfill is located at 11520 Sheldon Street in Sun Valley, approximately six miles to southeast of the Hubbard Street and Foothill Boulevard intersection. **Table 3.12-1** lists the closure dates, daily permitted capacities, remaining permitted capacities, and proximity to the alignment of the nearest Class III solid waste landfills.

TABLE 3.12-1
LANDFILLS IN PROXIMITY TO THE ALIGNMENT

Facility Name	Closure Date	Daily Permitted Capacity (tons/day)	Remaining Permitted Capacity (million cubic yards)	Approximate Distance from Alignment (miles)
Sunshine Canyon Landfill (Los Angeles)	12/31/37	12,100	112.3	4
Vulcan Materials Landfill	N/A*	6,000	10.4	6
Scholl Canyon Landfill	04/01/30	3,400	9.9	14
Calabasas Sanitary Landfill	09/30/25	3,500	18.1	19

*Vulcan Materials Landfill does not have an estimated close date; however the Conditional Use Permit is valid through August 3, 2019.

SOURCE: California Department of Resources Recycling and Recovery, *Solid Waste Information System (SWIS)*, 2013; Vulcan Materials Landfill, Personal Communication with Jose Pena, May 2013.

Three City of Los Angeles-certified construction and demolition processing facilities are located within a five-mile radius of the alignment: East Valley Diversion/USA Waste of California, American Waste Industries (Pendleton Facility), and Community Recycling. **Table 3.12-2** lists these local City-certified construction and demolition processors, respective recycling rates and proximity to the alignment. These facilities comply with the Citywide Construction and Demolition Waste Recycling Ordinance (discussed below) and support integrated solid waste management efforts, as defined by the City General Plan.

TABLE 3.12-2
CITY-CERTIFIED CONSTRUCTION AND DEMOLITION PROCESSORS

Facility Name	Address	Mixed Construction and Demolition Waste Recycling Rate	Approximate Distance from Alignment (miles)
East Valley Diversion/USA Waste of California	11616 Sheldon St., Sun Valley	72.69%	2
American Waste Industries - Pendleton Facility	11121 Pendleton St., Sun Valley	75.01%	3
Community Recycling	9147 DeGarmo Ave., Sun Valley	94.34%	3

a Rates for mixed waste processors currently certified by the City of Los Angeles are effective from January 1, 2013 until December 31, 2013 unless otherwise noted.

SOURCE: City of Los Angeles Department of Public Works, Bureau of Sanitation, *List of City Certified Processors for the Calendar Year 2013*, 2013.

3.12.2 Regulatory Framework

Federal

There are no federal utilities and service system regulations applicable to the proposed project.

State

California Integrated Waste Management Act of 1989

Solid waste regulation in California is governed by the California Integrated Waste Management Act of 1989, which is commonly known as Assembly Bill (AB) 939. The California Integrated Waste Management Act, codified into the California Public Resources Code, emphasizes a reduction of waste disposed in State landfills. To achieve a reduction of waste in State landfills, AB 939 requires all city and county plans to include a waste diversion schedule with the goals to divert 25 and 50 percent of solid waste from landfills by 1995 and 2000, respectively. To achieve these goals, AB 939 encourages cities and counties to reduce the production, recycling, and reuse of solid waste.

Senate Bill 63

On July 28, 2009, Senate Bill (SB) 63 was approved and filed, allowing the abolishment of the California Integrated Waste Management Board and transfer of its duties and responsibilities to a new department, CalRecycle. Effective on January 1, 2010, this legislation was passed in order to combine the State's solid waste and recycling programs.

Local

City of Los Angeles General Plan Framework

The General Plan Framework (Framework), adopted December 1996 and amended most recently in August 2001, is a long-range, Citywide, comprehensive growth strategy. The Framework is a special element of the General Plan that defines Citywide policies that influence most of the City's General Plan Elements. Policies from the Framework that relate to solid waste and are applicable to the proposed project are listed below.

> **Policy 9.12.1:** Prepare a 30-year policy plan that provides direction for the solid waste management decision-making process.
>
> **Policy 9.12.2:** Establish citywide diversion objectives.
>
> **Policy 9.12.3:** Define specific programmatic tasks, roles, and responsibilities for source reduction, composting, special waste, and public education goals, as well as an implementation schedule.

City of Los Angeles Solid Waste Management Policy Plan

The 1994 City of Los Angeles Solid Waste Management Policy Plan (CiSWMPP) is the long-range solid waste management policy plan for the City, while the Source Reduction and Recycling Element (SRRE) is the strategic action policy plan for diverting solid waste from landfills (BOS, 2006). The SRRE predates the CiSWMPP and, therefore, underpins the goals, objectives, and policies in the CiSWMPP. The CiSWMPP embodies five waste management goals along with specific objectives and policies to achieve these goals. These goals, objectives, and policies are described in the CiSWMPP. The CiSWMPP provides both direction about future waste management practices in the City and guidance in developing and implementing programs involving source reduction, recycling, composting, collection, transfer, processing, and disposal.

Citywide Construction and Demolition Waste Recycling Ordinance

Effective January 1, 2011, the City of Los Angeles requires all mixed construction and demolition waste generated within City limits to be taken to City-certified construction and demolition waste processors only. The BOS requires all construction and demolition haulers and contractors to obtain a Private Solid Waste Hauler Permit from the BOS before collecting, hauling and transporting construction and demolition waste. Implementation of the ordinance is facilitated by the City of Los Angeles Department of Building and Safety which requires contractors to either identify the "Permitted Private Solid Waste Hauler responsible for handling construction and demolition waste from their City project, or provide the contractor's own Private Solid Waste Hauler Permit should the contractor choose to self-haul construction and demolition waste." (BOS, 2011)

3.12.3 Methodology

This assessment evaluates the potential for proposed project construction activities to adversely affect utilities and service systems at the project site and in the surrounding area. Analysis includes discussion of existing capacities for solid waste, against the proposed project's demand for these capacity needs.

3.12.4 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this analysis and consistent with Appendix G of the *CEQA Guidelines*, the proposed project would result in potentially significant impacts if it would:

- Conflict with the wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities;
- Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities;
- Have sufficient water supplies available to serve the project from existing entitlements and resources;
- Result in a determination by the wastewater provider that would serve the project that it has adequate capacity to serve the project's projected demand;
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; and/or
- Comply with federal, State, and local statues and regulations related to solid waste.

The lead agency determined in the NOP/IS (see Appendix A) that the following environmental issue areas would result in no impacts or less than significant impacts and were therefore scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following issue areas:

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities; and
- Result in a determination by the wastewater provider that would serve the project that it has adequate capacity to serve the project's projected demand.

Impacts Discussion

Wastewater Treatment Requirements

Impact 3.12-1: The proposed project would not conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board. (Less-Than-Significant)

The proposed project includes the installation of a replacement trunk line in an existing right-of-way. The proposed project is a replacement trunk line that would result in more stabilized flow throughout the FTL. Once completed, the proposed project would increase LADWP's ability to reliably transport water throughout the Sunland/Tujunga Service Area and would not result in the need for additional water treatment or wastewater treatment facilities. As discussed in Section 3.8, a Storm Water Pollution Prevention Plan and erosion control plan would be prepared for the proposed project that would specify appropriate Best Management Practices to control runoff from the site. Additionally, any wastewater discharged by the proposed project must comply with National Pollutant Discharge Elimination System requirements. Improvements associated with the proposed project would comply with all applicable wastewater treatment requirements of the Regional Water Quality Control Board. Therefore, the proposed project would not result in a conflict with Regional Water Quality Control board requirements. Impacts would be less than significant.

Significance: Less-Than-Significant Impact.

Storm Water Drainage Facilities

Impact 3.12-2: The proposed project would not result in the construction of new storm water drainage facilities or expansion of existing facilities. (Less-Than-Significant)

The proposed project would be installed within the Foothill Boulevard public roadway and all construction activities would occur with the public right-of-way (ROW). The proposed project would be developed adjacent to two 72-inch, one 12-inch, and one 48-inch Los Angeles County Flood Control District (LACFCD) storm drains, all located within the Foothill Boulevard ROW between Hubbard Street and Gridley Street. The alignment would cross over the LACFCD flood channel (Pacoima Wash) along Foothill Boulevard between Brand Boulevard and Arroyo Street. The FTL U3 would also cross under a segment of the SR-118 along Foothill Boulevard between Vaughn Street and Paxton Street. All utility crossings are depicted on construction drawings. Project construction would involve consultation with the LACFCD to avoid all existing utilities within the Foothill Boulevard ROW and would not require expansion of any storm water drainage facilities. Therefore, impacts to storm water drainage facilities would be less than significant.

Significance: Less-Than-Significant Impact.

Sufficient Water Supply and Facilities

Impact 3.12-3: The proposed project would have sufficient water supplies available to serve the project. (Less-Than-Significant)

Water needs of the project during construction would be relatively minor and temporary. Water may be used for dust control of open excavations or spoils and mixing concrete. Existing water resources are expected to be sufficient to meet those needs. Following construction, the proposed project would convey potable water and would not create any demand for water. Therefore, impacts to existing water supplies or entitlements are considered less than significant.

Significance: Less-Than-Significant Impact.

Landfill Capacity

Impact 3.12-4: The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, State, and local statutes and regulations related to solid waste. (Less-Than-Significant)

The proposed project would produce a small amount of solid waste associated with construction activities. Construction activity would include trenching and tunneling activities associated with pipe jacking. These activities would generate construction waste including demolished asphalt and soils. Inert material would be used as backfill material where feasible. Material unable to be utilized at the project site would need to be hauled off-site. Two landfills located near the project site have permitted capacity to handle material unearthed from proposed project construction. Vulcan Materials Landfill accepts inert material, including broken concrete and asphalt, uncontaminated sand and soils, brick, concrete block, and rock. Sunshine Canyon Landfill accepts other non-hazardous materials.

In compliance with the Citywide Construction and Demolition Waste Recycling Ordinance, all mixed construction and demolition waste generated by the proposed project would be hauled by a City-permitted waste hauler to a certified construction and demolition waste processing facility. As required by this Ordinance, prior to collecting, hauling and transporting construction and demolition waste from within the City, a Private Solid Waste Hauler Permit must be obtained from the BOS. Compliance with this ordinance would ensure that the proposed project would utilize source reduction techniques and recycling measures, as well as a recycling program in conformance with the AB 939 goal of diverting at least 50 percent of solid waste from landfills through reducing, reusing and recycling. Obtaining a Private Solid Waste Hauler Permit would ensure that solid waste generated by construction of the proposed project would be disposed of at an appropriate facility with adequate capacity and would comply with applicable regulations related to solid waste. The project would comply with federal, State, and local statutes and regulations related to solid waste. As the proposed project replaces the existing Foothill Trunk Line, a water transmissions pipeline, operation of the proposed project would not generate additional solid waste. Therefore, the proposed project would result in less than significant impacts related to solid waste.

Significance: Less-Than-Significant Impact.

CHAPTER 4
Cumulative Impacts

4.1 CEQA Analysis Requirements

CEQA requires that a Draft EIR assess the cumulative impacts of a project with respect to past, current, and probable future projects within the region. *CEQA Guidelines* (Section 15355) define cumulative effects as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in environment which results from the incremental impact of the proposed project when added to other closely related and reasonably forseeable future projects. According to *CEQA Guidelines* §15130(a) and (b), the purpose of this section is to provide a discussion of significant cumulative impacts which reflects “the severity of the impacts and their likelihood of occurrence.” The *CEQA Guidelines* indicate that the discussion of cumulative impacts should include:

- Either: (A), a list of past, present, and probable future projects producing related or cumulative impacts; or (B), a summary of projections contained in an adopted general plan or similar document, or in an adopted or certified environmental document, which described or evaluated conditions contributing to a cumulative impact;
- A discussion of the geographic scope of the area affected by the cumulative effect;
- A summary of expected environmental effects to be produced by these projects; and,
- Reasonable, feasible options for mitigating or avoiding the project’s contribution to any significant cumulative effects.

The analysis of cumulative effects in this chapter focuses on the effects of concurrent construction of the proposed project with other spatially and temporally proximate projects. As such this analysis relies on a list of projects within the vicinity of the proposed project that have the potential to contribute to cumulative impacts in the project area.

4.2 Related Projects

4.2.1 Geographic Scope

The geographic scope defines the geographic area within which projects may contribute to a specific cumulative impact, when considered in combination with the proposed project. According to the *CEQA Guidelines* (CCR, Title 14, § 15130[b][3]), a lead agency should provide a reasonable explanation of the geographic limitation used in the cumulative impacts analysis). The following cumulative effects analysis identifies the communities of Sylmar, Pacoima, Sunland, and Tujunga in the northeastern portion of the City of Los Angeles, in Council District 7. Specifically, the area is bounded by Interstate 5 to the west, the Angeles National Forest boundary to the north and east, and the Tujunga Wash to the south. The geographic scope of cumulative impact analyses varies for each environmental resource area analyzed. **Table 4-1** below, defines the geographic scope of the analysis of cumulative effects for each of the environmental resource areas analyzed. For example, the geographic scope of the analysis for cumulative aesthetics, noise, and geologicy impacts is localized and generally limited to the project site and areas and proposed activities located immediately adjacent to the project site. Conversely, the geographic scope of the analysis for cumulative air quality is more broad and, as a result, projects located within the air basin would be considered. The general geographic limits and the geographic scope associated with each environmental resource area (Table 4-1) were used to generate the list of past, present, and probable future projects, plans, and programs that are considered in this analysis.

TABLE 4-1
GEOGRAPHIC SCOPE OF CUMULATIVE IMPACT ANALYSES

Environmental Issue	Geographic Scope of Cumulative Impact Analyses
Aesthetics	Immediate vicinity of view corridors or viewsheds
Air Quality	South Coast Air Basin
Biological Resources	Depending on species or habitat, the geographic scope can be the entire area that the species or habitat is known to occur or limited to the immediate area of occurrence.
Cultural Resources	Varies depending on type of resource with potential to be impacted, but usually limited to the immediate area of the resources.
Geology, Soils and Seismicity	Limited to the immediate area of the geologic constraint with the exception of some geologic impacts that may be regional, such as earthquake risk
Greenhouse Gas Emissions (GHG)	Statewide throughout California as GHG emissions contribute to global climate change
Hazards and Hazardous Materials	Project area, surrounding communities, and affected roadways from haul routes
Hydrology and Water Quality	Drainage basin, watershed, or water body, depending on where the potential impact is located and its tributary area
Land Use	Adjacent communities and applicable land use planning areas
Noise and Vibration	Project area and immediate surroundings, and affected roadways.
Recreation	Extent of area served by parks or other recreational facilities, e.g., State/City/County parks
Traffic and Transportation	Project area, surrounding communities, and affected roadways.
Utilities and Service Services	Extent of area served by public services affected

The proposed project is located in central Los Angeles County in the northeastern area of the City of Los Angeles. For the purposes of this analysis, projects in the specific boundary identified above were considered, as were regional projects that may contribute to a cumulative effect when considered together with the proposed project, such as transportation or water supply projects. This cumulative impacts analysis includes projects that are in preliminary planning stages, environmental review, or construction at the time the NOP was published (January 16, 2013). Information about potential cumulative projects was collected from City of Los Angeles and County of Los Angeles agencies with planned infrastructure projects in the vicinity of the proposed project. Information was also gathered from State agencies such as Caltrans that have jurisdiction over the surrounding freeway system. Websites of applicable agencies were researched, and phone and email correspondence was made in February 2013 as necessary to gather information about projects. Projects that have the potential to contribute cumulative impacts in combination with the proposed project are listed in **Table 4-2** and depicted on **Figure 4-1**.

4.2.2 Project Timing

In addition to the geographic scope, cumulative impacts analysis also takes into consideration the timing of projects relative to the proposed project. This cumulative impact analysis considers other projects that have recently been completed, are currently under construction, or are in the planning process. Schedule is particularly relevant to the consideration of cumulative construction-related impacts for this project, since construction impacts are estimated to last for five years beginning in winter 2014 and lasting through winter 2019. For future projects, construction schedules are often broadly estimated and can be subject to change. Although timing of future projects is likely to fluctuate due to schedule changes or other unknown factors, this analysis assumes these projects would be implemented concurrently with construction of the proposed project between 2014 and 2019.

4.2.3 Related Projects

Cumulative effects could result when considering the effects of the proposed project in combination with the effects of other related projects in the area. For this analysis, other past, present, and reasonably-foreseeable future related projects have been identified. Table 4-1 also lists applicable capital improvement projects in the project vicinity that are included in the analysis of cumulative impacts. In addition, the analysis assumes that planned future development projects will occur simultaneously with the proposed project, including residential development, small-scale capital improvement projects, and projects that have not yet been identified.

TABLE 4-2
LOCAL AND REGIONAL RELATED PROJECTS

Project Number	Project Name	Geographic Location	Jurisdiction/ Implementing Agency	Type	Description
1.	Olive View Medical Center Expansion	1445 Olive View Drive	City of Los Angeles	Hospital Expansion	Increase number of beds by 85
2.	Sylmar Leadership Academy Valley Region	14550 Bledsoe Street	City of Los Angeles	School	School expansion to 1,047 students
3.	First Lutheran School	13361 Glenoaks Boulevard	City of Los Angeles	School	Develop site for school with 350 students
4.	Lakeside Park Project	15275 Lakeside St.	Los Angeles Department of Water and Power	Recreation	Construction of a new sports facility
5.	Jensen Solids Handling Facility Project	Joseph Jensen Treatment Plant, Granada Hills	Metropolitan Water District of Southern California	Water Treatment Facility	Solids handling facility
6.	Senior Hosing Mixed-Use Project	12415 San Fernando Road	City of Los Angeles	Senior Housing/Medical Office	Development of a senior housing/mixed-use project with 150 units and 25,000 gross s.f.
7.	Sylmar Village	12835 San Fernando Road	City of Los Angeles	Mixed-Use	Development of condominiums, 246 units, 9,000 s.f retail, 9,000 s.f. office space
8.	San Fernando Mission Blvd Improvements	San Fernando Mission Blvd from Sepulveda to Golden State	City of Los Angeles DPW	Transportation	Widening of San Fernando Mission Boulevard from one to two lanes of traffic in each direction.
9.	Maclay Street Apartment and Retail	13260 W Maclay Street	City of Los Angeles	Mixed-Use	141 apartments and 10,115 s.f. retail
10.	Sylmar Square Mixed-Use Project	13730 Foothill Boulevard	City of Los Angeles	Mixed-Use	48 apartments and 42,496 s.f. retail
11.	Sylmar Center	13640 Foothill Boulevard	City of Los Angeles	Health Club	Develop site with a health club
12.	College Ready Academy High School #13	13245 Hubbard Street	City of Los Angeles	School	Develop site for 500 student school
13.	Tract 62816 Condos	13401 Foothill Boulevard	City of Los Angeles	Residential	Develop site with 250 units
14.	Pacoima Wash Greenway: 1st Street Park	1st Street and Pacoima Wash	County of Los Angeles, Flood Control District	Recreation	Conversion of industrial riverfront property to public parkland
15.	Foothill Charter School	12804 Arroyo Street	City of Los Angeles	School	Develop site for 1,125 students
16.	Condominium project	11887 Terra Vista Way	City of Los Angeles	Residential	Develop 78 residential units

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SOURCE: City of Los Angeles Bureau of Engineering, 2013; County of Los Angeles Department of Public Works, Flood Control District, 2013; City of Los Angeles Department of Public Works Bureau of Sanitation, 2007; City of Los Angeles Planning Department, 2013; Los Angeles Department of Transportation, 2013; Los Angeles County Department of Public Health 2009; Southern California Edison 2013.

SOURCE: ESRI.

LADWP - Foothill Trunk Line III EIR . 211490.15

Figure 4-1
Cumulative Projects

4.3 Cumulative Effects

Implementation of the proposed project is expected to occur in phases between 2014 and 2019. For the purposes of this analysis, the related projects identified in Table 4-2 are all presumed to be implemented within the same 2014 to 2019 timeframe. These related projects, which include water resource, capital improvement, and development projects in the project area, may contribute to certain types of cumulative impacts as described below.

Aesthetics

Construction activities along Foothill Boulevard would not result in significant impacts to scenic vistas or visual character. The short term activities requiring staging of equipment for work within the developed urban corridor would not substantially alter the existing condition.

The nearest project with potential impacts related to scenic vistas that may combine with impacts of the proposed project is the Pacoima Wash Greenway, 1st Street Park project. However, this cumulative project is an improvement project that is intended to improve the visual quality of the vicinity and because the project site would be returned to their pre-construction conditions, this would not be considered cumulatively considerable. Moreover, implementation of the proposed project would not degrade the visual character of the project vicinity or obstruct views of scenic vistas, and together with other cumulative projects in the vicinity would not be considered cumulatively considerable.

Significance Level: Less-Than-Significant Impact.

The proposed project would not contribute to a cumulatively significant impact for light and glare. Construction activity associated with the proposed project would occur during daylight hours and would not require nighttime construction lighting. Moreover, lighting used for security purposes at the proposed project site would be directed downward away from sensitive land uses, they would be temporary and would not change the existing conditions and the incremental impacts associated with implementation of the proposed project would not be cumulatively considerably.

Significance Level: Less-Than-Significant Impact.

Air Quality

Construction activities would temporarily contribute to reducing air quality within the Basin. As shown in **Table 3.2-1**, the Basin is in non-attainment status for Ozone, PM $_{10,}$ PM $_{2.5}$, and NO$_{x,.}$ As discussed in Section 3.2, Air Quality, of this Draft EIR, construction air emissions would be less than significant because emissions would not exceed SCAQMD’s significance thresholds. Because air quality impacts from construction would not exceed significance thresholds and are short-term, the proposed project’s contribution to cumulative impacts is not considered significant.

Operational air impacts would be similar to existing conditions. The project would not have a significant long-term cumulative air quality impact because project emissions during operation would be similar to the emissions currently generated by the existing trunk line facility, which are limited to periodic maintenance activities. Therefore, there would be no net increase in pollutant emissions over time.

Significance Level: Less-Than-Significant Impact.

Biological Resources

As described in Section 3.3 of this Draft EIR, the proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Therefore, impacts of the proposed project would not have the potential to combine with impacts of cumulative projects to result in a significant impact to sensitive wildlife or special-status species.

Significance Level: Less-Than-Significant Impact.

Cultural Resources

The proposed project would consist of excavation and ground disturbing activities that could impact known or unknown cultural and paleontological resources. However, mitigation measures would be implemented to reduce impacts to less-than-significant levels and ensure impacts would be minimized. Similar to the proposed project, cumulative projects would also be required to comply with local, regional, and State regulations and standards relating to cultural, paleontological, and historical resources to ensure impacts to such resources are mitigated and impacts minimized to less than significant levels. Thus, potential impacts under the proposed project would not be cumulatively considerable.

Significance Level: Less-Than–Significant Impact.

Geology, Soils, Faulting, and Seismicity

As described in Section 3.5 of this Draft EIR, the proposed project would not result in significant impacts regarding geologic conditions and soils. Although the site may be subject to ground shaking, fault rupture, liquefaction and/or seismic ground shaking during work that occurs within the Foothill Boulevard right-of-way (ROW) it would mostly impact the trunk line replacement structure. The proposed project does not involve construction of any buildings or habitable structures. Operation of the proposed project would have not impacts related to geology and soils, due to the nature of these resources as geographically confined and site specific. Thus, impacts to the proposed project to geologic conditions, soils conditions, and seismicity would not have the potential to combine with impacts of other past, present, and reasonably foreseeable projects to result in a cumulatively considerable impact.

Significance Level: Less-Than–Significant Impact.

Greenhouse Gas Emissions

Global climate change is a broad term used to describe any worldwide, long-term change in the earth‘s climate. Greenhouse gas emissions are inherently a cumulative impact and as such are evaluated in Section 3.5 of the Draft EIR. The geographic context for the cumulative impact is global. Under the proposed project, GHG emissions would be consistent with plans, polices, and regulations regarding GHG emissions, and impacts regarding GHG emissions would not be cumulatively considerable.

Significance Level: Less-Than–Significant Impact.

Hazards and Hazardous Materials

An accident involving a hazardous material release during project construction or operation through upset or accident conditions involving the release of a hazardous material could occur during project construction and operation, including site grading and the use and transport of petroleum-based lubricants, solvents, fuels, herbicides, and pesticides to and from the site. Conformance with existing State and County regulations, as well as project safety design features and the implementation of mitigation measures HAZ-1 and HAZ-2identified above would reduce these impacts to less than significant. The implementation of appropriate safety measures during construction of the proposed project as well as any other cumulative project, as required by federal, State, and local laws regulations, and ordinances, would reduce the impact to a level that would not contribute to cumulative effects. Therefore, impacts would not be cumulatively significant.

Significance Level: Less-Than–Significant Impact.

Hydrology and Water Quality

Trunk line installation activities associated with the proposed project would not result in significant impacts to drainage or water quality. Activities within the Foothill Boulevard ROW would be controlled by Best Management Practices. Cumulative projects would also be subject to construction runoff controls as required by federal, State, and local laws, regulations, and ordinances. Therefore the proposed project would not combine with impacts of other projects to result in cumulatively considerable water quality impacts.

Significance Level: Less-Than–Significant Impact.

Land Use and Planning

The proposed project would not divide a community or impact a NCCP/HCP. Installation of the proposed project would be consistent with the Los Angeles General Plan, Sylmar and Arleta-Pacoima Community Plans or the Zoning Code. Direct impacts would be less than significant or reduced to less-than-significant levels with mitigation measures. Operation of the proposed project would have no impact to local land uses. Due to the nature of land use as being geographically confined and site specific and because impacts of individual projects can be mitigated, impacts of the proposed project would not combine with those of other past, present, and reasonably foreseeable projects to result in cumulatively considerable impacts.

Significance Level: Less-Than–Significant Impact.

Noise

The geographic scope of potential cumulative noise and vibration impacts encompasses the immediate vicinity of the proposed project site. Proposed project construction activity would generate substantial noise levels in close proximity to sensitive receptors, particularly during the excavation and finishing phases of the pipeline installation. Related projects in the surrounding area also would temporarily generate noise and vibration associated with construction activities; however noise and vibration would be localized, affecting areas in the immediate vicinity of the construction site. Construction noise associated with the proposed project would not combine with construction noise from neighboring related projects to cause a cumulative impact to the same sensitive receptors due to attenuation of sound and vibration as distance between source and receptor increases. Therefore, the proposed project's contribution to construction noise impacts would not be cumulatively considerable. No mitigation is required.

Significance Level: Less-Than–Significant Impact.

Traffic

Construction of the proposed project, together with the identified related projects (Table 4-2) could affect traffic and circulation in the project area. The effects of construction activities on traffic and roadway hazards are due to an increase in the number of vehicles on local roadways (due to delivery of materials and worker commutes) and physical constraints on roadways if lane or street closures are required. The proposed project site and staging areas largely would be limited to the Foothill Boulevard alignment. However, because implementation of the proposed project increases impacts at five of the 10 proposed project intersections, and all of the proposed project roadway segments, even with the implementation of mitigation, the proposed project's contribution to cumulative project conditions in 2019 would be considered cumulatively considerable.

Significance Level: Significant and Unavoidable.

Utilities and Service Systems

As discussed in Section 3.12, Utilities and Service Systems, of this Draft EIR, trunk line installation activities would not impact existing utilities and infrastructure service systems. The proposed project would not require permanent infrastructure to support the operation of the trunk line. Thus, the proposed project would not have the potential to combine with impacts of cumulative projects to result in a significant impact to impact utilities and service systems.

Significance Level: Less than significant.

CHAPTER 5
Growth Inducement

The *CEQA Guidelines* (§15126.2[d]) require that a Draft EIR evaluate the growth inducing impacts of a proposed action. A growth-inducing impact is defined as follows:

> [T]he way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are [public works] projects which would remove obstacles to population growth…. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can have direct and/or indirect growth inducement potential. Direct growth would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service.

The environmental effects of a proposed project's induced growth are secondary or indirect impacts. Secondary effects of growth can result in significant increased demand on community and public service infrastructure; increased traffic and noise; degradation of air and water quality; and conversion of agricultural land to urban uses.

The proposed project modifications would upsize the existing Foothill Trunk Line (FTL) Unit 3 (FTL U3) to allow for more stabilized flow throughout the FTL and increase LADWP's ability to reliably transport water throughout the Sunland/Tujunga Service Area. Additionally, replacing the aging infrastructure would improve water quality throughout the system. This pipeline upgrade would allow for increased capacity reserved for use if/when other portions of the system are out of service for maintenance or during an emergency event. In addition, if the FTL goes out of service, Sheldon Pump Station alone cannot provide water in full capacity to the 1449-foot system. By promptly implementing the proposed project, the LADWP would meet the project's objectives: 1) improve system reliability; 2) reduce potential impacts to water quality; and 3) replace aging infrastructure within City owned right-or-way (ROW).The proposed project would have no potential to directly foster population growth or to result in the construction of additional housing.

Project construction is not expected to involve employment opportunities substantially beyond the level normally available to construction workers in the area, and, in general, workers are expected to be drawn from the LADWP and the local labor pool. This impact is less than significant. Without expanding the water supply, the proposed project has no potential to directly foster population growth.

Irreversible Impacts

Section 15126.2(c) of the CEQA Guidelines defines an irreversible impact as an impact that uses nonrenewable resources during the initial and continued phases of the project. Irreversible impacts can also result from damage caused by environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to ensure that such consumption is justified.

Buildout of the proposed project would commit nonrenewable resources, such as cement for repaving the roadway during proposed project construction. Therefore, an irreversible commitment of nonrenewable resources would occur as a result project construction. However, assuming that those commitments occur in accordance with the adopted goals, policies, and implementation measures of the City of Los Angeles General Plan, as a matter of public policy, those commitments have been determined to be acceptable. The City of Los Angeles General Plan ensures that any irreversible environmental changes associated with those commitments will be minimized.

CHAPTER 6
Analysis of Alternatives

6.1 Introduction and Approach

6.1.1 Introduction

The *CEQA Guidelines* Section 15126.6 requires that a Draft EIR describe and assess a reasonable range of alternatives to a project that would feasibly meet most of the basic project objectives and avoid or substantially lessen significant project impacts. Thus, the range of alternatives is limited to those that would both avoid or substantially lessen the project impacts and also meet most of the basic project objectives. If an alternative does not reduce or avoid the impacts of the project, then it does not meet the CEQA purpose for the alternatives analysis. If an alternative does not meet most of the project objectives to some degree, then it is not a viable alternative to the project. In addition, an alternative must be feasible – capable of being implemented from a technical, economic, schedule and institutional perspective. CEQA also requires that a Draft EIR evaluate the “No Project” alternative along with its impacts.

6.1.2 Approach to Alternatives Analysis

CEQA requires that a Draft EIR describe a range of reasonable alternatives to the proposed project or to the location of the proposed project that could feasibly avoid or lessen any significant environmental impacts of the proposed project while attaining most of the project’s basic objectives. A Draft EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This chapter describes a comparison of the environmental impacts of several alternatives with those of the proposed project.

The following are key provisions of the *CEQA Guidelines* (Section 15126.6):

- The discussion of alternatives shall focus on alternatives to the proposed project or its location that are capable of avoiding or substantially lessening any significant effects of the proposed project, even if these alternatives would impede to some degree the attainment of the proposed project objectives, or would be more costly;
- The No Project Alternative shall be evaluated, along with its impacts. The no project analysis shall discuss the existing conditions at the time the notice of preparation was published, as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved based on current plans and consistent with available infrastructure and community services;
- The range of alternatives required in a Draft EIR is governed by a “rule of reason;” therefore, the Draft EIR must evaluate only those alternatives necessary to permit a

reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project;

- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the proposed project need be considered for inclusion in the Draft EIR; and
- A Draft EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in Section 15126.6(f)(1) of the *CEQA Guidelines*) are avoiding or reducing significant environmental impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the operator could reasonably acquire, control, or otherwise have access to an alternative site. A Draft EIR need not consider an alternative whose effects could not be reasonably identified, whose implementation is remote or speculative, and that would not achieve the basic project objectives.

Approach to Selection of Project Alternatives

After many decades of service, the Foothill Trunk Line (FTL) suffered some deterioration, due to corrosivity of the soil, and leaks. Portions of the FTL from the Van Norman Pump Station No. 2 to northwest of Hubbard Street were replaced with a 60-inch prestressed concrete and cylinder pipe (PCCP) between 1982 and 1986, under the FTL Unit 1 and Unit 2 projects. The pipeline section approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard to Terra Bella Street has not been replaced. The proposed project, the FTL Unit 3 (FTL U3), would update that section of the line. The remaining segment of the FTL, between Hubbard Street and Terra Bella Street, consists of 24-inch, 26-inch, 36-inch diameter welded steel pipe and 30-inch diameter riveted steel pipe. These inconsistencies in size among other portions of the FTL affect the performance and regular water flow through the 1449-foot system.

In December 2009, the Los Angeles Department of Water and Power (LADWP) evaluated potential alternatives and selected routes for the FTL U3 based upon engineering screening criteria. The routes were determined based on the following criteria:

- Based on a 54-inch diameter pipe, a minimum subsurface width of 11.5 feet between two underground utility structures is required for the substructure corridor. A minimum corridor width of 15.5 feet is required where beam and plate trench support will be used;
- Avoid large tracts of high-density residential housing such as apartments because they generate excessive curbside parking and driveway access;
- Avoid work in front of large commercial centers because construction activities generate traffic congestion and prevent customers from easy access to the businesses; and

- Order of preference is primary streets, which are typically wider, and then secondary streets.

Consistency with Project Objectives

In additional to the listed criteria above, the feasibility of the project objectives below establishes the basis for identifying potential project alternatives. The objectives of the proposed project are to:

- Improve system reliability and redundancy to minimize FTL future failures, allowing the LADWP to continue delivering safe and reliable water source to the Tujunga/Sunland Service Areas;
- Reduce potential impacts to water quality within the FTL system by replacing the aging FTL U3; and
- Prompt replacement of aging infrastructure within City owned right-of-way (ROW).

6.2 Project Alternatives

6.2.1 Alternatives Eliminated from Consideration

There were several alternatives that were considered but rejected from further evaluation in this EIR. The screening process for identifying viable alternatives includes consideration of the following criteria: ability to meet the project objectives; availability of land; and ability to reduce significant environmental effects associated with the proposed project.

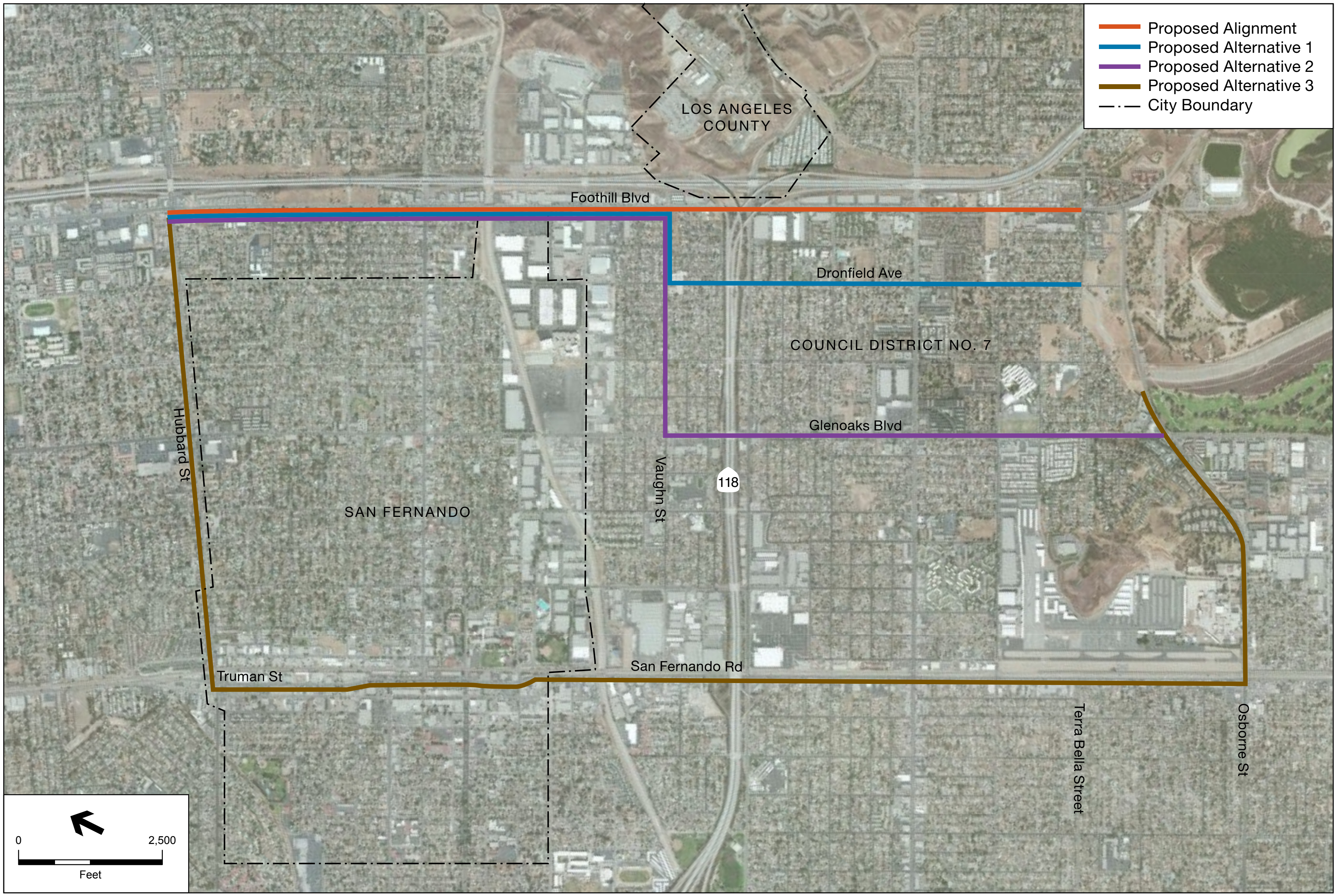
One alternative considered was relocating the proposed project adjacent to and parallel with I-210. This alternative was rejected because it would likely introduce new impacts in the project vicinity, rather than reduce impacts, because the proposed project would be located on undeveloped land. Additionally, the LADWP does not have direct access to, or jurisdiction over the parcels next to the I-210. Lastly, the selection of this alternative would not meet the project objective of replacing aging infrastructure within City owned ROW.

Another alternative that was considered but rejected was tunneling the entire project through Foothill Boulevard. Tunneling has the advantage of minimizing continuous disruption of the roadway surface and can reduce the overall amount of soil exported. However, tunneling involves open pits at the beginning, ending, and major turning points of the segment to remain open in the same location for extended periods of construction. This alternative was rejected because of potential prolonged impacts to traffic and noise intensity at the open pit locations. The all-tunneling alternative was also rejected because it would be cost prohibitive. The proposed project's trenching method would involve either steel plating or a chain link fence barricade that would minimize safety concerns after working hours. The surface disturbance associated with open-trench construction, while potentially more extensive, generally moves along the pathway of the pipeline as pipe segments are installed and the road is restored. The construction method, along with the duration of construction associated with the all-tunneling alternative, attributes to the cost that makes the project impractical to implement.

6.2.2 Alternatives

A range of alternatives with the potential to attain most of the basic objectives of the proposed project but avoid or substantially lessen significant impacts are analyzed below. Each alternative is discussed in relation to the objectives of the proposed project and are shown on **Figure 6-1**. The Environmentally Superior Alternative, as required by CEQA, is described below in the "Environmentally Superior Alternative" section. The following alternatives are analyzed in detail:

- No Project Alternative;
- Alternative 1 begins at Hubbard Street and Foothill Boulevard, continues east on Foothill Boulevard, turns south on Vaughn Street and then turns east on Dronfield Avenue. The alignment continues east on Dronfield Avenue and connects at Terra Bella Street. The total length is approximately 17,150 feet and 15,500 feet would be installed using the open trench method;
- Alternative 2 begins at Hubbard Street and Foothill Boulevard, continues east on Foothill Boulevard, turns south on Vaughn Street and then turns east on Glenoaks Boulevard (which parallels Foothill Boulevard). The alignment continues east on Glenoaks Boulevard, turns north on Osborne Street and then connects at approximately 1000 feet north of Osborne Street and Glenoaks Boulevard. The total length is approximately 22,000 feet, with 20,350 feet installed using the open trench method; and
- Alternative 3 begins at Hubbard Street and Foothill Boulevard, continues south on Hubbard Street, turns east on Truman Street, which becomes San Fernando Road, turns north on Osborne Street, and connects at approximately 1,000 feet north of Glenoaks Boulevard. The total length is approximately 32,000 feet, with 28,350 feet installed using the open trench method.



SOURCE: ESRI

LADWP - Foothill Trunk Line Unit 3 EIR . 211490.15

Figure 6-1
Project Alternatives

No Project Alternative

Pursuant to Section 15126.6(e)(2) of the CEQA Guidelines, the No Project Alternative shall:

> *…discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.*

Under the No Project Alternative, the LADWP would not implement the FTL U3 project and the project would not be completed. The existing conditions of the FTL system would remain unchanged. For purposes of this assessment, it is assumed that none of the installation activities would occur as planned.

Under the No Project Alternative, none of the project objectives would be achieved. The installation of the 54-inch trunk line into Foothill Boulevard would not be accomplished. The existing trunk line would continue to experience corrosivity and leaking. Eventually, the existing trunk line would fail and would not be able to reliability deliver the water supply to the Sunland/Tujunga service area would require an emergency repair project.

Impact Analysis

Under the No Project Alternative, the impacts associated with construction of the proposed project identified in Chapters 3 and 4 of this Draft EIR would be avoided. The FTL U3 would not be replaced and the existing trunk line would remain in use. The existing trunk line would continue to corrode and there would be a potential for the trunk line to require emergency repairs, which could cause other environmental impacts not considered under this Draft EIR.

Alternative 1 Foothill Boulevard – Dronfield Avenue:

An alternative route similar to the proposed project was also considered. However, this route begins at Hubbard Street and Foothill Boulevard, turns south on Vaughn Street and then turns east on Dronfield Avenue. The alignment continues east on Dronfield Avenue and connects at Terra Bella Street. The total length for this alignment is approximately 17,150 feet, with 15,500 feet of the alignment installed by the open trenching method and 1,650 feet of the alignment installed by pipe jacking methods. At least four tunnel locations would be required for the construction of this route. The available corridor for the construction of the FTL U3 varies from 10 feet to 30 feet, which is smaller than the proposed project in certain locations. The available corridor for the trunk line on Vaughn Street and Dronfield Avenue is approximately 10 feet and 11 feet, respectively.

Although this alignment would achieve majority of the objectives of the project, however, after evaluating the alternative against the engineering requirements, the alignment is not feasible to construct when the street width is less than 11.5 feet wide. Additionally, this alternative would require relocation of portions of a two-inch gas line on Vaughn Street and portions of an eight-inch water line on Dronfield Avenue which the City of Los Angeles does not have the ROW or jurisdiction to make the relocation. There are several additional businesses and commercial areas that would be impacted during construction of this alignment and construction for this alignment is assumed to be eight months longer than the proposed project. The longer duration in construction, would potentially increase greenhouse gas emissions, traffic impact, noise impacts and still impact the businesses and commercial areas within this alignment. Thus, the Foothill Boulevard – Dronfield Avenue Routing Alignment would not avoid or minimize impacts that the proposed routing alignment, as described in Section 3.1 through 3.13, would otherwise generate.

Alternative 2 Foothill Boulevard – Glenoaks Boulevard

A second alternative route was considered which begins at Hubbard Street and Foothill Boulevard, turns south on Vaughn Street, turns east on Glenoaks Boulevard, turns north on Osborne Street and then connects at approximately 1,000 feet north of Osborne Street and Glenoaks Boulevard. The total length of this route is approximately 22,000 feet, with 20,350 feet of the alignment installed by open trenching method and 1,650 feet of the alignment installed by the pipe jacking method. At least four tunnel locations would also be required. The available corridor for this alignment varies from 10 feet to 54 feet. The available corridor on Glenoaks Boulevard varies from 25 feet to 54 feet, and is approximately 20 feet on Osborne Street. Several businesses and commercial areas would be impacted during construction of this alignment. The construction duration for this alignment is assumed to be 15 months longer than the proposed project. The 10 foot portion of the ROW would not be feasible with a roadway that is less than 11.5 feet wide. Additionally, the longer duration in construction, would potentially increase greenhouse gas emissions, traffic impacts, noise impacts and still impact the businesses and commercial areas within this alignment. Thus, the Foothill Boulevard – Glenoaks Boulevard Routing Alignment would not avoid or minimize impacts that the proposed routing alignment, as described in Section 3.1 through 3.13, would otherwise generate

Alternative 3: Hubbard Street – Truman Street – San Fernando Road – Osborne Street

Alternative 3, Hubbard Street – Truman Street – San Fernando Road – Osborne Street avoids impacts on Foothill Boulevard. The alignment begins at Hubbard Street and Foothill Boulevard, continues south on Hubbard Street and then turns east on Truman Street in the City of San Fernando, which becomes San Fernando Road, then turns north on Osborne Street, and connects at approximately 1,000 feet north of the intersection of Osborne Street and Glenoaks Boulevard.

The total length of this alignment is approximately 32,000 feet, with 28,350 feet of the alignment installed by the open trenching method and 3,650 feet of the alignment by the tunneling method. Based on the preliminary investigation, at least five tunnel locations would be needed to construct this project, including: Hubbard Street at Foothill Boulevard, San Fernando Road at the Pacoima Wash, one by Route 118, and two for crossing under Metrolink tracks. The available subsurface corridor for this alignment varies in width from nine feet to 56 feet. Half of this alignment will have to cross through a high-density business and commercial area of the City of San Fernando. Construction activities along this route may result in impacts related to the narrow streets, local businesses and heavy traffic. The construction duration for this alignment is estimated to be three years longer than the proposed project. The 10 foot portion of the ROW would not be feasible with a roadway that is less than 11.5 feet wide. Additionally, the longer duration in construction, would potentially increase greenhouse gas emissions, traffic impacts, noise impacts and would impact the businesses and commercial areas southwest of the proposed project site. Thus, the Foothill Boulevard – Hubbard Street – Truman Street – San Fernando Road – Osborne Street Routing Alignment would not avoid or minimize impacts that the proposed routing alignment, as described in Section 3.1 through 3.13, would otherwise generate.

Alternatives Impact Summary

Chapter 3 of this Draft EIR identifies potential impacts associated with the proposed project for each environmental issue area including long-term and short-term impacts. Chapter 4 of this Draft EIR includes a discussion of the potential for project impacts to combine with impacts of other past, present, and reasonably foreseeable projects to result in significant cumulative impacts. Mitigation measures have been identified to reduce impacts. A summary of the significant impacts for each environmental resource is presented below in Table 6-1.

TABLE 6-1
SUMMARY OF IMPACT ANALYSIS

Issue Area	Proposed Project Significance Determination	No Project Significance Determination	Alternative 1 Significance Determination	Alternative 2 Significance Determination	Alternative 3 Significance Determination
Aesthetics	LTS	B	S	S	S
Air Quality	LTS	B	S	S	S
Biological Resources	LTS	B	S	S	S
Cultural Resources	LSM	B	S	S	S
Geology and Soils	LSM	B	S	S	S
Greenhouse Gas Emissions	LTS	B	W	W	W
Hazards and Hazardous Materials	LSM	B	S	S	S
Hydrology and Water Quality	LSM	B	S	S	S
Land Use	LTS	B	W	W	W
Noise	SU	B	W	W	W
Transportation and Traffic	SU	B	W	W	W
Utilities and Service Systems	LTS	B	S	S	S
Cumulative Impacts	SU	B	W	W	W

NI = No Impact
LTS = Less than Significant
LSM = Less than Significant with Mitigation
SU= Significant and Unavoidable
B= Better
S= Similar
W= Worse

SOURCE: ESA 2013

6.2.3 Summary of Project Alternatives

Table 6-2 below provides a summary of the key issues associated with the alternatives discussed in this section. As noted on the table, Alternative 1, Alternative 2, and Alternative 3 present additional challenges in installing the pipeline alignment.

6.3 Environmentally Superior Alternative

CEQA requires that a Draft EIR identify an environmentally preferred alternative (*CEQA Guidelines* Section 15126.6[e][2]). A Draft EIR must identify the environmentally superior alternative to the proposed project. The No Project Alternative would be environmentally superior to the proposed project on the basis of its minimization or avoidance of physical environmental impacts. Section 15126.6(e)(2) of the *CEQA Guidelines* states that if the No Project Alternative is found to be environmentally superior, "the EIR shall also identify an environmentally superior alternative among the other alternatives." The No Project Alternative would eliminate the significant impacts resulting from construction noise and traffic impacts along the proposed project alignment; however, the No Project Alternative would not meet any of the project objectives, and therefore, would not be the environmentally superior alternative. Alternative 1, Alternative 2 and Alternative 3 would increase overall cumulative impacts associated with noise and traffic due to the duration of construction for these Alternatives. Additionally, they do not meet all of the project objectives because they would locate portions of the proposed project in areas that are not under the City's jurisdiction. Lastly, these three Alternatives do not meet the engineering criteria identified for the proposed project which requires at least 11.5 feet between two underground utility structures. Thus, because the proposed project achieves all of the project goals while resulting the fewest environmental impacts, the proposed project is the environmentally superior alternative.

TABLE 6-2
SUMMARY OF ALTERNATIVES

Issue	Proposed Project	No Project Alternative	Alternative 1	Alternative 2	Alternative 3
Land Use Disturbances	Most direct route for pipeline replacement along existing alignment	No impacts other than maintenance of existing pipeline.	This alternative would have an increased construction corridor and disturb a greater work area.	This alternative would have an increased construction corridor and disturb a greater work area.	This alternative would have an increased construction corridor and disturb a greater work area. This alternative would also traverse through property under the jurisdiction of the City of San Fernando and would require additional coordination with Metrolink railroad.
Engineering and Design	Provide LADWP to work within an existing utility corridor in the Foothill Boulevard ROW.	Existing FTL U3 would not maintain sufficient flow to the service area.	Potential utility relocations due to the narrow available corridor on Vaughn Street and Dronfield Avenue.	Potential utility relocations due to the narrow available corridor on.	Potential utility relocations due to the narrow available corridor on Hubbard Street. Requires crossing Metrolink railroad twice
Construction and Operation	Access impacts to unsignalized intersection of Home Depot-Sam's Club & Foothill Boulevard	Minimal impacts, only for maintenance of the pipeline.	Access impacts to residents along Vaughn Street and Dronfield Avenue.	Access impacts to residents along Vaughn Street.	Access impacts to residents along Hubbard Street. Potential impacts to businesses located along San Fernando Boulevard.
Duration of Construction	Five years	Periodic Maintenance of existing pipeline	± Six Years	+ Six years	Eight years
Length of Alignment	15,850 Feet	0	17,150 feet	22,000 feet	32,000 feet

CHAPTER 7

Acronyms

A.D.	Anno Domini
AB	Assembly Bill
ADT	average daily traffic
AMSL	Above Mean Sea Level
AQMP	Air Quality Management Plan
ARB	Air Resources Board
B.P.	Before Present
BAU	business-as-usual
BMPs	Best Management Practices
BOS	Bureau of Sanitation
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	Department of Fish and Wildlife

CDO	Community Design Overlay
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CESA	California Endangered Species Act
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH4	methane
CHL	California Historical Landmarks
CHP	combined heat and power
CIDH	cast-in drilled-hole
CM	Commercial Manufacturing
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society’s
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO2	carbon dioxide
CPAs	Community Plan Areas
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
LACDPR	Los Angeles County Department of Parks and Recreation
DTSC	Department of Toxic Substances Control

E.O.	Executive Order
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FTL	Foothill Trunk Line
GHG	greenhouse gas
HCP	Habitat Conservation Plan
HFCs	hydrofluorocarbons
HHMD	Health and Hazardous Materials Division
HMBP	Hazardous Materials Business Plan
HMD	Historic Maximum Day
HRI	Historic Resources Inventory
HWCL	Hazardous Waste Control Law
I-210	Interstate 210
I-405	Interstate 405
I-5	Interstate 5
IBC	International Building Code
LABC	Los Angeles Building Code
LACFCD	Los Angeles County Flood Control District
LACMTA	Los Angeles County Metropolitan Transportation Authority
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAHCM	Los Angeles Historic-Cultural Monuments

LAMC	Los Angeles Municipal Code
LAT	Los Angeles Times
LOS	level of service
LTS	Less-Than-Significant
LSTs	Localized Significance Thresholds
LUSTs	leaking underground storage tanks
MEP	maximum extent practicable
MLD	Most Likely Descendent
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
MS4s	Municipal Separate Storm Sewer Systems
MSATs	Mobile Source Air Toxics
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NHM	Natural History Museum
NHPA	National Historic Preservation Act
NO	nitric oxide
NO2	nitrogen dioxide
NOC	Notice of Completion
NOP	Notice of Preparation
NOX	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	Natural Resources Conservation Service

VNPS	Van Norman Pump Station No. 2
O3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
OS	Open Space
OSHA	Occupational Safety and Health Administration
P-19-	P-Number
PCCP	prestressed concrete and cylinder pipe
PCE	Passenger Car Equivalents
PF	Public Facilities
PFCs	perfluorocarbons
PHI	Points of Historical Interest
PM10	particulate matter
PM2.5	fine particulate matter
PPV	peak particle velocity
PRC	Public Resources Code
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
RMS	root mean square
ROG	reactive organic gases
ROW	right-of-way
RWQCB	Regional Water Quality Control Boards
RWQCBs	Regional Water Quality Control Boards
SB	Senate Bill

SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCEDC	Southern California Earthquake Data Center
SEA	Significant Ecological Area
SF6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SLC	State Lands Commission
SLF	Sacred Lands File
SO2	sulfur dioxide
SOX	Sulfur Oxides
SR-118	State Route 118
SRP	Scientific Review Panel
SRRE	Source Reduction and Recycling Element
SSO	sanitary sewer overflow
SVP	Society for Vertebrate Paleontology
SWIS	Solid Waste Information System
SWMPs	Storm Water Management Plans
SWPCP	Stormwater Pollution Control Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
TIA	Transportation Impact Analysis
TMDL	Total Maximum Daily Load
UBC	Uniform Building Code
UMD	Ultimate Maximum Day

USDOT	U.S. Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
V/C	volume-to-capacity
VOC	volatile organic compounds
WDRs	Waste Discharge Requirements
WWII	World War II

CHAPTER 8

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CHAPTER 9
Report Preparers

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Irene Paul, Environmental Project Manager
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Appendix A

Scoping Meeting Summary and NOP/IS

FOOTHILL TRUNK LINE UNIT 3 PROJECT

Scoping Report

Introduction

The Los Angeles Department of Water and Power (LADWP) is the Lead Agency for the proposed Foothill Trunk Line Unit 3 Project (proposed Project or FTL U3) that would be constructed in the City of Los Angeles within the County of Los Angeles, specifically, within the communities of Sylmar, Pacoima, Sunland, and Tujunga Service Areas. LADWP proposes to replace a portion of the Foothill Trunk Line (FTL) which is the major transmission pipeline that transports water from the Van Norman Pump Station No. 2 (VNPS No.2) within the Los Angeles Reservoir Sylmar, to the 1449-foot system. The proposed Project would update the section of the line approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard, and continuing southeast, within Foothill Boulevard, ending at Terra Bella Street. Project construction would be located within the public right-of-way of Foothill Boulevard along the segment described above. Through implementation of the proposed project, the Foothill Trunk The proposed project would allow for efficient water transfer within the service area by decreasing flow restriction and stabilizing flow patterns and ensure adequate water supply to the Sylmar, Pacoima, Sunland and Tujunga Service Area.

Notice of Preparation

On January 16, 2013, a Notice of Preparation (NOP) for the proposed Project was circulated and mailed to approximately 1200 interested parties, including local, State, and federal agencies, and residents along the proposed pipeline alignment on Foothill Boulevard (see Attachment 1). An Initial Study (IS) was circulated to appropriate state and local agencies (see Attachment 2). To provide the public with an opportunity to review and comment on the Initial Study, LADWP extended the review period mandated by CEQA from 30 to 45 days. A Notice of Completion (NOC) along with the NOP and Initial Study were also submitted to the State Clearinghouse (See Attachment 1), and Los Angeles City and Los Angeles County Clerks offices. Copies of the NOP and Initial Study were made available for public review at the City of Los Angeles Sylmar Branch and Pacoima Branch Libraries, the San Fernando Library, the Lake View Terrace Library and on LADWP's web site (www.ladwp.com/envnotices). The NOP was distributed via certified mail to agencies and regular mail to residents (see Attachment 3).

Scoping Meeting

The 45-day project scoping period, which began with the distribution of the NOP on January 16, 2013, remained open through March 1, 2013. LADWP held one public scoping meeting during the 45-day public scoping period. Information about the public scoping meeting was included in the NOP and posted on the LADWP website. On February 13, 2013, LADWP held a meeting at the Truesdale training Center, located at 11781 Truesdale Street in Sun Valley, CA. The Sign-In Sheet from the public scoping meeting is included in Attachment 4. LADWP placed public notice advertising the scoping meetings and announcing the availability of the NOP in the Los Angeles Times newspaper on January 17, 2013 (see Attachment 5).

The next formal opportunity for the public to comment on the proposed Project will occur when the Draft Environmental Impact Report is distributed for a 45-day review period, which is currently anticipated to occur sometime in winter 2013.

NOP Comments

During the scoping period, LADWP received seven comment letters via mail or e-mail, and one verbal and one written comment at the public scoping meeting (see Attachment 6). Table A-1 lists the comments that were received.

TABLE A-1
NOP COMMENTS RECEIVED

	Agency/Affiliation	Name of Individual	Date of Comment Received
Comment Letters			
1	California State Clearinghouse, Office of Planning and Research	Scott Morgan	January 16, 2013
2	Native American Heritage Commission	Dave Singleton	January 24, 2013
3	South Coast Air Quality Management District	Ian MacMillan	January 24, 2013
4	U.S. Army Corps of Engineers	Bruce Henderson	January 25, 2013
5	County of Los Angeles Department of Parks and Recreation	Julie Wom	February 26, 2013
6	California Department of Transportation	Diana Watson	February 27, 2013
7	County of Los Angeles Department of Public Works, Land Development Division, Subdivision Mapping Section	Matthew Dubiel, P.E.	February 28, 2013
Comment Card – Scoping Meeting			
	Community Member	Ann Job	February 13, 2013
Verbal Comment – Scoping Meeting			
	Community Member	Ann Job	February 13, 2013

Outreach Efforts

LADWP conducted additional outreach efforts with local constituents and neighborhood entities regarding the proposed project, including a meeting with the Sylmar Neighborhood Council. In addition, the Table A-2 lists the agencies and groups that were contacted via email and/or phone calls regarding the proposed project.

TABLE A-2
OUTREACH ACTIVITY

	Agency/Affiliation	Name of Individual
1	LA County District 3 Supervisor Zev Yaroslavsky	Lori Wheeler
2	Council District 7	Jose Sandoval, Jose Rodriguez, Dan Rosales
3	Los Angeles Mission College	Darlene Montes
4	Los Angeles County Department of Recreation & Parks El Cariso	Sandy Chapman
5	Sylmar Chamber of Commerce	
6	Sunland Tujunga Neighborhood Council	
7	Foothill Trails District Neighborhood Council	
8	Pacoima Neighborhood Council	

Areas of Controversy

Pursuant to Section 15123(b)(2) of the *CEQA Guidelines,* a lead agency is required to include areas of controversies raised by agencies and the public during the public scoping process in the EIR. Areas of controversy have been identified for the FTL U3 based on comments made during the 45-day public review period in response to information published in the IS/NOP. Commenting parties have expressed concern regarding air quality impacts on surrounding communities, specifically that the EIR should identify all air pollutant sources related to the project from construction and operation of the proposed project. Commenting parties suggested that a health risk assessment be prepared if vehicular trips would be generated as a result of the proposed project, and identified resources available to consult when constructing feasible mitigation measures, if applicable.

Commenting parties also suggested that all reports and drawings label Los Angeles County Flood Control District (LACFCD) storm drains that may be affected by the project, and that permits may be required from the LACFCD Land Development Division Permits/ Subdivision Section if the pipeline would constitute an encroachment, connection, alteration or access to a LACFCD facility.

Concerns were raised regarding potential effects of the proposed project on California state transportation facilities, specifically on State Routes (SR) 118 and 210. Commenting parties suggested that a truck/traffic construction management plan be submitted to Caltrans for review, and that the EIR should discuss ingress/egress and turning movements of proposed project trucks.

Contents of this Report

This Scoping Report contains documents pertinent to the scoping process. The following items are included:

Attachment 1: Notice of Preparation and Notice of Completion
Attachment 2: Initial Study
Attachment 3: NOP/IS Distribution List
Attachment 4: Scoping Meeting Sign-In Sheet
Attachment 5: Proof of Publication of Public Notices
Attachment 6: Comment Letters Received by LADWP

Attachment 1

Notice of Preparation and Notice of Completion

Department of Water and Power the City of Los Angeles

ANTONIO R. VILLARAIGOSA
Mayor

Commission
THOMAS S. SAYLES, *President*
ERIC HOLOMAN, *Vice President*
RICHARD F. MOSS
CHRISTINA E. NOONAN
JONATHAN PARFREY
BARBARA E. MOSCHOS, *Secretary*

RONALD O. NICHOLS
General Manager

DOCUMENT FILED
City Clerk's Office
No. NOP-13-002-WP
Certified by
Date: JAN 1 4 2013

Notice of Preparation

Date: January 16, 2013

To: Responsible and Trustee Agencies and Interested Parties

Subject: Notice of Preparation of a Draft Environmental Impact Report for the Foothill Trunk Line Unit 3 Project

This Notice of Preparation (NOP) has been prepared to notify agencies and interested parties that the Los Angeles Department of Water and Power (LADWP), as the Lead Agency, is beginning preparation of an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA) for the proposed Foothill Trunk Line Unit 3 Project (proposed project).

LADWP is soliciting the views of interested persons and agencies as to the scope and content of the environmental information to be evaluated in the EIR. In accordance with CEQA, LADWP requests that agencies review the project description provided in this NOP and provide comments on environmental issues related to the statutory responsibilities of the agency. The EIR will be used by LADWP when considering approval of the proposed project.

Project Location:

The proposed project is located in the City of Los Angeles within the County of Los Angeles, specifically, within the communities of Sylmar, and Pacoima (see **Figure 1**). Sylmar is bounded by City of Los Angeles boundary lines to the north and east, the City of San Fernando to the south and southeast, and Interstate 405 (I-405) and I-5 to the west. Pacoima is bounded, approximately, to the southwest by the I-5, to the north by the City of San Fernando, Sylmar, and the State Route 118 (SR-118), to the east by Interstate I-210 (I-210) and Foothill Boulevard, and the Sunland-Tujunga-Shadow Hills-Lake View Terrace community borders to the east, and south. The project area is mostly urbanized.

Project Description:

The existing Foothill Trunk Line (FTL) supplies water from the Van Norman Pump Station No. 2 (VNPS No. 2) to the Sylmar, Pacoima, Sunland, and Tujunga Service Areas (Service Areas), to the Maclay Tanks, Maclay Reservoir, and Green Verdugo Reservoir, and is supplemented by the Sheldon Pump Station.

Installed in the 1930's, the FTL consists of 24-inch, 26-inch and 36-inch welded steel pipe and 30-inch riveted steel pipe. From 1982 to 1986, LADWP replaced a portion of the existing FTL with a 60-inch prestressed concrete cylinder pipe (PCCP) from the VNPS No. 2 to northwest of Hubbard Street under the Foothill Trunk Line Unit 1 and Unit 2 projects.

After many decades in service, the FTL suffered some deterioration, due to the corrosivity of the soil, and leaked. In the event the FTL goes out of service, the Sheldon Pump Station alone would not be able to provide water in full capacity to the Service Areas. LADWP proposes to install a 54-inch diameter welded steel pipe as part of the proposed Foothill Trunk Line Unit 3 Project (proposed project). The proposed project would replace and upsize approximately 16,600 linear feet of the existing FTL from northwest of Hubbard Street, where it would connect to the 60-inch PCCP, to just southeast of Terra Bella Street, where it would connect to a 36-inch pipe along Foothill Boulevard and a 30-inch pipe on Terra Bella Street . Furthermore, the proposed project would minimize dependency on the Sheldon Pump Station and would allow LADWP to decommission several pipelines, which have a history of leaks, currently servicing the area. The proposed project would be located in the City of Los Angeles in the communities of Sylmar and Pacoima.

Construction of the proposed project would occur along Foothill Boulevard, within the public right-of-way (ROW), which ranges in width from approximately 60 feet to 100 feet. Construction of the proposed project would require open-trench excavation and pipe jacking (trenchless installation) along the alignment and would potentially impact intersections along Foothill Boulevard between Hubbard Street and Terra Bella Street. To minimize traffic disruptions at busy intersections during construction, LADWP intends to install the 54-inch welded steel pipe via pipe jacking at four intersections along the proposed alignment. The proposed project would cross over the Pacoima Wash and would be supported by reinforced concrete piers on either side of the wash. Additionally, minor appurtenant facilities such as air vacuum/release valves and maintenance holes would be constructed as part of the project.

The proposed project is scheduled for a duration of approximately 60 months, commencing in late 2014 and ending in late 2019. Construction activities would occur between 7 a.m. to 9 p.m., Monday through Friday, and possibly from 8 a.m. to 6 p.m. on Saturday. The LADWP would observe all pertinent LADOT requirements for working hours.

Potential Environmental Impacts: Potential environmental impacts that may occur as a result of the proposed project include impacts to: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology, Soils, and Seismicity, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Land Use Planning, Noise, Transportation and Traffic, and Utilities and Service Systems impacts. An analysis of these potential environmental impacts and other potential impacts that could be mitigated to a less-than-significant level is provided in an Initial Study Checklist, which is attached or can be reviewed at www.ladwp.com/envnotices and at the following libraries:

Sylmar Branch Library
14561 Polk Street
Sylmar, CA 91342

Pacoima Branch Library
13605 Van Nuys Boulevard
Pacoima, CA 91331

San Fernando Library
217 North Maclay Avenue
San Fernando, CA 91340

Lake View Terrace Library
12002 Osborne Street
Sylmar, CA 91342

Public Review Period: To provide the public with an opportunity to review and comment on the Initial Study, LADWP is extending the review period mandated by CEQA from 30 to 45 days. Your comments must be received by 5:00 p.m. **March 1, 2013.** Please indicate a contact name and return address in your comments and submit your comments to:

Los Angeles Department of Water and Power
Attention: Nancy Chung
111 North Hope Street, Room 1044
Los Angeles, California 90012

Public Scoping Meeting: A public scoping meeting will be held to receive public comments and suggestions on the project. The tentatively scheduled scoping meeting will be open to the public on:

DATE: February 13, 2013
TIME: 6:30 p.m. to 8:30 p.m.
LOCATION: Truesdale Training Center
11781 Truesdale Street
Sun Valley, CA 91352

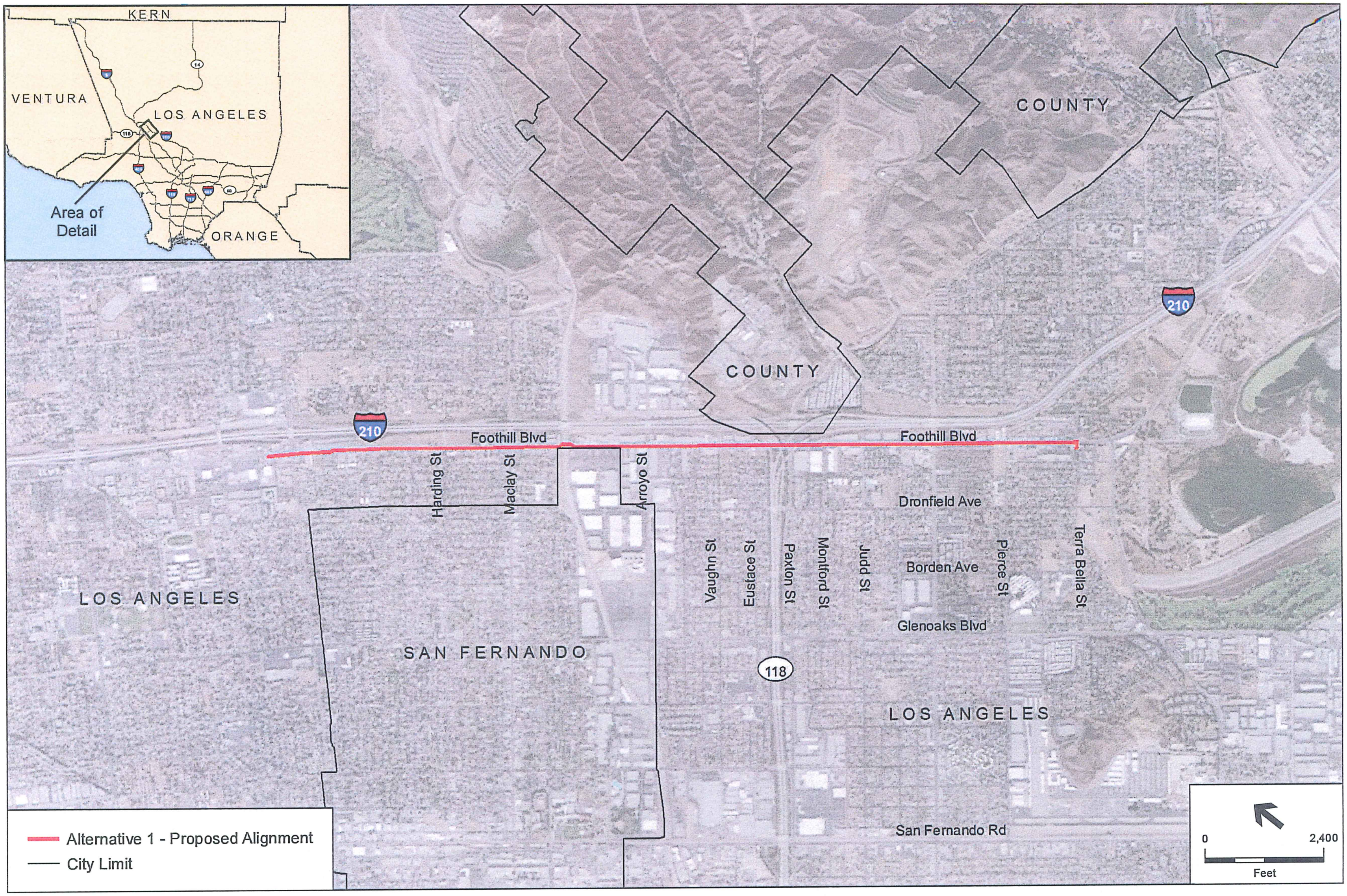
Please check the LADWP project website page, www.ladwp.com/envnotices, to confirm the meeting time and date. If you require additional information regarding this notice, please contact Ms. Nancy Chung at (213) 367-0404 or e-mail at: Nancy.Chung@ladwp.com.

Sincerely,

Charles C. Holloway

Charles C. Holloway
Manager of Environmental Planning and Assessment
Los Angeles Department of Water and Power

NC:lr
c: Ms. Nancy Chung



SOURCE: Bing Maps; ESA, 2012.

LADWP - Foothill Trunk Line III EIR . 211490.15

Figure 1
Project Vicinity

2013011019

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # ____

Project Title: Foothill Trunk Line Unit 3

Lead Agency: Los Angeles Department of Water and Power
Contact Person: Nancy Chung
Mailing Address: 111 North Hope Street, Room 1044
Phone: 213-367-0404
City: Los Angeles
Zip: 90012
County: Los Angeles

Project Location: County: Los Angeles
City/Nearest Community: Sylmar
Cross Streets: 600 feet north of the intersection of Hubbard Street and Foothill Boulevard to Terra Bella Street
Zip Code: 91342
Lat. / Long.: 34° 10′ 56.3″ N/ 118° 14′ 40.2″ W
Total Acres: 14.9 acres
Assessor's Parcel No.: N/A – Public Utility Easement
Land Grant: Ex Mission De San Fernando
Within 2 Miles: State Hwy #: 210
Waterways: Pacoima Wash
Airports: Whiteman Airport
Railways: N/A
Schools: Gridley Elementary, Valley Region, Hillary T. Broadous

Document Type:

CEQA:
- ☒ NOP
- ☐ Early Cons
- ☐ Neg Dec
- ☐ Mit Neg Dec
- ☐ Draft EIR
- ☐ Supplement/Subsequent EIR
- (Prior SCH No.) ____
- Other ____

NEPA:
- ☐ NOI
- ☐ EA
- ☐ Draft EIS
- ☐ FONSI

Other:
- ☐ Joint Document
- ☐ Final Document
- ☐ Other ____

RECEIVED
JAN 16 2013
STATE CLEARINGHOUSE

Local Action Type:
- ☐ General Plan Update
- ☐ General Plan Amendment
- ☐ General Plan Element
- ☐ Community Plan
- ☐ Specific Plan
- ☐ Master Plan
- ☐ Planned Unit Development
- ☐ Site Plan
- ☐ Rezone
- ☐ Prezone
- ☐ Use Permit
- ☐ Land Division (Subdivision, etc.)
- ☐ Annexation
- ☐ Redevelopment
- ☐ Coastal Permit
- ☒ Other Trunkline replacement

Development Type:
- ☐ Residential: Units ____ Acres ____
- ☐ Office: Sq.ft. ____ Acres ____ Employees ____
- ☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
- ☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
- ☐ Educational ____
- ☐ Recreational ____
- ☒ Water Facilities: Type Pipeline Replacement
- ☐ Transportation: Type ____
- ☐ Mining: Mineral ____
- ☐ Power: Type ____ MW ____
- ☐ Waste Treatment: Type ____ MGD ____
- ☐ Hazardous Waste: Type ____
- ☐ Other: ____

Project Issues Discussed in Document:
- ☒ Aesthetic/Visual
- ☐ Agricultural Land
- ☒ Air Quality
- ☒ Archeological/Historical
- ☒ Biological Resources
- ☐ Coastal Zone
- ☒ Drainage/Absorption
- ☐ Economic/Jobs
- ☐ Fiscal
- ☒ Flood Plain/Flooding
- ☐ Forest Land/Fire Hazard
- ☒ Geologic/Seismic
- ☒ Minerals
- ☒ Noise
- ☒ Population/Housing Balance
- ☐ Public Services/Facilities
- ☐ Recreation/Parks
- ☒ Schools/Universities
- ☒ Septic Systems
- ☐ Sewer Capacity
- ☒ Soil Erosion/Compaction/Grading
- ☒ Solid Waste
- ☒ Toxic/Hazardous
- ☒ Traffic/Circulation
- ☐ Vegetation
- ☒ Water Quality
- ☐ Water Supply/Groundwater
- ☒ Wetland/Riparian
- ☐ Wildlife
- ☒ Growth Inducing
- ☒ Land Use
- ☒ Cumulative Effects
- ☐ Other ____

Present Land Use/Zoning/General Plan Designation:

N/A

Project Description: *(please use a separate page if necessary)*

LADWP proposes to install a 54-inch welded steel pipe as part of the proposed Foothill Trunk Line Unit 3 Project (proposed project). The proposed project would replace and upsize approximately 16,600 linear feet of the existing FTL from northwest of Hubbard Street, where it would connect to the 60-inch PCCP, to just southeast of Terra Bella Street, where it would connect to a 36-inch pipe along Foothill Boulevard and a 30-inch pipe on Terra Bella Street . Furthermore, the proposed project would minimize dependency on the Sheldon Pump Station and would allow the LADWP to decommission several pipelines, which have a history of leaks, currently servicing the area. The proposed project would be located in the City of Los Angeles in the communities of Sylmar and Pacoima.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

X Air Resources Board
_____ Boating & Waterways, Department of
_____ California Highway Patrol
_____ CalFire
X Caltrans District # 7
_____ Caltrans Division of Aeronautics
_____ Caltrans Planning (Headquarters)
_____ Central Valley Flood Protection Board
_____ Coachella Valley Mountains Conservancy
_____ Coastal Commission
_____ Colorado River Board
X Conservation, Department of
_____ Corrections, Department of
_____ Delta Protection Commission
_____ Education, Department of
_____ Energy Commission
X Fish & Game Region #5
_____ Food & Agriculture, Department of
_____ General Services, Department of
_____ Health Services, Department of
_____ Housing & Community Development

_____ Integrated Waste Management Board
X Native American Heritage Commission

_____ Office of Emergency Services
_____ Office of Historic Preservation
_____ Office of Public School Construction
_____ Parks & Recreation
_____ Pesticide Regulation, Department of
_____ Public Utilities Commission
X Regional WQCB # 4
_____ Resources Agency
_____ S.F. Bay Conservation & Development Commission
_____ San Gabriel & Lower L.A. Rivers and Mtns Conservancy
_____ San Joaquin River Conservancy
_____ Santa Monica Mountains Conservancy
_____ State Lands Commission
_____ SWRCB: Clean Water Grants
X SWRCB: Water Quality
_____ SWRCB: Water Rights
_____ Tahoe Regional Planning Agency
X Toxic Substances Control, Department of
X Water Resources, Department of

X Other: California Department of Industrial Relations, Division of Occupational Safety and Health, Mining and Tunneling Regional Office
_____ _____

- -

Local Public Review Period (to be filled in by lead agency)

Starting Date January 16, 2013 Ending Date March 1, 2013

- -

Lead Agency (Complete if applicable):

Consulting Firm: Environmental Science Associates
Address: 626 Wilshire Blvd. Suite 1100
City/State/Zip: Los Angeles, CA 90017
Contact: Tom Barnes
Phone: 213-599-4300

Applicant: Los Angeles Department of Water and Power
Address: 111 N. Hope Street, Room 1044
City/State/Zip: Los Angeles, CA 90012
Phone: 213-367-0404

- -

Signature of Lead Agency Representative: Nancy Chung **Date:** 01/16/2013

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Attachment 2

Initial Study

Initial Study
for

Foothill Trunk Line Unit 3 Project

Los Angeles Department of Water and Power
Environmental Services
111 North Hope Street, Room 1044
Los Angeles, California 90012

January 2013

CITY OF LOS ANGELES
OFFICE OF THE CITY CLERK ROOM 395
CITY HALL LOS ANGELES, CALIFORNIA 90012

CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY AND CHECKLIST
(ARTICLE IV – CITY CEQA GUIDELINES)

LEAD CITY AGENCY: Los Angeles Department of Water and Power 111 N. Hope Street, Room 1050 Los Angeles, CA 90012	**COUNCIL DISTRICT(S):** 7	**DATE:** January 16, 2013
PROJECT TITLE/NUMBER: Foothill Trunk Line Unit 3		**CASE NUMBER: N/A**
PROJECT DESCRIPTION: The Los Angeles Department of Water and Power (LADWP) proposes to replace an existing water trunk line located within in the public right-of-way of Foothill Boulevard beginning at approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard, and continuing southeast, within Foothill Boulevard, ending at Terra Bella Street. Through implementation of the proposed project, the Foothill Trunk The proposed project would allow for efficient water transfer within the service area by decreasing flow restriction and stabilizing flow patterns and ensure adequate water supply to the Sylmar, Pacoima, Sunland and Tujunga Service Area.		
PROJECT LOCATION: City of Los Angeles, North Valley Area in the communities of Sylmar and Pacoima within Foothill Boulevard. Lat: 34.1823, Long: -118.2545 Township 1N, Range 13W, Section 9 San Bernardino Meridian in Los Angeles		
PLANNING DISTRICT: Sylmar and Arleta-Pacoima	**STATUS:** ☐Preliminary ☒Proposed_____________ ☐Adopted (Date) ___________	
EXISTING ZONING: N/A	**MAX DENSITY ZONING:** N/A	☐ **DOES CONFORM TO PLAN**
PLANNED LAND USE AND ZONE: Major Roadway General Plan designation	**MAX DENSITY PLANNING:** N/A	☐ **DOES NOT CONFORM TO PLAN**
SURROUNDING LAND USES: Land uses near the proposed Foothill Trunk Line include: Multi-Family land uses with a Medium Density designation (MF M); Multi-Family Low-Medium II (MF LMII); Community Commercial (CC); General Commercial (GC) and Light Industrial (LI); and Open Space (OS).	**PROJECT DENSITY:** N/A	☐ **NO DISTRICT PLAN**

CEQA Initial Study

Foothill Trunk Line Unit 3

Prepared by:

Los Angeles Department of Water and Power

Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

General Manager
Ronald O. Nichols

Manager of Environmental Planning and Assessment
Charles C. Holloway

Environmental Project Manager
Nancy Chung

TABLE OF CONTENTS

SECTION 1
Project and Agency Information

1.1 Project Title and Lead Agency

Project Title: Foothill Trunk Line Unit 3
Lead Agency Name: Los Angeles Department of Water and Power
Lead Agency Address: 111 North Hope Street, Room 1044, Los Angeles, CA 90012
Contact Person: Nancy Chung
Contact Phone Number: (213) 367-0404
Project Sponsor's Name: Same as Lead Agency

1.2 Project Background and Objectives

1.2.1 Project Background

The Foothill Trunk Line (FTL) is the major transmission pipeline that transports water from the Van Norman Pump Station No. 2 (VNPS No.2) within the Los Angeles Reservoir Sylmar, to the 1449-foot system. The 1449-foot system is the network of reservoirs, pipelines, and pump stations that supplies water to the Sylmar, Pacoima, Sunland, and Tujunga Service Areas in the East Valley. The system is named for its location 1,449 feet above mean sea level (msl). The FTL, which consists of welded steel pipe and riveted steel pipe, was installed in the 1930s. After many decades in service, the FTL suffered some deterioration, due to the corrosivity of the soil, and leaked. Portions of the FTL from the VNPS No. 2 to northwest of Hubbard Street were replaced with a 60-inch prestressed concrete, cylinder pipe (PCCP) between 1982 and 1986 under the Foothill Trunk Line Unit 1 and Unit 2 projects. The pipeline section that extends from approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard to Terra Bella Street has not been replaced. The proposed project, the FTL U3, would update that section of the line.

The remaining segment of FTL, between Hubbard Street and Terra Bella Street, consists of 24-inch, 26-inch, 36-inch diameter welded steel pipe and 30-inch diameter riveted steel pipe. These inconsistencies in size among other portions of the Foothill Trunk Line affect the performance and regular water flow through the 1449-foot system.

The 1449-foot system is supplied by the VNPS No.2 via the FTL and Olden Trunk Line, to the Maclay Tanks, Maclay Reservoir, and Green Verdugo Reservoir. Sheldon Pump Station, located in the Sunland Valley area of Los Angeles County, was constructed in 1956 and supplements the 1449-foot system. In 2004 the Sheldon Pump Station was identified for replacement. Proposed upgrades have since been deferred because the Sheldon Pump Station cannot provide enough supply to the 1449-foot system in the event of FTL failure. The proposed project would increase functionality and improve flow of the main pipeline connection between the VNPS No.2 and the 1449-foot system, which would reduce dependence on the Sheldon Pump Station.

The Maclay Reservoir Outlet Line was installed in 1917 to transport water from the Maclay Reservoir to the 1449-foot system. The pipeline currently runs through private property and has a history of leaks. Due to the lack of access and instability, the outlet line would be decommissioned as part of the FTL U3.

1.2.2 Project Objectives

The FTL U3 would upsize the existing FTL pipeline to achieve size consistency among pipelines throughout the 1449-foot system. The FTL U3 would allow for more efficient water transfer within the entire 1449-foot system by decreasing flow restriction and stabilizing flow patterns. If implemented, the FTL U3 would increase LADWP's ability to reliably transport water throughout the Sylmar, Pacoima, Sunland and Tujunga Service Areas. FTL from Hubbard Street to Terra Bella Street, which consists of 24-inch, 26- inch and 36-inch welded steel pipe and 30-inch riveted steel pipe, was installed in the early 1930's. The FTL U3 would create uniformity in pipeline size to allow for more stabilized flow throughout the service area. Flow capacity would not increase due to the 54-inch pipeline diameter upgrade, but would allow water to move consistently throughout the FTL while providing emergency relief in the event of a disaster. In addition, if the FTL goes out of service, the Sheldon Pump Station alone cannot provide water in full capacity to the 1449-foot system. The FTL U3 would decrease reliability of Sheldon Pump Station in the event of such disruption, increasing the reliability of the entire FTL to provide water throughout the Sylmar, Pacoima, Sunland and Tujunga Service Areas.

The FTL U3 would also allow for the Maclay Reservoir Outlet Line to be decommissioned. The Maclay Reservoir Outlet Line has approximately 4,330 feet of 36-inch riveted steel pipe that was installed in 1917; 4,080 feet of 24-inch riveted steel pipe that was installed in 1917; 2,230 feet of 24-inch welded steel pipe that was installed between 1962 and 1968; 1,970 feet of 22-inch riveted steel pipe installed that was in 1917; and 1,130 feet of 36-inch welded steel pipe that was installed in 1969. The pipeline has a history of leaks and a portion of the pipeline lays underneath private properties.

1.3 Project Location

The proposed project is located in the City of Los Angeles within the County of Los Angeles, specifically, within the communities of Sylmar and Pacoima (see **Figure 1**). Sylmar is bounded by City of Los Angeles boundary lines to the north and east, the City of San Fernando to the south and southeast, and Interstate 405 (I-405) and I-5 to the west. Pacoima is bounded, approximately, to the southwest by the I-5, to the north by the City of San Fernando, Sylmar, and the State Route 118 (SR-118), to the east by Interstate I-210 (I-210) and Foothill Boulevard, and the communities of Sunland, Tujunga, Shadow Hills, and Lake View Terrace community to the east, and south. The project area is mostly urbanized.

The alignment of the proposed project would be located within the public right-of-way (ROW) of Foothill Boulevard, beginning at approximately 600 feet northwest of the intersection of Hubbard Street and Foothill Boulevard, continuing southeast along Foothill Boulevard, ending at Terra Bella Street. (see **Figure 2**).

Surrounding land uses along the proposed project alignment include single and multi-family residential, industrial, and commercial uses.

1.4 Project Description

The FTL U3 would replace approximately 16,600 linear feet of existing 24-inch, 26-inch, 36-inch diameter welded steel pipe and 30-inch diameter riveted steel pipe with a 54-inch diameter welded steel pipe within Foothill Boulevard. The FTL U3 alignment would traverse two 72-inch Los Angeles County Flood Control District (LACFCD) storm drains, a 48-inch LACFCD storm drain, a12-inch LACFCD storm drain, and a LACFCD flood channel. The FTL U3 would also cross under SR-118.

The FTL U3 would include six connections, ten valves, and four tunnel pits. Most of the FTL U3 would be located underground and would not be visible, the only segment that would perhaps be visible is where the FTL U3 crosses over the Pacoima Wash. Minor appurtenant facilities, such as combination air valves and a rectifier station cabinet, would also be constructed aboveground as part of the project.

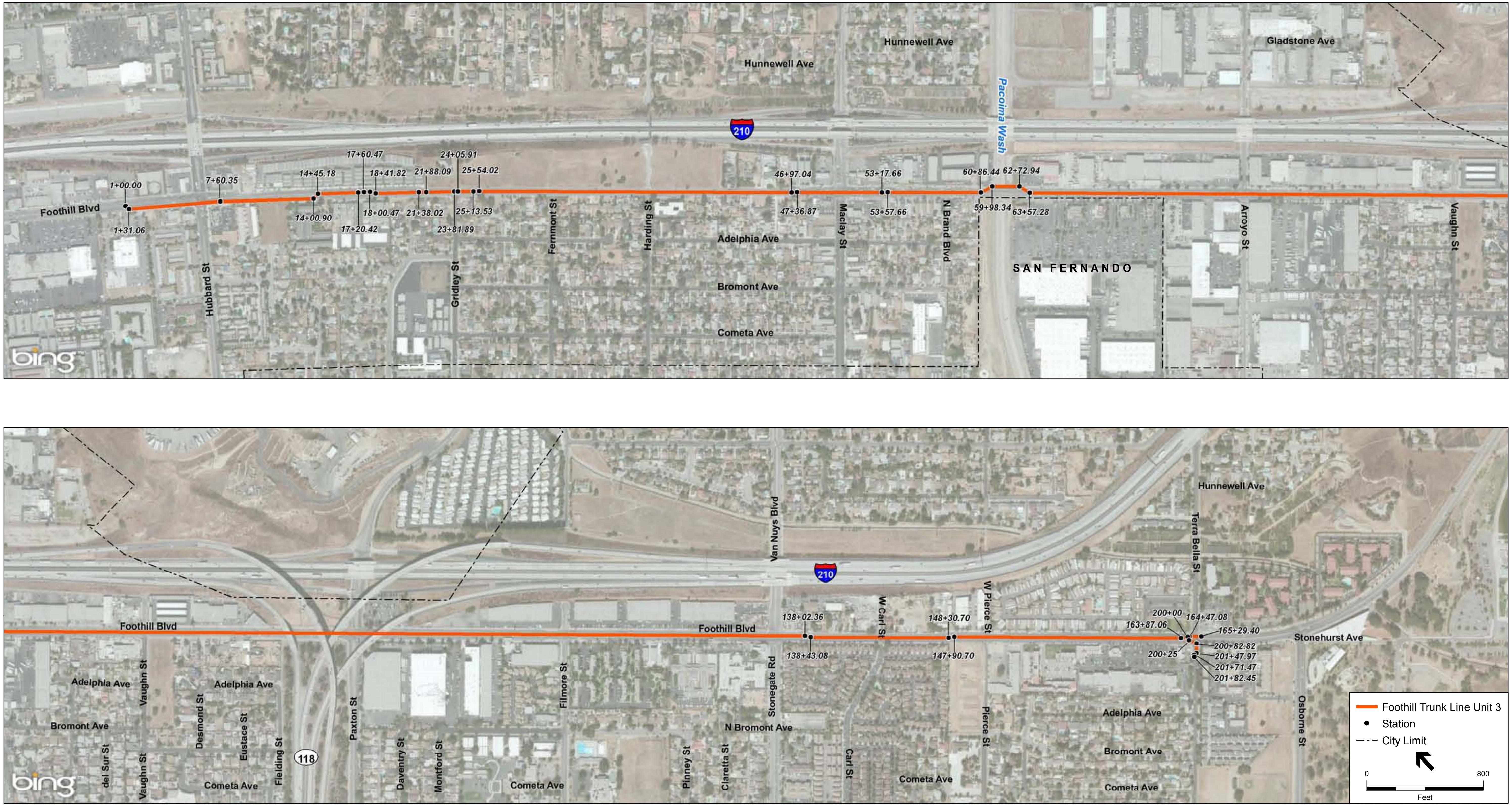
A hydraulic model was utilized to determine the operating needs of the FTL U3. The Ultimate Maximum Day (UMD) demand scenario and the Historic Maximum Day (HMD) demand scenario were both included in the model runs. Specifically, the model was run using the following scenarios:

- UMD – Existing pipe, 48, 54, and 60-inch diameter pipe
- UMD – 48, 54, and 60-inch diameter pipe with Sheldon Pump Station Off
- HMD – 48, 54, and 60-inch diameter pipe with Sheldon Pump Station and Green Verdugo Reservoir Off

SOURCE: ESRI; ESA, 2012.

LADWP - Foothill Trunk Line Unit 3 IS . 211490.15

Figure 1
Regional Location



SOURCE: ESRI; ESA, 2012.

LADWP - Foothill Trunk Line Unit 3 IS . 211490.15

Figure 2
Project Location

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The hydraulic analysis found the 48-inch diameter trunk line, under the HMD demand scenario with Sheldon Pump Station and Green Verdugo Reservoir off, did not have adequate grades to allow for line suction for Green Verdugo Pump Station during peak hour demands. The 60-inch diameter trunk line did not provide any significant hydraulic advantages over the selected 54-inch diameter trunk line for the three model scenarios that were run. Therefore, the 54-inch diameter was determined to be the appropriate diameter of the FTL U3.

In addition, in order to determine the required diameter of the FTL U3, the Water Master Planning Group of LADWP performed a hydraulic analysis of future demands and emergency scenarios. The UMD peak hour demand and abandonment of certain components (Maclay reservoir outlet) of the 1449-foot system was 170 cubic feet per second (cfs). Of the 170 cfs, 102 cfs of the demand are southeast of the Maclay Reservoir Outlet Line. The FTL U3 was sized to maximize the flow along FTL, while minimizing the use of Sheldon Pump Station. Based on the hydraulic analysis, the 54-inch pipeline would have a peak hour flow of 78 cfs in an UMD demand scenario and up to 89 cfs for emergency scenarios.

The FTL U3 would connect to the 60-inch prestressed concrete cylinder pipe section of Foothill Trunk Line along Foothill Boulevard northwest of Hubbard Street, to a 30-inch riveted steel pipe along Terra Bella Street southwest of Foothill Boulevard, and to a 36-inch modified prestressed concrete cylinder pipe along Foothill Boulevard southeast of Terra Bella Street.

It was also determined that it would be necessary to connect the 54-inch FTL U3 to the distribution system at six locations. These locations are along Foothill Boulevard at Hubbard Street, Harding Street, Vaughn Street, Filmore Street, Van Nuys Boulevard, and Terra Bella Street.

1.4.1 Construction Activities

Construction of the FTL U3 would occur within the ROW of Foothill Boulevard, which ranges from approximately 60 feet to 100 feet. The FTL U3 would traverse two 72-inch, one 12-inch, and one 48-inch Los Angeles County Flood Control District (LACFCD) storm drains, and the FTL U3 would also cross over the LACFCD flood channel (Pacoima Wash). Although the final design is not yet completed, in all likelihood the FTL U3 will be suspended by concrete piers on either side as it crosses the Pacoima Wash.

A majority of the installation, approximately 12,750 feet, would occur by open trench. The trenching technique would include saw cutting of the pavement, where applicable, trench excavation, pipe installation, backfill operations, and resurfacing to the original condition. The trench would be approximately 10 feet deep and 7.5 feet wide and would disturb approximately 2.2 acres. Trenches would be temporarily covered with steel plates at the end of each work day, and the work areas would be secured by installing barricades.

The construction equipment needed for installation of the FTL U3 includes backhoe, excavator, shoring, welding equipment, boom lift truck, steam roller, plate compactor. Approximately 15 workers per day would be required for pipeline installation. Sand, gravel bedding material and slurry would be imported to the project site to be used as bedding or backfill. When feasible native soils would be retained to use as bedding and backfill, however, soils unsuitable for backfilling soil would require off-site disposal to a nearby landfill.

Construction of the FTL U3 would potentially impact intersections located along Foothill Boulevard ending at Terra Bella Street. To minimize traffic disruptions at busy intersections during construction, LADWP intends to install the 54-inch welded steel pipe via pipe jacking at four intersections along the proposed alignment. Pipe jacking would be used to avoid ground disturbance to critical intersections and other locations where ground surface cannot be disturbed. Pipe Jacking would install approximately 3,100 feet along various locations along Foothill Boulevard. This method employs a horizontal boring machine or an auger that is advanced in a tunnel bore to remove material ahead of the pipe. Temporary jacking pits and receiving pits are excavated on either side of the segment. Powerful hydraulic jacks are used to push a steel casing pipe from a jacking pit to a receiving pit. As the tunneling machine is driven forward, a jacking pipe is added into the pipe string. A jacking pit typically measures 14 feet by 40 feet and the receiving pit typically measures 10 feet by 20 feet. The jacking and receiving pits typically would be excavated to a depth of approximately 20 feet. The pipe jacking method would be implemented at four locations along the following intersections:

- Foothill Boulevard and Hubbard Street
- Foothill Boulevard and Maclay Street
- Foothill Boulevard under the 118-210 Freeway Connector
- Foothill Boulevard and Van Nuys Boulevard

Traffic control would be necessary during construction of the FTL U3 within streets as temporary complete closures are anticipated. The Traffic Control Plan for the FTL U3 would conform to traffic control standards established by the City of Los Angeles Department of Transportation (LADOT). Up to two or three workers would be required for traffic control during installation of the FTL U3. Equipment necessary for traffic control includes changeable message signs, delineators, arrow boards, and K-Rails. The Traffic Control Plan for the FTL U3 would be approved by the LADOT.

1.5 Discretionary Approvals Required for the Project

Table 1 presents a preliminary list of the agencies and entities with discretionary approval over the FTL U3.

TABLE 1
DISCRETIONARY PERMITS POTENTIALLY REQUIRED

Agency	Permits and Authorizations Required	Activities Subject to Regulations
California Department of Industrial Relations, Division of Occupational Safety and Health, Mining and Tunneling Unit	Permit for construction operations involving human entry	pipe jacking operations 66 inches in diameter; Shafts: Excavations twice the depth of cross section or exceeding 20 feet; Tunnels: Culverts greater than 30 inches in diameter; underground chambers
California Department of Transportation	Encroachment Permit	Construction activities within 118 Freeway right-of-way
California State Division of Occupational Safety and Health	Permit for trench construction	Any excavation activity five feet or deeper
City of Los Angeles Department of Transportation	Traffic Control Plan and Traffic Signal Plan	Traffic lane closures and transportation related issues
City of Los Angeles Department of Public Works, Bureau of Engineering	• Excavation Permit • Encroachment Permit • Construction Permit • Discharge Permit	• Excavation Permit for construction within roadway ; Excavation near Pacoima Wash • Encroachment Permit within road right-of-way • Construction Permit for disturbance to curbs, gutters, sidewalks, drains, or driveways •
City of Los Angeles Department of Public Works, Bureau of Sanitation	Industrial Waste Permit	Pump or chlorine discharge water
County of Los Angeles Flood Control District & US Army Corp of Engineers	Permit to develop a utility line over the Pacoima Wash	Construction over the Pacoima Wash
County of Los Angeles Department of Public Works	Encroachment Permit	Encroachment Permit within their Easement
Regional Water Quality Control Board	NPDES/WDR for construction dewatering	Construction dewatering Hydrostatic Test Water Discharge
State Water Resources Control Board	NPDES Construction Activity Permit	Construction on a site of more than one acre

Environmental Factors Potentially Affected

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

- ☒ Aesthetics
- ☒ Biological Resources
- ☒ Greenhouse Gas Emissions
- ☒ Land Use and Land Use Planning
- ☐ Population and Housing
- ☒ Transportation and Traffic
- ☐ Agriculture and Forestry Resources
- ☒ Cultural Resources
- ☒ Hazards and Hazardous Materials
- ☐ Mineral Resources
- ☐ Public Services
- ☒ Utilities and Service Systems
- ☒ Air Quality
- ☒ Geology, Soils and Seismicity
- ☒ Hydrology and Water Quality
- ☒ Noise
- ☐ Recreation
- ☒ Mandatory Findings of Significance

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Charles C. Holloway
Signature

January 16, 2013
Date

Charles C. Holloway
Printed Name

Manager of Environmental Planning and Assessment, LADWP
For

Environmental Checklist

Aesthetics

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
1. AESTHETICS—Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☒	☐	☐	☐

Discussion

a) **No Impact.** Construction of the proposed trunk line would result in short-term impacts to aesthetics due to the presence of construction equipment and materials in the visual landscape. However, these project components are not located within a scenic vista. Therefore, no impacts would occur to scenic vistas due to construction of these project components. Once constructed, the trunk line would be belowground and would have no impacts to scenic vistas.

b) **No Impact.** The proposed project is located approximately 400 feet southwest of I-210 (the Foothill Freeway) which is listed as an Eligible State Scenic Highway by the Caltrans Scenic Highway Mapping System (Caltrans, 2012). However, the project site consists of a installing an approximately three-mile long trunk line within an existing roadway in an urban built-up environment. The project site (Foothill Boulevard) is not a scenic resource and the project would not result in damage to any scenic resources. Therefore, the proposed project would not impact scenic resources within a state scenic highway corridor.

c) **Less Than Significant Impact.** The proposed project is not expected to substantially degrade the existing visual character or quality of the project site and its surroundings. The trunk line would be constructed underground and would not be visible once completed. Minor appurtenant facilities such as air release valves/air vacuums and vaults would be visible above ground, however, these structures would be low profile and would not substantially contrast with the surrounding urban built-up environment. Additionally, during the construction phase, the visual character of the area would be affected. The EIR will analyze the potential impacts to the existing visual character of the project site and its surroundings.

d) **Less Than Significant Impact.** The trunk line would not generate new sources of light or glare. The trunk line, once constructed would be entirely underground with the exception of minor appurtenant facilities such as such as air release valves/air vacuums and vaults, none of which would include light fixtures. Nonetheless, potential visual impacts associated with nighttime security lighting will be analyzed in the EIR.

Agricultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
2. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

a) **No Impact.** According to the 2010 maps prepared for the Farmland Mapping and Monitoring Program of the Department of Conservation, the proposed project would not be located on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (CDC, 2010). The proposed project is located in areas designated as urban and other lands. Therefore, no impacts to Prime, Unique, or Important Farmland would occur and no further analysis is warranted.

b) **No Impact.** No part of the proposed project is located on land contracted under the Williamson Act. The proposed project would be located within an existing paved roadway right-of-way. Additionally, the project site is not zoned for agricultural use. Therefore, no impacts would occur to Williamson Act contracted lands and no further analysis is warranted.

c) **No Impact.** The project site is not zoned as forest land, timberland, or timberland production. Therefore, there would be no conflicts with existing zoning. No impacts would occur, and no further analysis is required.

d,e) **No Impact.** The project site is located within an urban built-up environment. The proposed project would result in replacement of existing utility facilities. The project site does not contain forest land, timberland, or farmland. Thus no forest land, timberland, or farmland would be lost or converted to non-forest or non-agricultural use. No impacts would occur, and no further analysis is required.

Air Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
3. AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

a) **Potentially Significant Impact.** The proposed project would be located entirely within the jurisdiction of the South Coast Air Quality Management District (SCAQMD), in the South Coast Air Basin. The SCAQMD is designated nonattainment for both the state and federal ozone standards and the state particulate matter (PM_{10}) standard. Project construction would generate emissions of oxides of nitrogen (NO_x) and PM_{10} that could result in significant impacts to air quality in the project area. Equipment usage and activities during construction of the proposed project would result in emissions of PM_{10} and ozone precursors, including NO_x and volatile organic compounds (VOCs), which could result in significant impacts to air quality in the area. The sources of emissions would include trucks, and on-road motor vehicles for equipment and material deliveries and workers commuting to and from the site. This impact is potentially significant. Further analysis of air quality impacts is warranted to determine whether the project would conflict with or obstruct implementation of the applicable plans for attainment and, if so, to determine the reasonable and feasible mitigation measures that could be imposed. These issues will be further evaluated in the EIR.

b) **Potentially Significant Impact.** As discussed above, short-term construction emissions could significantly contribute to an existing or projected air quality violation of PM_{10} or ozone standards, requiring the consideration of mitigation measures. This impact is potentially significant and will be further evaluated in the EIR.

c) **Potentially Significant Impact.** SCAQMD is a nonattainment area for the state and federal ozone standards and the state PM_{10} standard. SCAQMD rules and regulations apply to all project activities. The EIR will include a quantitative discussion of emissions created by this project. This will include activities such as truck trips to deliver project materials and employees to the site. This impact is anticipated to be less than significant. However, cumulative contributions to this basin could be potentially significant. Construction and operational emissions of the project will be further evaluated in the EIR.

d) **Potentially Significant Impact.** There are residents located near the project site. Construction-related activities would generate diesel exhaust emissions and dust that could adversely affect air quality for nearby sensitive receptors. Mitigation measures for diesel equipment and dust control that are recommended by SCAQMD will be evaluated as part of the EIR to avoid or reduce the impacts to construction workers and nearby residents.

e) **Less Than Significant Impact.** Types of land uses that typically pose potential odor problems include agriculture, wastewater treatment plants, food processing and rendering facilities, chemical plants, composting facilities, landfills, waste transfer stations, and dairies. In addition, the occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they can still be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. No part of the project would create odors at nearby sensitive receptors. Impacts would be less than significant.

Biological Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
4. BIOLOGICAL RESOURCES— Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

a) **Potentially Significant Impact.** The trunk line would be within Foothill Boulevard which located in a developed and urban area of Los Angeles. The EIR will contain a discussion of potentially sensitive species in the project area and the pertinent regional and local plans.

b,c) **No Impact**. The proposed trunk line is located within previously developed residential, commercial, and light industrial areas and does not contain riparian habitats, wetlands or other sensitive, protected habitats. The proposed trunk line would be located within an existing roadway and would not encounter sensitive habitats. The portion of the trunk line that would cross the Pacoima Wash would either be attached to the side of the existing bridge across the channel or installed adjacent to the bridge in a utility encasement on footings that would be located outside of the wash so as not to disturb the channel. There would be no impact to riparian habitats, wetlands, or other sensitive protected habitats.

d) **No Impact.** Wildlife corridors are pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or human-induced factors, such as urbanization. The proposed project site is not part of any corridors for wildlife movement because the sites occur in areas characterized by residential, commercial and light industrial development and is adjacent to busy roads. Construction of any of the trunk line within a ROW would not interfere with local or regional wildlife movement. The trunk line alignment within the Foothill Boulevard ROW would not impact any wildlife movement corridors. There would be no impact.

e) **Potentially Significant Impact.** The EIR will analyze whether the project conflicts with local biological policies, ordinances, and plans will be included in the EIR.

f) **No Impact.** The proposed project is located in an existing roadway in an urban built-up environment and is not located with a designated HCP or NCCP area. There would be no impacts associated with conflicts to provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
5. CULTURAL RESOURCES— Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

Discussion

a–c) **Potentially Significant Impact.** A Cultural Resources report will be prepared and will include a discussion and analysis of project impacts on historical resources, unique archaeological resources, unique paleontological resources, and unique geologic features. The results of this report will be summarized and included in the EIR.

d) **Potentially Significant Impact.** The EIR will discuss the potential for discovering unidentified buried human remains during project construction.

Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
6. GEOLOGY, SOILS, AND SEISMICITY— Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☒	☐	☐	☐
ii) Strong seismic ground shaking?	☒	☐	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
iv) Landslides?	☒	☐	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☒	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☒	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion

a.i-iv) **Potentially Significant Impact.** The trunk line project is located in a seismically active region of California. Portions of Foothill Boulevard are located in an area designated as a fault study zone. Generally, the project area is located near regional faults that may result in rupture, which could impact the proposed project. Potential fault rupture, groundshaking, liquefaction, and landslide impacts will be analyzed in the EIR. (City of Los Angeles GIS, 2012)

b) **Potentially Significant Impact.** Construction activities would occur within the right-of-way of Foothill Boulevard as well as adjacent to and potentially within the Pacoima

Wash. Activities within the Pacoima Wash could potentially cause erosion and soil loss due to the vegetation grubbing and earthmoving activities that would be required to implement the project in that area. The EIR will include a discussion of this potential impact.

c) **Potentially Significant Impact.** As stated above in the response to *6a.i-iv*, the EIR will discuss potential landslide, liquefaction, lateral spreading, and or subsidence impacts.

d) **Potentially Significant Impact.** The EIR will discuss soil types and potential impacts associated with expansion and contraction of soils.

e) **No Impact.** Construction of the trunk line would not include a septic system. This impact area will not be further evaluated in the EIR.

Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
7. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Discussion

a) **Potentially Significant Impact.** Greenhouse gas (GHG) emissions from human activity are implicated in global climate change or global warming. The principal GHGs are carbon dioxide (CO_2), methane (CH_4), NO_X, ozone, water vapor, and fluorinated gases (hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride). The EIR will identify the GHG emissions associated with construction of the proposed project and potential impacts to the environment.

b) **Potentially Significant Impact.** In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires California Air Resource Board (CARB) to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing an approximate 25 percent reduction in emissions). The EIR will identify the applicable plans, policies and regulations adopted for the reduction of GHG emissions and determine whether or not the project will conflict with AB32 and other regulations adopted for the purpose of reducing GHG emissions.

Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8. HAZARDS AND HAZARDOUS MATERIALS Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☒	☐	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion

a) **Potentially Significant Impact.** Construction of the proposed project would require the use of fuels, oils, and lubricants that can be hazardous to the environment. During construction activities, such hazardous materials could accidentally be spilled or otherwise released into the environment exposing construction workers, the public and/or the environment to potentially hazardous conditions. Construction crews would be required to implement best management practices (BMPs) for handling hazardous materials during the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils. Additionally, safety measures would be required to be implemented, in accordance with General Industry Safety Orders for Spill and Overflow Control. Nonetheless, potential impacts associated with hazardous materials will be analyzed in the EIR.

b) **Potentially Significant Impact.** Operation of the proposed project would not include the use or storage of hazardous materials that would potentially cause a threat to the environment or public. However, construction of the project would require the use of fuels, oils, and lubricants that could be hazardous if accidentally released into the environment. Construction crews would be required to implement BMPs for handling hazardous materials during the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils. Additionally, safety measures would be required to be implemented, in accordance with General Industry Safety Orders for Spill and Overflow Control. Nonetheless, potential impacts associated with any foreseeable upset and accident conditions involving the release of hazardous materials will be analyzed in the EIR.

c) **Potentially Significant Impact.** There are several schools located within 0.25 mile of the project site, including, Gridley Elementary, Valley Region, and Hillary T. Broadous. Although the proposed project will not emit or release hazardous materials within 0.25 miles of a school, the EIR will evaluate the potential for accidental release of hazardous materials into the environment within 0.25 mile of a school.

d) **Potentially Significant Impact.** Based on a review of hazardous waste site databases, the project site is not expected to be located on an existing hazardous materials site as defined by Government Code Section 65962.5. However, the EIR will evaluate known contamination sites to determine of the project would create a significant hazard.

e) **No Impact.** The project site is located approximately 1.3 miles southeast from the Whiteman Airport. The project is not located within any airport safety zones and the project does not include any features that would affect air traffic. Therefore, no impacts would occur associated with public airports and no further analysis is warranted.

f) **No Impact.** The nearest private airstrip is the Olive View Medical Center Heliport, located 1.39 miles northeast of the proposed project. The project is not located within any airport safety zones and the project does not include any features that would affect air traffic. Therefore, no impacts associated with conflicts to private airstrips would occur and project implementation and no further analysis is warranted.

g) **Potentially Significant Impact.** Construction of the proposed project could interfere with adopted emergency response plans and emergency evacuation plans. Potential impacts of the proposed project on emergency response and evacuation plans will be evaluated in the EIR.

h) **No Impact** The proposed project would not include structures that could be threatened by wildfires. Additionally, the proposed project is located in an urban environment where there is no wildland interface that could potentially ignite. No impact would occur and this issue will not be addressed in the EIR.

Hydrology and Water Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
9. HYDROLOGY AND WATER QUALITY— Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☒	☐	☐	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☒	☐	☐	☐
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

a) **Potentially Significant Impact.** The construction and operation of the proposed project would not generate significant amounts of wastewater or significantly increase urban runoff entering existing storm drains. The primary objective of the is to upsize the existing FTL pipeline to achieve size consistency among pipelines throughout the Pacoima, Sylmar, Sunland and Tujunga Service Areas. Construction of the proposed project may require a Waste Discharge Requirement (WDR). Operation of proposed project would not require WDR. Construction of the proposed project would require the implementation of a Storm Water Pollution Prevent Plan (SWPPP) as required by the State Water Resources Control Board. Implementation of the SWPPP would ensure runoff from the project site during construction would not violate water quality standards. A discussion of water quality and discharge requirements will be included in the EIR.

b) **Less Than Significant Impact.** The proposed project is a trunk line replacement project and is not anticipated to develop additional paved areas, thus the project will not interfere with groundwater recharge or deplete groundwater supply. Nevertheless, the project will implement the appropriate BMPs and compliance with applicable regulations would reduce potential water quality impacts to a less than significant level. Therefore, impacts would be less than significant and no further analysis is warranted

c) **Less Than Significant Impact.** The proposed project is not expected to substantially alter existing drainage patterns within the project area as a majority of the proposed project is located within an existing roadway. The proposed project would not alter the drainage pattern of any stream or river. The project would be required to adhere to the NPDES permits of the Los Angeles region which specify requirements to protect the beneficial uses of all receiving waters. Furthermore, they require the permittees to develop and implement BMPs to control/reduce the discharge of pollutants to waters of the United States to the maximum extent practicable (MEP). With adherence to these requirements, the proposed improvements would include design measures to minimize potential impacts to receiving waters to less than significant levels.

d) **Less Than Significant Impact.** Because the proposed project would be built within the ROW of Foothill Boulevard, no substantial changes in runoff or drainage patterns would occur as the site is presently in a developed condition. The proposed project would utilize the existing storm water drainage and control system located within Foothill Boulevard. Therefore, the proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site impacts to receiving waters.

e) **Less Than Significant Impact.** The proposed project will not generate new sources of runoff that could cause storm drains to exceed capacity as the project is not located in areas where improved storm drains exist. Construction activities would comply with applicable requirements of the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board (RWQCB), including compliance with NPDES permit regulations. Best management practices would be employed during project construction to control any potential erosion or siltation impacts related to construction activities. Compliance with NPDES requirements would ensure a less than significant impact, and no further study of this issue related to construction is required.

f) **Less Than Significant Impact.** The project would be required to adhere to the NPDES permits of the Los Angeles region which specify requirements to protect the beneficial uses of all receiving waters. Furthermore, they require the permittees to develop and implement BMPs to control/reduce the discharge of pollutants to waters of the United States to the MEP. With adherence to these requirements, the proposed improvements would include design measures to minimize potential impacts to receiving waters to less than significant levels.

g) **No Impact.** The proposed project consists of installing an underground water trunk line within an existing road right-of-way and would not include construction of housing. Therefore, no impacts related to placing housing in a flood plain would occur and no further analysis is warranted in the EIR.

h) **Potentially Significant Impact.** A portion of the proposed trunk line would be constructed adjacent to the Pacoima Wash which is a 100-year flood hazard area. Impacts associated with construction near the Pacoima Wash will be evaluated in the EIR.

i) **Potentially Significant Impact.** The proposed project includes the construction and operation of a new trunk line 2.6 miles southwest of the Lopez Dam. According to the City of Los Angeles General Plan, Safety Element Exhibit G, Inundation & Tsunami Hazard Areas, the proposed project is located in a potential dam inundation area. Although a majority of the proposed project would be located below ground and would not expose people or structures to a significant risk of loss, injury or death involving flooding. However, the design of the crossing over the Pacoima Wash has not been finalized, therefore, impacts associated the Pacoima Wash crossing will be analyzed in the EIR.

j) **No Impact.** Installation of a trunk line within Foothill Boulevard would not increase the risk associated with seiche, tsunami, or mudflow at the project site. The project is 2.8 miles southeast from the nearest large standing body of water is the Department of Water And Power Granada Hills Reservoir which is not located near enough the project site to create a seiche hazard. The proposed project is located 25 miles east from the nearest ocean and would therefore not be affected by a tsunami. No impact would occur, and no further study of this issue is required.

Land Use and Land Use Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
10. LAND USE AND LAND USE PLANNING—Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐

Discussion

a) **No Impact.** The proposed project includes the implementation of a trunk line project in Foothill Boulevard right-of-way. Implementation of the proposed project would not physically divide an established community. There would be no impact and no further analysis is warranted.

b) **Potentially Significant Impact.** The proposed project is subject to the goals and policies of the general plans and other planning documents developed by the City of Los Angeles. The EIR will summarize and analyze the project’s consistency with regional plans and policies.

c) **Less Than Significant Impact.** The proposed project is located in an existing roadway in an urban built-up environment and is not located with a designated Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) area. There would be no impacts associated with conflicts to provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
11. MINERAL RESOURCES—Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

a) **No Impact.** The proposed project would mostly be located within an existing paved roadway and consists of land that is developed and is not used for mineral extraction. The proposed project site is not identified as a locally important mineral resource site delineated on a local general plan, specific plan, or other land use plan. Therefore, no impacts on regional minerals or minerals of state importance are anticipated and no further analysis is warranted.

b) **No Impact.** The proposed project would mostly be located in a roadway and consists of land that is developed and is not used for mineral extraction. The proposed project site is not identified as a locally important mineral resource site delineated on a local general plan, specific plan, or other land use plan. Therefore, no adverse impacts to the availability of locally-important mineral resources would occur and no further analysis is warranted.

Noise

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
12. NOISE—Would the project:				
a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☒	☐	☐	☐

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

a) **Potentially Significant Impact.** Noise generated during project construction activities would occur with varying intensities and durations during trunk line installation. The closest sensitive receptors to the proposed project construction are nearby residences. The EIR will identify relevant noise standards and evaluate noise levels associated with project construction. Operation of the proposed project is not expected exceed noise standards, as project design would be in accordance with all applicable standards and regulations.

b) **Potentially Significant Impact.** Groundborne vibration and groundborne noise could result from construction activities. The closest sensitive receptors to the proposed project construction would be the nearby residences. Additionally, other sensitive receptors can also be impacted by construction activities. The EIR will identify relevant vibration standards and evaluate vibration levels associated with project construction. Operation of the proposed project is not expected exceed vibration standards, as project design would be in accordance with all applicable regulations.

c) **No Impact.** The proposed trunk line would be located beneath the surface of an existing paved roadway. Noise from water flowing in the trunk line would not be expected to be audible at the ground surface. Therefore, the project would not result in a permanent increase in ambient noise levels in the project vicinity. No permanent impacts would occur, and no further analysis is required.

d) **Potentially Significant Impact.** Heavy equipment use during construction would cause a temporary or periodic increase in ambient noise levels. The EIR will identify the potential noise levels associated with construction activity depending construction phases and projected inventory of equipment to be used. If necessary, the EIR will include mitigation measures to ensure temporary noise caused by construction activities would be reduced in accordance with applicable noise ordinances and regulations.

e) **Potentially Significant Impact.** As previously discussed, the proposed project is not located within an airport land use plan, however it is located within two miles of a public airport. Impacts associated with construction activities in the vicinity of an airport will be analyzed in the EIR.

f) **No Impact.** As previously discussed, there are no private airstrips within the vicinity of the proposed project. No impacts would occur, and no further analysis is required.

Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
13. POPULATION AND HOUSING— Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) **No Impact.** The proposed project would not directly induce population growth because the project would not create new homes or businesses, Additionally, because the proposed project would provide redundancy to the existing system and does not increase capacity the proposed project would not substantially induce growth to the project vicinity.

b) **No Impact.** The proposed project would be located entirely within the right-of-way Foothill Boulevard and would not displace any housing units. No impacts would occur and no further analysis is warranted in the EIR.

c) **No Impact.** The proposed project would be located entirely within the right-of-way Foothill Boulevard and would not displace any housing units. No impacts would occur and no further analysis is warranted in the EIR.

Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14. PUBLIC SERVICES— Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion

a.i) **No Impact.** The Los Angeles Fire Department provides fire suppression and emergency medical services to the project area. The primary fire station that would serve the project area is the Fire Station 91, located at 14430 Polk Street in Sylmar, 0.5 miles northwest of the northwestern project boundary. The proposed project consists of installing a trunk line and would not require new or expanded facilities in order to provide adequate fire suppression and emergency medical services. There would be no impact, and no further analysis is warranted.

a.ii) **No Impact.** Police protection services in the project area are provided by the Los Angeles Police Department. The closest station to the project site is the Foothill Community Police Station located at 12760 Osborne Street in Pacoima. The proposed project consists of installing a trunk line and would not require new or expanded law enforcement facilities in order to provide adequate police protection services. There would be no impact, and no further analysis is warranted.

a.iii) **No Impact.** Due to the size and nature of the proposed project, a relatively small number of construction workers would be required. It is expected that most of these workers would commute to the project site from surrounding communities. Therefore substantial temporary increases in population that would adversely affect local school populations are not expected. There would be no impact and no further analysis is warranted.

a.iv- v) **No Impact.** The project would be constructed by a combination of city employees and contractors, which would be local to Los Angeles and would not require construction workers to relocate to the project area. Therefore, substantial permanent increases in population that would adversely affect local parks, libraries and other public facilities (such as post offices) would not occur. The proposed project is expected to result in no impact to other such public facilities. No further analysis is warranted.

Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
15. RECREATION—Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a) **No Impact.** Installation of the proposed trunk line would not result in direct or indirect growth in population or housing. Therefore, the proposed project is not expected to impact existing neighborhood or regional parks or any other recreational facilities due to increases in park usage. Impacts to recreational facilities will not be further analyzed in the EIR.

b) **No Impact.** Installation of the proposed trunk line would not include recreational facilities or require the expansion of existing facilities that would cause an impact on the environment. Impacts to recreational facilities will not be further analyzed in the EIR.

Transportation and Traffic

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
16. TRANSPORTATION AND TRAFFIC — Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e) Result in inadequate emergency access?	☒	☐	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☒	☐	☐	☐

Discussion

a,b,f) **Potentially Significant Impact.** The EIR will describe existing roadways, traffic flow, access, and circulation conditions on roadways that would be affected by construction-related traffic and at major intersections in the project area. The EIR will assess the potential for project-related traffic to affect local roadways. The EIR will describe the existing traffic loads, capacities, level-of-service standards for roadways, bus routes, and bike routes in the project vicinity. Minimum standards for travel widths that would allow maintaining either uncontrolled two-way traffic flow, or alternate one-way traffic flow, will be applied to affected roadways to ascertain the significance of the impact.

The EIR will also discuss any conflict with applicable plans, ordinances, or policies regarding traffic performance in the local circulation system. Mitigation measures will be developed to reduce adverse effects to traffic and circulation.

c) **No Impact.** The nearest airport to the project site is Whiteman Airport, located approximately 1.3 miles to the southwest. Due to the nature of the proposed project as a replacement trunk line, it would not introduce new residents into the project area and would therefore not result in an increase in air traffic levels or a change in location of air traffic patterns that would result in substantial safety risks, as air traffic patterns would not be affected. There would be no impact.

d) **Potentially Significant Impact.** Although the proposed trunk line would be installed within Foothill Boulevard, implementation of the project would not result in a permanent modification to the configuration of the roadway and therefore would not introduce any roadway hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. All truck trips and deliveries would utilize roadways permitted for the associated vehicle type, size, and weight, in accordance with regulations by California Department of Transportation and local roadway agency regulations. The EIR will identify roadways compatible for use by construction delivery trucks in the Transportation and Traffic section of the EIR. Mitigation measures, such as a traffic control plan, will be developed to reduce impacts due to incompatible uses to less than significant level.

e) **Potentially Significant Impact.** Construction of the proposed project would require transportation of equipment and materials that could interfere with emergency response or evacuation plans. Roadways could be temporarily blocked due to operation and/or storage of construction equipment and material deliveries. The effect of project construction on emergency response and evacuation plans will be evaluated in the EIR. Mitigation measures, such as a traffic control plan, will be developed in the EIR.

Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
17. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☒	☐	☐	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐

	Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
e)	Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☒	☐	☐	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☒	☐	☐	☐

Discussion

a) **Potentially Significant Impact.** During proposed project construction activities, accidental release of potentially harmful materials, such as engine oil, diesel fuel, and cement slurry could degrade the water quality of the nearby Pacoima Wash. LADWP will prepare and submit a Contingency Plan to the RWQCB their review and approval. Nevertheless, because the potential exists for impacts to occur, water quality impacts will be discussed in the EIR.

b) **No Impact.** The proposed project includes the installation of a replacement trunk line in an existing right-of-way. The proposed project is a replacement trunk line and would not result in the need for additional water treatment or wastewater treatment facilities. Therefore, no impact would occur.

c) **No Impact.** The project does not include the construction of new stormwater drainage facilities or an expansion of its existing facilities. Rather, the proposed project involves the installation of a water trunk line within an existing roadway. Upon completion of construction, the roadway would be restored to its original configuration. The project would have no permanent effect on stormwater drainage and expansion of existing stormwater facilities would not be required. As such, no environmental effects related to expansion of existing stormwater facilities would occur.

d) **Less Than Significant Impact.** Water needs of the project during construction would be relatively minor and temporary. Water may be used for dust control of open excavations or spoils and mixing concrete. Existing water resources would be sufficient to meet those needs. Following construction, the proposed project would convey existing potable water sources. Therefore, impacts to existing water supplies or entitlements are considered less than significant.

e) **No Impact.** The proposed project involves the replacement of existing water delivery facilities and would have no effect on wastewater generation or treatment. LADWP would not be required to provide future capacity. Therefore, the project has adequate capacity to serve current treatments demand. There is no impact to existing commitments by LADWP.

f,g) **Potentially Significant Impact.** The proposed project would require excavation for the installation of the proposed trunk line. The excavation would likely result in construction waste, including excavated soil and construction by-product. The EIR will identify landfills in the project vicinity that have adequate permitted capacity to accept solid waste construction debris such as spoil soils. The EIR will identify local, state, and federal regulations related to solid waste and determine appropriate mitigation measures, if necessary, to ensure the proposed project complies with such regulations.

Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
17. MANDATORY FINDINGS OF SIGNIFICANCE— Would the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Have impacts that would be individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion

a) The project vicinity is extensively developed with urban uses, nevertheless, a records search for State and/or federally listed species in the vicinity will be prepared as part of the EIR. Although the project area is extensively developed, there is a potential for special status species to occur in the project vicinity. Therefore, impacts to special status species will be further analyzed in the EIR. Additionally, although the proposed project will occur in a developed roadway, there is a potential for impacts to occur to important examples of the major periods of California history or prehistory. Therefore, these impacts will be analyzed further in the EIR. The EIR will discuss the project's potential effects on these resources and develop mitigation measures to minimize environmental impacts.

b) The proposed project could have impacts that are individually limited but cumulatively considerable (e.g., impacts to air quality, noise and traffic). The EIR will include a chapter dedicated to evaluating the proposed project's cumulative impacts.

c) The proposed project could have potentially significant impacts to human beings, for example, due to hazardous materials release or air quality. The EIR will include a discussion of direct and indirect project impacts on human beings.

SECTION 3

References, Abbreviations and Report Preparation

3.1 References and Bibliography

California Department of Conservation (CDC). 2010. Farmland Mapping and Monitoring Program, Los Angeles County Important Farmland. Available online: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/los10.pdf. Accessed November 2, 2012.

California Department of Transportation (Caltrans), *California Scenic Highway Mapping System*, available at http://www.dot.ca.gov/hq/LandArch/scenic_highways/. Accessed on November 6, 2012.

City of Los Angeles GIS. Available online at: http://navigatela.lacity.org/index01.cfm. Accessed November 2, 2012.

City of Los Angeles, General Plan, *Sylmar Community Plan*, 1997 available online at: cityplanning.lacity.org/complan/pdf/sylcptxt.pdf. Accessed on November 6, 2012.

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DTSC, Envirostor, available on-line Accessed November 2, 2012: http://www.envirostor.dtsc.ca.gov.

DTSC, Hazardous Waste and Substance Sites (Cortese) List, available on line. Accessed November 2, 2012: http://www.calepa.ca.gov/SiteCleanup/CorteseList.

3.2 Acronyms and Abbreviations

BMPs	Best Management Practices
CARB	California Air Resource Board
cfs	Cubic feet per second
CH4	Methane
EIR	Environmental Impact Report
FTL U3	Foothill Trunk Line Unit 3
FTL	Foothill Trunk Line
HCP	Habitat Conservation Plan
HMD	Historic Maximum Day
LACFCD	Los Angeles County Flood Control District

LADOT	City of Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
MEP	Maximum Extent Practicable
msl	Mean sea level
NCCP	Natural Community Conservation Plan
NO_x	Oxides of Nitrogen
PCCP	Prestressed Concrete Cylinder Pipe
PM_{10}	Particulate Matter
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SWPPP	Storm Water Pollution Prevent Plan
SWRCB	State Water Resources Control Board
UMD	Ultimate Maximum Day
VNPS No.2	Van Norman Pump Station No. 2
VOCs	Volatile Organic Compounds
CO2	Carbon Dioxide
WDR	Waste Discharge Requirement

3.3 Preparers of the Initial Study

Lead Agency

Los Angeles Department of Water & Power
111 N. Hope Street, Room 1044
Los Angeles, CA 90012

Prepared by

Los Angeles Department of Water & Power
Environmental Services
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Charles Holloway, Manager of Environmental Planning and Assessment
Nancy Chung, Environmental Project Manager
Samuel Alvarado, Project Engineer
Wilson R. Elias, Project Supervisor
Nancy A. Wigner, Project Manager

Technical Assistance Provided by

Environmental Science Associates (ESA)
626 Wilshire Blvd., Suite 1100
Los Angeles, CA 90017

Jason Ricks, Project Director
Danielle Griffith, Project Manager
Sarah Spano, Associate

Attachment 3

IS/NOP Distribution List

LADWP Foothill Trunk Line
Initial Study/Notice of Preparation
Distribution List

First	Last	Title	Agency/Organization	Dept	Address	City	State	Zip Code
FEDERAL AGENCIES								
Bruce	Henderson		US Army Corps of Engineers	Los Angeles District, Ventura Field Office	2151 Alessandro Dr., Suite 110	Ventura	CA	93001
STATE AGENCIES								
Scott	Morgan		State Clearinghouse	Office of Planning and Research	1400 Tenth Street, Room 222	Sacramento	CA	95814
Richard	Corey		California Air Resource Board	Stationary Source Division	1001 I Street, 6th Floor	Sacramento	CA	95814
Jason	Marshall	Chief Deputy Director	California Department of Conservation		801 K Street, MS 24-01	Sacramento	CA	95814
		Attention: Environmental Review	California Department of Fish and Game	South Coast Region, CEQA Review Program	4949 Viewridge Ave.	San Diego	CA	92123
Steve	Hart	Regional Manager	California Department of Industrial Relations	Division of Occupational Safety and Health, Mining and Tunneling Regional Office	1367 E. Lassen Ave., Ste. B-4	Chico	CA	95973
Ken	Chiang		California Department of Toxic Substances Control		9211 Oakdale Ave.	Chatsworth	CA	91311-6505
Dianna	Watson		California Department of Transportation	IGR/CEQA Branch, District 7	100 S. Main Street, 8th	Los Angeles	CA	90012-3606
Nadell	Gayou		California Department of Water Resources	Division of Planning & Local Assistance	1416 9th Street	Sacramento	CA	95814
Larry	Myers	Executive Secretary	Native American Heritage Commission		915 Capitol Mall, Room 364	Sacramento	CA	95814
		Attention: Environmental Review	State Water Resources Control Board	Division of Water Quality	1001 I Street	Sacramento	CA	95814
REGIONAL/LOCAL AGENCIES								
Raymond	Chan		City of Los Angeles	Department of Building and Safety	201 N. Figueroa St., Suite 1000	Los Angeles	CA	90012
Bob	Deunas	Senior Planner	City of Los Angeles	Department of City Planning	6262 Van Nuys Blvd., Suite 430	Van Nuys	CA	91401
Gary Lee	Moore	City Engineer	City of Los Angeles	Department of Public Works - Bureau of Engineering	1149 S. Broadway, Suite 700	Los Angeles	CA	90015-2213
Enrique C.	Zaldivar	Director	City of Los Angeles	Department of Public Works - Bureau of Sanitation	1149 S. Broadway St.	Los Angeles	CA	90015
		Attention: Environmental Review	City of Los Angeles	Department of Public Works - Flood Control	1149 S. Broadway St., Room B-10	Los Angeles	CA	90015
		Attention: Environmental Review	City of Los Angeles	Department of Recreation and Parks	221 N. Figueroa St. 1st Floor	Los Angeles	CA	90012
Jaime	de la Vega	General Manager	City of Los Angeles	Department of Transportation, Valley Development Review	6262 Van Nuys Blvd, 3rd Floor	Van Nuys	CA	91401
Antonio R.	Villaraigosa	Mayor	City of Los Angeles	Mayor's Office	14410 Sylvan Street #211	Van Nuys	CA	91401
		Manager	City of San Fernando	Planning Department	117 Macneil Street	San Fernando	CA	91340
Ron	Ruiz	Public Works Director	City of San Fernando	Public Works Department	117 Macneil Street	San Fernando	CA	91340
		Attention: Environmental Review	County of Los Angeles	Department of Public Works	900 S. Fremont Ave.	Alhambra	CA	91803
Gary	Hildebrand	Assistant Deputy Director	County of Los Angeles	Department of Public Works - Flood Control District	900 S. Fremont Ave.	Alhambra	CA	91803
		Attention: Environmental Review	County of Los Angeles	Department of Regional Planning	210 West Temple Street	Los Angeles	CA	90012
		Attention: Environmental Review	El Coriso Community Regional Park		13100 Hubbard Street	Sylmar	CA	91342
		Principal	Evergreen High School		13101 Dronfield Avenue	Sylmar	CA	91342
Kevin	Davis	President	Foothill Trails District Neighborhood Council		9747 Wheatland Avenue	Shadow Hills	CA	91040
		Principal	Gridley Street Elementary School		1907 Eighth St	San Fernando	CA	91340
Gary	Bond	Attention: Environmental Review	Hansen Dam Recreation Center		11770 Foothill Blvd	Lake View Terrace	CA	91342
		Principal	Harding Street Elementary		13060 Harding Street	Sylmar	CA	91342
		Principal	Hillary T Broadous Elementary School		12561 Filmore Street	Pacoima	CA	91331
Richard	Alarcón	Councilmember	Los Angeles City Council District 7		200 N. Spring St., Room 425	Los Angeles	CA	90012
Richard	Alarcón	Councilmember	Los Angeles City Council District 7	Pacoima District Office	13520 Van Nuys Blvd. Suite 209	Pacoima	CA	91331
Richard	Alarcón	Councilmember	Los Angeles City Council District 7	Sylmar Office	14117 Hubbard St., Unit D1	Sylmar	CA	91342
Zev	Yaroslavsky	Attention: Environmental Review	Los Angeles County Supervisor, 3rd District	Van Nuys District Office	14340 Sylvan Street, Suite A	Van Nuys	CA	91401
		EIR Review Coordinator	Los Angeles County Dept. of Public Health		313 N. Figueroa St	Los Angeles	CA	90012
		Attention: Environmental Review	Los Angeles County Sheriff	Law Enforcement Explorer Post 521E	900 3rd Street #1081	San Fernando	CA	91340
Nancy	Chung		Los Angeles Department of Water and Power	Environmental Planning and Assessment	111 N. Hope Street, Room 1044	Los Angeles	CA	90012
		Battalion Chief	Los Angeles Fire Department	Battalion 12 Headquarters / Fire Station 98	13035 Van Nuys Blvd	Pacoima	CA	91331-2536
		Attention: Environmental Review	Los Angeles Fire Department	Fire Station 18	12050 Balboa Blvd.	Granada Hills	CA	91344
		Captain	Los Angeles Fire Department	Fire Station 75	15345 San Fernando Mission Blvd	Mission Hills	CA	91345-1111
		Captain	Los Angeles Fire Department	Fire Station 91	14430 Polk Street	Sylmar	CA	91342-4119
		Attention: Environmental Review	Los Angeles Mission College		13356 Eldridge Avenue	Sylmar	CA	91342
		Attention: Environmental Review	Los Angeles Police Department	Foothill Community Police Station	12760 Osborne Street	Pacoima	CA	91331
		Attention: Environmental Review	Los Angeles Police Department	Devonshire Community Police Station	10250 Etiwanda Avenue	Northridge	CA	91325
		Attention: Environmental Review	Los Angeles Regional Water Quality Control Board	Region 4	320 W. Fourth Street, Suite 200	Los Angeles	CA	90013
		Principal	Maclay Middle School		12540 Pierce Ave	Pacoima	CA	91332
Ruben	Garcia	President	Pacoima Neighborhood Council		11243 Glenoaks Boulevard, #3	Pacoima	CA	91331
		Attention: Environmental Review	San Fernando Police Department		910 First Street	San Fernando	CA	91340
Ruth I.	Frazen	Engineering Technician	Sanatation Districts of Los Angeles County	Planning & Property Management	1955 Workman Mill Road	Whittier	CA	90601-1400
		Principal	Sara Coughlin Elementary School		11035 Borden Avenue	Pacoima	CA	91331
Ian	McMillan		South Coast Air Quality Management District		21865 Copley Drive	Diamond Bar	CA	91765
Christine	Fernandez		Southern California Association of Governments		818 West 7th St., 12th Floor	Los Angeles	CA	90017
		Principal	Sylmar High School		13050 Borden Ave.	Los Angeles	CA	91342
Donald	Neal	President	Sylmar Neighborhood Council	c/o Sylmar Recreation Center	13109 Borden Ave, Susan B. Anthony Bldg	Sylmar	CA	91342
		Attention: Environmental Review	Pepsi Bottling Group		1200 Arroyo Street, San Fernando	San Fernando	CA	91340
		Principal	Valley Region Elementary School #8		12441 Bromont Avenue	San Fernando	CA	91340
LIBRARIES								
Faegheh	Mofidi	Senior Librarian	Sylmar Branch Library		14561 Polk Street	Sylmar	CA	91342
Paula	Hock	Library Manager	San Fernando Library		217 North Maclay Ave.	San Fernando	CA	91340
Laura	Contin	Senior Librarian	Pacoima Branch Library		13605 Van Nuys Blvd	Pacoima	CA	91331
Connie	Dosch	Senior Librarian	Lake View Terrace Library		12002 Osborne Street	Sylmar	CA	91342
RESIDENTS (from Title Company) - mail merge								

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2513-007-039

OCCUPANT
13520 FOOTHILL BL 210
SYLMAR CA 91342-4400

2513-007-041

OCCUPANT
13490 FOOTHILL BL 101A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 102A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 103A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 104A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 105A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 106A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 107A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 108A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 109A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 110A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 111A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 112A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 113A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 114A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 115A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 116A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 117A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 118A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 119A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13490 FOOTHILL BL 120A
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 101
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 102
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 103
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 104
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 105
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 106
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 107
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 108
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 109
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 110
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 201
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 202
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 203
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 204
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 205
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 206
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 207
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 208
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 209
SYLMAR CA 91342-4500

2513-007-041

OCCUPANT
13500 FOOTHILL BL 210
SYLMAR CA 91342-4500

2513-007-048

OCCUPANT
13510 FOOTHILL BL 101
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 102
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 103
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 104
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 105
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 106
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 107
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 108
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 109
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 110
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 201
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 202
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 203
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 204
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
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SYLMAR CA 91342-4457

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OCCUPANT
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SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 207
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 208
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 209
SYLMAR CA 91342-4457

2513-007-048

OCCUPANT
13510 FOOTHILL BL 210
SYLMAR CA 91342-4457

2513-007-062

OCCUPANT
13550 FOOTHILL BL 1
SYLMAR CA 91342-4462

2513-007-063

OCCUPANT
13550 FOOTHILL BL 2
SYLMAR CA 91342-4462

2513-007-064

OCCUPANT
13550 FOOTHILL BL 3
SYLMAR CA 91342-4462

2513-007-065

OCCUPANT
13550 FOOTHILL BL 4
SYLMAR CA 91342-4462

2513-007-066

OCCUPANT
13550 FOOTHILL BL 5
SYLMAR CA 91342-4462

2513-007-067

OCCUPANT
13550 FOOTHILL BL 6
SYLMAR CA 91342-4462

2513-007-068

OCCUPANT
13550 FOOTHILL BL 7
SYLMAR CA 91342-4462

2513-007-069

OCCUPANT
13550 FOOTHILL BL 8
SYLMAR CA 91342-4462

2513-007-070

OCCUPANT
13550 FOOTHILL BL 9
SYLMAR CA 91342-4463

2513-007-071

OCCUPANT
13550 FOOTHILL BL 10
SYLMAR CA 91342-4463

2513-007-072

OCCUPANT
13550 FOOTHILL BL 11
SYLMAR CA 91342-4463

2513-007-073

OCCUPANT
13550 FOOTHILL BL 12
SYLMAR CA 91342-4463

2513-007-074

OCCUPANT
13550 FOOTHILL BL 13
SYLMAR CA 91342-4463

2513-007-075

OCCUPANT
13550 FOOTHILL BL 14
SYLMAR CA 91342-4463

2513-007-076

OCCUPANT
13550 FOOTHILL BL 15
SYLMAR CA 91342-4463

2513-007-077

OCCUPANT
13550 FOOTHILL BL 16
SYLMAR CA 91342-4463

2513-007-078

OCCUPANT
13550 FOOTHILL BL 17
SYLMAR CA 91342-4463

2513-007-079

OCCUPANT
13550 FOOTHILL BL 18
SYLMAR CA 91342-4463

2513-007-080

OCCUPANT
13550 FOOTHILL BL 19
SYLMAR CA 91342-4463

2513-007-081

OCCUPANT
13550 FOOTHILL BL 20
SYLMAR CA 91342-4464

2513-007-082

OCCUPANT
13550 FOOTHILL BL 21
SYLMAR CA 91342-4464

2513-007-083

OCCUPANT
13550 FOOTHILL BL 22
SYLMAR CA 91342-4464

2513-007-084

OCCUPANT
13550 FOOTHILL BL 23
SYLMAR CA 91342-4464

2513-007-085

OCCUPANT
13550 FOOTHILL BL 24
SYLMAR CA 91342-4464

2513-007-086

OCCUPANT
13550 FOOTHILL BL 25
SYLMAR CA 91342-4464

2513-007-087

OCCUPANT
13550 FOOTHILL BL 26
SYLMAR CA 91342-4464

2513-007-088

OCCUPANT
13550 FOOTHILL BL 27
SYLMAR CA 91342-4464

2513-007-089

OCCUPANT
13550 FOOTHILL BL 28
SYLMAR CA 91342-4464

2513-007-090

OCCUPANT
13550 FOOTHILL BL 29
SYLMAR CA 91342-4465

2513-007-091

OCCUPANT
13550 FOOTHILL BL 30
SYLMAR CA 91342-4465

2513-007-092

OCCUPANT
13550 FOOTHILL BL 31
SYLMAR CA 91342-4465

2513-007-093

OCCUPANT
13550 FOOTHILL BL 32
SYLMAR CA 91342-4465

2513-007-094

OCCUPANT
13550 FOOTHILL BL 33
SYLMAR CA 91342-4465

2513-007-095

OCCUPANT
13550 FOOTHILL BL 34
SYLMAR CA 91342-4465

2513-007-096

OCCUPANT
13550 FOOTHILL BL 35
SYLMAR CA 91342-4465

2513-007-097

OCCUPANT
13550 FOOTHILL BL 36
SYLMAR CA 91342-4465

2513-007-098

OCCUPANT
13550 FOOTHILL BL 37
SYLMAR CA 91342-4465

2513-007-099

OCCUPANT
13550 FOOTHILL BL 38
SYLMAR CA 91342-4465

2513-008-035

OCCUPANT
13451 GRIDLEY ST
SAN FERNANDO CA 91340-1012

2513-008-046

OCCUPANT
13500 LAZARD ST
SAN FERNANDO CA 91340-1021

2513-008-047

OCCUPANT
13501 LAZARD ST
SAN FERNANDO CA 91340-1020

2513-009-044

OCCUPANT
13441 FOOTHILL BL
SYLMAR CA 91342-4516

2513-009-049

OCCUPANT
13601 FOOTHILL BL
SYLMAR CA 91342-4405

2513-009-054

OCCUPANT
13617 FOOTHILL BL
SYLMAR CA 91342

2513-009-058

OCCUPANT
13583 FOOTHILL BL
SYLMAR CA 91342-4403

2513-009-065

OCCUPANT
12944 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-066

OCCUPANT
12942 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-067

OCCUPANT
12940 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-068

OCCUPANT
12938 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-069

OCCUPANT
12936 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-070

OCCUPANT
12934 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-071

OCCUPANT
12932 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-072

OCCUPANT
12930 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-073

OCCUPANT
12928 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-074

OCCUPANT
12926 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-075

OCCUPANT
12924 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-076

OCCUPANT
12922 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-077

OCCUPANT
12920 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-078

OCCUPANT
12918 FOUR PALMS LN 14
SYLMAR CA 91342-5817

2513-009-079

OCCUPANT
12916 FOUR PALMS LN 15
SYLMAR CA 91342-5817

2513-009-080

OCCUPANT
12914 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-081

OCCUPANT
12912 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-082

OCCUPANT
12910 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-083

OCCUPANT
12908 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-084

OCCUPANT
12906 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-085

OCCUPANT
12904 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-086

OCCUPANT
12902 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-087

OCCUPANT
12900 FOUR PALMS LN
SYLMAR CA 91342-5817

2513-009-088

OCCUPANT
12888 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-089

OCCUPANT
12886 FOUR PALMS LN 25
SYLMAR CA 91342-5800

2513-009-090

OCCUPANT
12884 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-091

OCCUPANT
12882 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-092

OCCUPANT
12880 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-093

OCCUPANT
12878 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-094

OCCUPANT
12876 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-095

OCCUPANT
12872 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-096

OCCUPANT
12870 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-097

OCCUPANT
12868 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-098

OCCUPANT
12866 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-099

OCCUPANT
12864 FOUR PALMS LN 35
SYLMAR CA 91342-5800

2513-009-100

OCCUPANT
12862 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-101

OCCUPANT
12860 FOUR PALMS LN
SYLMAR CA 91342-5800

2513-009-102

OCCUPANT
13450 WHITE PALMS LN
SYLMAR CA 91342-5634

2513-009-103

OCCUPANT
13452 WHITE PALMS LN
SYLMAR CA 91342-5634

2513-009-104

OCCUPANT
13454 WHITE PALMS LN
SYLMAR CA 91342-5634

2513-009-105

OCCUPANT
13456 WHITE PALMS LN 1
SYLMAR CA 91342-5634

2513-009-106

OCCUPANT
13457 WHITE PALMS LN
SYLMAR CA 91342-5634

2513-009-107

OCCUPANT
13455 WHITE PALMS LN
SYLMAR CA 91342-5634

2513-009-108

OCCUPANT
13453 WHITE PALMS LN 44
SYLMAR CA 91342-5634

2513-009-109

OCCUPANT
13458 TWIN PALMS LN
SYLMAR CA 91342-5633

2513-009-110

OCCUPANT
13460 TWIN PALMS LN
SYLMAR CA 91342-5633

2513-009-111

OCCUPANT
13462 TWIN PALMS LN
SYLMAR CA 91342-5633

2513-009-112

OCCUPANT
13464 TWIN PALMS LN
SYLMAR CA 91342-5633

2513-009-113

OCCUPANT
13463 TWIN PALMS LN
SYLMAR CA 91342-5633

2513-009-114

OCCUPANT
13461 TWIN PALMS LN 50
SYLMAR CA 91342-5633

2513-009-115

OCCUPANT
13459 TWIN PALMS LN
SYLMAR CA 91342-5633

2513-009-116

OCCUPANT
13457 TWIN PALMS LN
SYLMAR CA 91342-5633

2513-009-117

OCCUPANT
13466 SUNNY PALMS LN
SYLMAR CA 91342-5699

2513-009-118

OCCUPANT
13468 SUNNY PALMS LN
SYLMAR CA 91342-5699

2513-009-119

OCCUPANT
13470 SUNNY PALMS LN
SYLMAR CA 91342-5699

2513-009-120

OCCUPANT
13472 SUNNY PALMS LN
SYLMAR CA 91342-5699

2513-009-121

OCCUPANT
13471 SUNNY PALMS LN
SYLMAR CA 91342-5699

2513-009-122

OCCUPANT
13469 SUNNY PALMS LN
SYLMAR CA 91342-5699

2513-009-123

OCCUPANT
13467 SUNNY PALMS LN
SYLMAR CA 91342-5699

2513-009-124

OCCUPANT
13465 SUNNY PALMS LN
SYLMAR CA 91342-5699

2513-009-125

OCCUPANT
13500 SILVER PALMS LN
SYLMAR CA 91342-5644

2513-009-126

OCCUPANT
13502 SILVER PALMS LN
SYLMAR CA 91342-5644

2513-009-127

OCCUPANT
13504 SILVER PALMS LN
SYLMAR CA 91342-5644

2513-009-128

OCCUPANT
13506 SILVER PALMS LN
SYLMAR CA 91342-5644

2513-009-129

OCCUPANT
13507 SILVER PALMS LN 65
SYLMAR CA 91342-5644

2513-009-130

OCCUPANT
13505 SILVER PALMS LN
SYLMAR CA 91342-5644

2513-009-131

OCCUPANT
13503 SILVER PALMS LN
SYLMAR CA 91342-5644

2513-009-132

OCCUPANT
13501 SILVER PALMS LN
SYLMAR CA 91342-5644

2513-009-133

OCCUPANT
13510 SHADY PALMS LN
SYLMAR CA 91342-5642

2513-009-134

OCCUPANT
13512 SHADY PALMS LN
SYLMAR CA 91342-5642

2513-009-135

OCCUPANT
13514 SHADY PALMS LN
SYLMAR CA 91342-5642

2513-009-136

OCCUPANT
13516 SHADY PALMS LN
SYLMAR CA 91342-5642

2513-009-137

OCCUPANT
13517 SHADY PALMS LN
SYLMAR CA 91342-5642

2513-009-138

OCCUPANT
13515 SHADY PALMS LN
SYLMAR CA 91342-5642

2513-009-139

OCCUPANT
13513 SHADY PALMS LN
SYLMAR CA 91342-5642

2513-009-140

OCCUPANT
13511 SHADY PALMS LN
SYLMAR CA 91342-5642

2513-009-141

OCCUPANT
13518 ISLAND PALMS LN
SYLMAR CA 91342-5631

2513-009-142

OCCUPANT
13520 ISLAND PALMS LN
SYLMAR CA 91342-5631

2513-009-143

OCCUPANT
13522 ISLAND PALMS LN
SYLMAR CA 91342-5631

2513-009-144

OCCUPANT
13523 ISLAND PALMS LN
SYLMAR CA 91342-5631

2513-009-145

OCCUPANT
13521 ISLAND PALMS LN
SYLMAR CA 91342-5631

2513-009-146

OCCUPANT
13519 ISLAND PALMS LN
SYLMAR CA 91342-5631

2513-009-147

OCCUPANT
13524 GOLDEN PALMS LN
SYLMAR CA 91342-5903

2513-009-148

OCCUPANT
13526 GOLDEN PALMS LN
SYLMAR CA 91342-5903

2513-009-149

OCCUPANT
13528 GOLDEN PALMS LN
SYLMAR CA 91342-5903

2513-009-150

OCCUPANT
13529 GOLDEN PALMS LN
SYLMAR CA 91342-5903

2513-009-151

OCCUPANT
13527 GOLDEN PALMS LN
SYLMAR CA 91342-5903

2513-009-152

OCCUPANT
13525 GOLDEN PALMS LN
SYLMAR CA 91342-5903

2513-009-153

OCCUPANT
12937 FOUR PALMS LN
SYLMAR CA 91342-5811

2513-009-154

OCCUPANT
12939 FOUR PALMS LN
SYLMAR CA 91342-5811

2513-009-155

OCCUPANT
12941 FOUR PALMS LN
SYLMAR CA 91342-5811

2513-009-156

OCCUPANT
12943 FOUR PALMS LN
SYLMAR CA 91342-5811

2513-011-023

OCCUPANT
13302 FOOTHILL BL
SYLMAR CA 91342-4856

2513-011-029

OCCUPANT
13312 FOOTHILL BL
SYLMAR CA 91342-4856

2513-011-031

OCCUPANT
13330 FOOTHILL BL
SYLMAR CA 91342-4856

2513-011-032

OCCUPANT
13336 FOOTHILL BL
SYLMAR CA 91342-4856

2513-011-035

OCCUPANT
13340 FOOTHILL BL
SYLMAR CA 91342-4856

2513-011-036

OCCUPANT
13346 FOOTHILL BL
SYLMAR CA 91342-4856

2513-011-046

OCCUPANT
13326 FOOTHILL BL
SYLMAR CA 91342-4856

2513-011-047

OCCUPANT
13322 FOOTHILL BL
SYLMAR CA 91342-4856

2513-011-048

OCCUPANT
13316 FOOTHILL BL
SYLMAR CA 91342-4856

2513-011-055

OCCUPANT
13352 FOOTHILL BL
SYLMAR CA 91342-4856

2513-012-020

OCCUPANT
13370 FOOTHILL BL
SYLMAR CA 91342-4513

2513-012-023

OCCUPANT
13378 FOOTHILL BL
SYLMAR CA 91342-4513

2513-012-024

OCCUPANT
13384 FOOTHILL BL
SYLMAR CA 91342-4513

2513-012-026

OCCUPANT
13388 FOOTHILL BL
SYLMAR CA 91342-4513

2513-012-027

OCCUPANT
13394 FOOTHILL BL
SYLMAR CA 91342-4513

2513-012-031

OCCUPANT
13406 FOOTHILL BL
SYLMAR CA 91342-4515

2513-012-032

OCCUPANT
13410 FOOTHILL BL
SYLMAR CA 91342-4515

2513-012-033

OCCUPANT
13418 FOOTHILL BL
SYLMAR CA 91342-4515

2513-012-036

OCCUPANT
13420 FOOTHILL BL
SYLMAR CA 91342-4515

2513-012-037

OCCUPANT
13426 FOOTHILL BL
SYLMAR CA 91342-4515

2513-025-004

OCCUPANT
13166 FOOTHILL BL
SYLMAR CA 91342-4829

2513-025-005

OCCUPANT
13172 FOOTHILL BL
SYLMAR CA 91342-4829

2513-025-006

OCCUPANT
13176 FOOTHILL BL
SYLMAR CA 91342-4829

2513-025-007

OCCUPANT
13180 FOOTHILL BL 1
SYLMAR CA 91342-4829

2513-025-007

OCCUPANT
13180 FOOTHILL BL 2
SYLMAR CA 91342-4829

2513-025-007

OCCUPANT
13180 FOOTHILL BL 3
SYLMAR CA 91342-4829

2513-025-007

OCCUPANT
13180 FOOTHILL BL 4
SYLMAR CA 91342-4829

2513-025-007

OCCUPANT
13180 FOOTHILL BL 5
SYLMAR CA 91342-4829

2513-025-007

OCCUPANT
13180 FOOTHILL BL 6
SYLMAR CA 91342-4829

2513-025-007

OCCUPANT
13180 FOOTHILL BL 7
SYLMAR CA 91342-4829

2513-025-007

OCCUPANT
13180 FOOTHILL BL 8
SYLMAR CA 91342-4829

2513-025-007

OCCUPANT
13180 FOOTHILL BL 9
SYLMAR CA 91342-4829

2513-025-009

OCCUPANT
13201 MACLAY ST
SAN FERNANDO CA 91340-1315

2513-025-013

OCCUPANT
13158 FOOTHILL BL
SYLMAR CA 91342-4829

2513-025-015

OCCUPANT
13206 FOOTHILL BL
SYLMAR CA 91342-4831

2513-026-002

OCCUPANT
13222 FOOTHILL BL
SYLMAR CA 91342-4831

2513-026-016

OCCUPANT
13236 FOOTHILL BL
SYLMAR CA 91342-4831

2513-026-017

OCCUPANT
13228 FOOTHILL BL
SYLMAR CA 91342-4831

2513-026-019

OCCUPANT
13244 FOOTHILL BL
SYLMAR CA 91342-4831

2513-026-020

OCCUPANT
13250 FOOTHILL BL
SYLMAR CA 91342-4831

2513-026-020

OCCUPANT
13250 FOOTHILL BL B
SYLMAR CA 91342-4831

2513-026-021

OCCUPANT
13238 FOOTHILL BL
SYLMAR CA 91342-4831

2513-026-022

OCCUPANT
13216 FOOTHILL BL
SYLMAR CA 91342-4831

2513-026-028

OCCUPANT
13266 FOOTHILL BL 101
SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
13266 FOOTHILL BL 102
SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
13266 FOOTHILL BL 104
SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
13266 FOOTHILL BL 106
SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-026-028

OCCUPANT
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SYLMAR CA 91342-4859

2513-027-013

OCCUPANT
13201 FOOTHILL BL
SYLMAR CA 91342-4832

2513-027-015

OCCUPANT
13225 FOOTHILL BL
SYLMAR CA 91342-4832

2513-027-024

OCCUPANT
13205 FOOTHILL BL
SYLMAR CA 91342-4832

2513-027-029

OCCUPANT
13177 FOOTHILL BL
SYLMAR CA 91342-4830

2513-027-033

OCCUPANT
13169 FOOTHILL BL 101
SYLMAR CA 91342-4867

2513-027-034

OCCUPANT
13169 FOOTHILL BL 102
SYLMAR CA 91342-4867

2513-027-035

OCCUPANT
13169 FOOTHILL BL 103
SYLMAR CA 91342-4867

2513-027-036

OCCUPANT
13169 FOOTHILL BL 104
SYLMAR CA 91342-4867

2513-027-037

OCCUPANT
13169 FOOTHILL BL 105
SYLMAR CA 91342-4867

2513-027-038

OCCUPANT
13169 FOOTHILL BL 106
SYLMAR CA 91342-4867

2513-027-039

OCCUPANT
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SYLMAR CA 91342-4866

2513-027-040

OCCUPANT
13165 FOOTHILL BL 108
SYLMAR CA 91342-4866

2513-027-041

OCCUPANT
13165 FOOTHILL BL 109
SYLMAR CA 91342-4866

2513-027-042

OCCUPANT
13165 FOOTHILL BL 110
SYLMAR CA 91342-4866

2513-027-043

OCCUPANT
13165 FOOTHILL BL 111
SYLMAR CA 91342-4866

2513-027-044

OCCUPANT
13165 FOOTHILL BL 112
SYLMAR CA 91342-4866

2513-027-045

OCCUPANT
13165 FOOTHILL BL 113
SYLMAR CA 91342-4866

2513-027-046

OCCUPANT
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SYLMAR CA 91342-4865

2513-027-047

OCCUPANT
13161 FOOTHILL BL 115
SYLMAR CA 91342-4865

2513-027-048

OCCUPANT
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SYLMAR CA 91342-4865

2513-027-049

OCCUPANT
13161 FOOTHILL BL 117
SYLMAR CA 91342-4865

2513-027-050

OCCUPANT
13161 FOOTHILL BL 118
SYLMAR CA 91342-4865

2513-027-051

OCCUPANT
13161 FOOTHILL BL 119
SYLMAR CA 91342-4865

2513-027-052

OCCUPANT
13153 FOOTHILL BL
SYLMAR CA 91342-4830

2513-028-024

OCCUPANT
13131 FOOTHILL BL
SYLMAR CA 91342-4944

2513-028-032

OCCUPANT
13043 FOOTHILL BL
SYLMAR CA 91342-4931

2513-028-033

OCCUPANT
13117 FOOTHILL BL
SYLMAR CA 91342

2513-028-034

OCCUPANT
13101 FOOTHILL BL
SYLMAR CA 91342-4944

2513-029-001

OCCUPANT
13060 FOOTHILL BL
SYLMAR CA 91342-4945

2513-029-002

OCCUPANT
13066 FOOTHILL BL
SYLMAR CA 91342-4945

2513-029-003

OCCUPANT
13070 FOOTHILL BL
SYLMAR CA 91342-4945

2513-029-004

OCCUPANT
13076 FOOTHILL BL
SYLMAR CA 91342-4945

2513-029-005

OCCUPANT
13080 FOOTHILL BL
SYLMAR CA 91342-4945

2513-029-006

OCCUPANT
13086 FOOTHILL BL
SYLMAR CA 91342-4945

2513-029-007

OCCUPANT
13100 FOOTHILL BL
SYLMAR CA 91342-4942

2513-029-024

OCCUPANT
13110 W FOOTHILL BL
SAN FERNANDO CA 91340

2513-029-026

OCCUPANT
13116 FOOTHILL BL
SYLMAR CA 91342

2513-029-027

OCCUPANT
13120 FOOTHILL BL
SYLMAR CA 91342

2513-029-027

OCCUPANT
13130 FOOTHILL BL
SYLMAR CA 91342

2513-032-009

OCCUPANT
13150 BRAND BL
SAN FERNANDO CA 91340-1305

2513-032-010

OCCUPANT
13042 FOOTHILL BL
SYLMAR CA 91342-4930

2513-032-011

OCCUPANT
13036 FOOTHILL BL
SYLMAR CA 91342-4930

2514-001-059

OCCUPANT
12980 FOOTHILL BL
SYLMAR CA 91342

2514-001-059

OCCUPANT
12980 FOOTHILL BL 120
SYLMAR CA 91342

2514-001-059

OCCUPANT
12980 FOOTHILL BL 130
SYLMAR CA 91342

2514-001-060

OCCUPANT
12960 FOOTHILL BL
SYLMAR CA 91342-4928

2514-001-061

OCCUPANT
12950 FOOTHILL BL
SYLMAR CA 91342-4928

2514-001-062

OCCUPANT
12920 FOOTHILL BL
SYLMAR CA 91342-4928

2514-001-062

OCCUPANT
12916 FOOTHILL BL
SYLMAR CA 91342-4928

2514-001-062

OCCUPANT
12910 FOOTHILL BL
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12900 FOOTHILL BL
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL A
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL B
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL C
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL D
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL E
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL F
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL G
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL H
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL I
SYLMAR CA 91342-4928

2514-002-058

OCCUPANT
12902 FOOTHILL BL J
SYLMAR CA 91342-4928

2514-002-062

OCCUPANT
12850 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-063

OCCUPANT
12852 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-064

OCCUPANT
12854 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-065

OCCUPANT
12935 ARROYO ST
SYLMAR CA 91342-5338

2514-002-066

OCCUPANT
12937 ARROYO ST
SYLMAR CA 91342-5338

2514-002-067

OCCUPANT
12939 ARROYO ST
SYLMAR CA 91342-5338

2514-002-068

OCCUPANT
12941 ARROYO ST
SYLMAR CA 91342-5338

2514-002-069

OCCUPANT
12943 ARROYO ST
SYLMAR CA 91342-5338

2514-002-070

OCCUPANT
12955 ARROYO ST
SYLMAR CA 91342-5338

2514-002-071

OCCUPANT
12953 ARROYO ST
SYLMAR CA 91342-5338

2514-002-072

OCCUPANT
12951 ARROYO ST
SYLMAR CA 91342-5338

2514-002-074

OCCUPANT
12947 ARROYO ST 15
SYLMAR CA 91342-5338

2514-002-077

OCCUPANT
12872 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-078

OCCUPANT
12870 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-079

OCCUPANT
12868 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-080

OCCUPANT
12866 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-081

OCCUPANT
12864 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-082

OCCUPANT
12862 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-083

OCCUPANT
12860 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-088

OCCUPANT
12846 FOOTHILL BL
SYLMAR CA 91342-5330

2514-002-089

OCCUPANT
12848 FOOTHILL BL
SYLMAR CA 91342-5330

2514-003-040

OCCUPANT
12843 FOOTHILL BL A
SYLMAR CA 91342-8700

2514-003-040

OCCUPANT
12843 FOOTHILL BL B
SYLMAR CA 91342-8700

2514-003-040

OCCUPANT
12843 FOOTHILL BL C
SYLMAR CA 91342-8700

2514-003-040

OCCUPANT
12843 FOOTHILL BL D
SYLMAR CA 91342-8700

2514-003-041

OCCUPANT
12865 FOOTHILL BL
SYLMAR CA 91342-5317

2514-003-041

OCCUPANT
12863 FOOTHILL BL
SYLMAR CA 91342-5317

2514-003-042

OCCUPANT
12875 FOOTHILL BL
SYLMAR CA 91342-5317

2514-003-043

OCCUPANT
12885 FOOTHILL BL
SYLMAR CA 91342-5317

2514-003-044

OCCUPANT
12907 FOOTHILL BL
SYLMAR CA 91342-4929

2514-003-045

OCCUPANT
12923 FOOTHILL BL
SYLMAR CA 91342-4929

2514-003-046

OCCUPANT
12933 FOOTHILL BL
SYLMAR CA 91342-4929

2514-003-046

OCCUPANT
12935 FOOTHILL BL
SYLMAR CA 91342-4929

2514-003-047

OCCUPANT
12943 FOOTHILL BL
SYLMAR CA 91342-4929

2514-003-048

OCCUPANT
12953 FOOTHILL BL
SYLMAR CA 91342-4929

2514-003-049

OCCUPANT
12985 FOOTHILL BL
SYLMAR CA 91342-4929

2514-004-028

OCCUPANT
12823 FOOTHILL BL
SYLMAR CA 91342-5316

2514-004-029

OCCUPANT
12811 FOOTHILL BL
SYLMAR CA 91342-5316

2514-004-030

OCCUPANT
12801 FOOTHILL BL
SYLMAR CA 91342-5316

2514-004-031

OCCUPANT
12777 FOOTHILL BL
SYLMAR CA 91342-5314

2514-004-031

OCCUPANT
12775 FOOTHILL BL
SYLMAR CA 91342-5314

2514-004-032

OCCUPANT
12767 FOOTHILL BL
SYLMAR CA 91342-5314

2514-004-033

OCCUPANT
12751 FOOTHILL BL
SYLMAR CA 91342-5314

2514-004-034

OCCUPANT
12745 FOOTHILL BL
SYLMAR CA 91342-5314

2514-004-039

OCCUPANT
12729 FOOTHILL BL
SYLMAR CA 91342-5314

2514-004-039

OCCUPANT
12727 FOOTHILL BL
SYLMAR CA 91342-5314

2514-004-040

OCCUPANT
12717 FOOTHILL BL
SYLMAR CA 91342-5314

2514-004-040

OCCUPANT
12719 FOOTHILL BL
SYLMAR CA 91342-5314

2514-004-042

OCCUPANT
12685 FOOTHILL BL
SYLMAR CA 91342-5312

2514-004-043

OCCUPANT
12707 FOOTHILL BL A
SYLMAR CA 91342-5302

2514-004-043

OCCUPANT
12707 FOOTHILL BL B
SYLMAR CA 91342-5302

2514-004-043

OCCUPANT
12707 FOOTHILL BL C
SYLMAR CA 91342-5302

2514-004-043

OCCUPANT
12707 FOOTHILL BL D
SYLMAR CA 91342-5302

2514-004-043

OCCUPANT
12707 FOOTHILL BL E
SYLMAR CA 91342-5302

2514-004-043

OCCUPANT
12707 FOOTHILL BL F
SYLMAR CA 91342-5302

2514-004-043

OCCUPANT
12707 FOOTHILL BL G
SYLMAR CA 91342-5302

2514-004-043

OCCUPANT
12707 FOOTHILL BL H
SYLMAR CA 91342-5302

2514-005-030

OCCUPANT
12744 FOOTHILL BL
SYLMAR CA 91342-5313

2514-005-031

OCCUPANT
12736 FOOTHILL BL
SYLMAR CA 91342-5313

2514-005-032

OCCUPANT
12716 FOOTHILL BL
SYLMAR CA 91342-5313

2514-005-033

OCCUPANT
12708 FOOTHILL BL
SYLMAR CA 91342-5313

2514-005-034

OCCUPANT
12700 FOOTHILL BL
SYLMAR CA 91342-8727

2514-005-047

OCCUPANT
12728 FOOTHILL BL
SYLMAR CA 91342-5313

2514-005-047

OCCUPANT
12722 FOOTHILL BL
SYLMAR CA 91342-5313

2514-005-047

OCCUPANT
12724 FOOTHILL BL
SYLMAR CA 91342-5313

2514-005-050

OCCUPANT
12680 FOOTHILL BL A
SYLMAR CA 91342-8728

2514-005-050

OCCUPANT
12680 FOOTHILL BL B
SYLMAR CA 91342-8728

2514-005-050

OCCUPANT
12680 FOOTHILL BL C
SYLMAR CA 91342-8728

2514-005-050

OCCUPANT
12680 FOOTHILL BL D
SYLMAR CA 91342-8728

2514-007-039

OCCUPANT
12776 FOOTHILL BL A
SYLMAR CA 91342-5306

2514-007-039

OCCUPANT
12776 FOOTHILL BL B
SYLMAR CA 91342-5306

2514-007-039

OCCUPANT
12776 FOOTHILL BL C
SYLMAR CA 91342-5306

2514-007-043

OCCUPANT
12760 FOOTHILL BL
SYLMAR CA 91342-5313

2514-007-044

OCCUPANT
12800 FOOTHILL BL
SYLMAR CA 91342-5315

2525-017-003

OCCUPANT
12355 GLADSTONE AV
SYLMAR CA 91342-5319

2525-017-003

OCCUPANT
12349 GLADSTONE AV
SYLMAR CA 91342-5319

2525-017-004

OCCUPANT
12341 GLADSTONE AV
SYLMAR CA 91342-5319

2525-017-005

OCCUPANT
12329 GLADSTONE AV
SYLMAR CA 91342-5319

2525-017-006

OCCUPANT
12315 GLADSTONE AV A
SYLMAR CA 91342-5334

2525-017-006

OCCUPANT
12315 GLADSTONE AV B
SYLMAR CA 91342-5334

2525-017-006

OCCUPANT
12315 GLADSTONE AV C
SYLMAR CA 91342-5334

2525-017-006

OCCUPANT
12315 GLADSTONE AV D
SYLMAR CA 91342-5334

2525-017-006

OCCUPANT
12315 GLADSTONE AV E
SYLMAR CA 91342-5334

2525-017-006

OCCUPANT
12317 GLADSTONE AV
SYLMAR CA 91342-5334

2525-017-006

OCCUPANT
12319 GLADSTONE AV
SYLMAR CA 91342-5334

2525-017-006

OCCUPANT
12321 GLADSTONE AV
SYLMAR CA 91342-5334

2525-017-006

OCCUPANT
12323 GLADSTONE AV
SYLMAR CA 91342-5334

2525-017-007

OCCUPANT
12301 GLADSTONE AV
SYLMAR CA 91342-5319

2525-017-008

OCCUPANT
12836 ARROYO ST
SYLMAR CA 91342-5304

2525-018-055

OCCUPANT
12835 ARROYO ST
SYLMAR CA 91342-5303

2525-018-056

OCCUPANT
12847 ARROYO ST
SYLMAR CA 91342-5303

2525-018-057

OCCUPANT
12423 GLADSTONE AV 1
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 2
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 3
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 5
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 6
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 7
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 8
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 9
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 10
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 11
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 12
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
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SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 22
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 23
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 24
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 25
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 26
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 27
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 28
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 29
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 30
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 31
SYLMAR CA 91342-5339

2525-018-057

OCCUPANT
12423 GLADSTONE AV 32
SYLMAR CA 91342-5339

2525-018-058

OCCUPANT
12445 GLADSTONE AV
SYLMAR CA 91342-5321

2525-018-059

OCCUPANT
12457 GLADSTONE AV
SYLMAR CA 91342-5335

2525-018-060

OCCUPANT
12473 GLADSTONE AV A
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV C
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV D
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV E
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV F
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV I
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV K
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV L
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV M
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV N
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV O
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV Q
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV R
SYLMAR CA 91342-5300

2525-018-060

OCCUPANT
12473 GLADSTONE AV W
SYLMAR CA 91342-5300

2525-018-061

OCCUPANT
12501 GLADSTONE AV
SYLMAR CA 91342-5323

2525-018-063

OCCUPANT
12801 ARROYO ST
SYLMAR CA 91342-5303

2525-018-064

OCCUPANT
12825 ARROYO ST
SYLMAR CA 91342-5303

2525-018-901

OCCUPANT
12525 GLADSTONE AV
SYLMAR CA 91342

2525-019-057

OCCUPANT
12460 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-062

OCCUPANT
12500 GLADSTONE AV
SYLMAR CA 91342-5322

2525-019-064

OCCUPANT
12745 ARROYO ST
SYLMAR CA 91342-5332

2525-019-065

OCCUPANT
12424 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-065

OCCUPANT
12428 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-065

OCCUPANT
12428 1/2 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-065

OCCUPANT
12430 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-065

OCCUPANT
12430 1/2 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-065

OCCUPANT
12432 GLADSTONE AV
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2525-019-065

OCCUPANT
12432 1/2 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-065

OCCUPANT
12434 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-065

OCCUPANT
12434 1/2 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-065

OCCUPANT
12436 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-065

OCCUPANT
12436 1/2 GLADSTONE AV
SYLMAR CA 91342-5320

2525-019-066

OCCUPANT
12400 GLADSTONE AV
SYLMAR CA 91342

2525-019-066

OCCUPANT
12418 GLADSTONE AV
SYLMAR CA 91342

2525-027-014

OCCUPANT
12740 ARROYO ST
SYLMAR CA 91342-5305

2525-028-001

OCCUPANT
12300 GLADSTONE AV
SYLMAR CA 91342-5318

2525-028-002

OCCUPANT
12314 GLADSTONE AV
SYLMAR CA 91342-5318

2525-028-002

OCCUPANT
12322 GLADSTONE AV
SYLMAR CA 91342-5318

2525-028-003

OCCUPANT
12328 GLADSTONE AV 1
SYLMAR CA 91342-5326

2525-028-003

OCCUPANT
12328 GLADSTONE AV 2
SYLMAR CA 91342-5326

2525-028-003

OCCUPANT
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SYLMAR CA 91342-5326

2525-028-003

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2525-028-003

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2525-028-003

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OCCUPANT
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SYLMAR CA 91342-5326

2525-028-003

OCCUPANT
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SYLMAR CA 91342-5326

2525-028-004

OCCUPANT
12340 GLADSTONE AV
SYLMAR CA 91342

2525-028-005

OCCUPANT
12354 GLADSTONE AV
SYLMAR CA 91342

2525-028-006

OCCUPANT
12812 ARROYO ST
SYLMAR CA 91342-5301

2525-028-007

OCCUPANT
12800 ARROYO ST
SYLMAR CA 91342-5301

2525-028-018

OCCUPANT
12391 MONTERO AV
SYLMAR CA 91342-5370

2527-011-026

OCCUPANT
12638 FOOTHILL BL
SYLMAR CA 91342-5311

2527-011-029

OCCUPANT
12642 FOOTHILL BL
SYLMAR CA 91342-5311

2527-011-030

OCCUPANT
12630 FOOTHILL BL
SYLMAR CA 91342-5311

2527-012-008

OCCUPANT
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SYLMAR CA 91342-5312

2527-012-013

OCCUPANT
12595 FOOTHILL BL
SYLMAR CA 91342-5310

2527-012-014

OCCUPANT
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SYLMAR CA 91342-5312

2527-012-014

OCCUPANT
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2527-012-014

OCCUPANT
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SYLMAR CA 91342-5312

2527-012-014

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SYLMAR CA 91342-5312

2527-012-014

OCCUPANT
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SYLMAR CA 91342-5312

2527-012-014

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2527-013-070

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12580 FOOTHILL BL
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2527-013-072

OCCUPANT
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2527-013-073

OCCUPANT
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2527-013-074

OCCUPANT
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2527-013-075

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2527-013-076

OCCUPANT
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2527-022-031

OCCUPANT
12450 FOOTHILL BL
SYLMAR CA 91342-6004

2527-022-032

OCCUPANT
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2527-022-033

OCCUPANT
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2527-022-033

OCCUPANT
12410 FOOTHILL BL B
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2527-022-033

OCCUPANT
12410 FOOTHILL BL C
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2527-022-033

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2527-022-033

OCCUPANT
12410 FOOTHILL BL I
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2527-022-033

OCCUPANT
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2527-022-033

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2527-022-033

OCCUPANT
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2527-022-033

OCCUPANT
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2527-022-033

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SYLMAR CA 91342-6064

2527-022-033

OCCUPANT
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2527-022-072

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OCCUPANT
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2527-023-025

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2527-023-025

OCCUPANT
12367 FOOTHILL BL B
SYLMAR CA 91342-6056

2527-023-025

OCCUPANT
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SYLMAR CA 91342-6056

2527-023-025

OCCUPANT
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2527-023-025

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2527-023-025

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2527-023-025

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2531-003-004

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2531-003-011

OCCUPANT
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2531-003-011

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2531-003-011

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2531-003-011

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2531-003-011

OCCUPANT
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2531-003-014

OCCUPANT
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2531-003-014

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2531-003-014

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12133 FOOTHILL BL
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2531-004-017

OCCUPANT
12137 FOOTHILL BL
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2531-004-017

OCCUPANT
12141 FOOTHILL BL
SYLMAR CA 91342

2531-004-018

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12145 FOOTHILL BL
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2531-004-019

OCCUPANT
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2531-004-020

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2531-004-026

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2531-004-032

OCCUPANT
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2531-004-031

OCCUPANT
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2531-006-004

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2531-006-008

OCCUPANT
12075 FOOTHILL BL
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SYLMAR CA 91342-6451

2531-006-009

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12067 FOOTHILL BL A
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2531-006-009
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11901 FOOTHILL BL
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2531-016-017

OCCUPANT
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LAKEVIEW TERRACE CA 91342-6402

2531-016-017

OCCUPANT
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2531-016-017

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2531-016-017

OCCUPANT
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2531-016-017

OCCUPANT
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2532-001-027

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OCCUPANT
12270 FOOTHILL BL
SYLMAR CA 91342-6001

2532-001-029

OCCUPANT
12268 FOOTHILL BL
SYLMAR CA 91342-6001

2532-001-032

OCCUPANT
12260 FOOTHILL BL
SYLMAR CA 91342-6001

2532-001-034

OCCUPANT
12300 FOOTHILL BL A
SYLMAR CA 91342-6013

2532-001-034

OCCUPANT
12300 FOOTHILL BL B
SYLMAR CA 91342-6013

2532-003-002

OCCUPANT
12202 FOOTHILL BL A
SYLMAR CA 91342-6065

2532-003-002

OCCUPANT
12202 FOOTHILL BL B
SYLMAR CA 91342-6065

2532-003-002

OCCUPANT
12202 FOOTHILL BL C
SYLMAR CA 91342-6065

2532-003-002

OCCUPANT
12200 FOOTHILL BL
SYLMAR CA 91342-6065

2532-003-009

OCCUPANT
12214 FOOTHILL BL
SYLMAR CA 91342

2532-003-010

OCCUPANT
12210 FOOTHILL BL
SYLMAR CA 91342-6001

2532-003-011

OCCUPANT
12220 FOOTHILL BL
SYLMAR CA 91342-6001

2532-010-022

OCCUPANT
12355 STONEGATE RD
PACOIMA CA 91331-1480

2532-010-023

OCCUPANT
12359 STONEGATE RD
PACOIMA CA 91331-1480

2532-010-024

OCCUPANT
12361 STONEGATE RD
PACOIMA CA 91331-1480

2532-010-025

OCCUPANT
12367 STONEGATE RD
PACOIMA CA 91331-1480

2532-010-026

OCCUPANT
12369 STONEGATE RD
PACOIMA CA 91331-1480

2532-010-027

OCCUPANT
12373 STONEGATE RD
PACOIMA CA 91331-1480

2532-010-028

OCCUPANT
12377 STONEGATE RD
PACOIMA CA 91331-1434

2532-010-029

OCCUPANT
11547 VINEYARD LN
PACOIMA CA 91331-1485

2532-010-030

OCCUPANT
11543 VINEYARD LN
PACOIMA CA 91331-1485

2532-010-031

OCCUPANT
11539 VINEYARD LN
PACOIMA CA 91331-1485

2532-010-032

OCCUPANT
11535 VINEYARD LN 52
PACOIMA CA 91331-1485

2532-010-033

OCCUPANT
11531 VINEYARD LN
PACOIMA CA 91331-1485

2532-010-034

OCCUPANT
11527 VINEYARD LN
PACOIMA CA 91331-1485

2532-010-035

OCCUPANT
11523 VINEYARD LN
PACOIMA CA 91331-1485

2532-010-036

OCCUPANT
12355 SWEETBRIAR LN
PACOIMA CA 91331-1478

2532-010-037

OCCUPANT
11536 VINEYARD LN
PACOIMA CA 91331-1486

2532-010-038

OCCUPANT
11540 VINEYARD LN
PACOIMA CA 91331-1486

2532-010-039

OCCUPANT
12368 STONEGATE RD
PACOIMA CA 91331-1479

2532-010-040

OCCUPANT
12364 STONEGATE RD
PACOIMA CA 91331-1479

2532-010-041

OCCUPANT
12360 STONEGATE RD
PACOIMA CA 91331-1479

2532-010-042

OCCUPANT
12356 STONEGATE RD
PACOIMA CA 91331-1479

2532-010-043

OCCUPANT
12352 STONEGATE RD 63
PACOIMA CA 91331-1479

2532-010-044

OCCUPANT
11544 DEARBORN CT
PACOIMA CA 91331-1484

2532-010-045

OCCUPANT
11546 DEARBORN CT
PACOIMA CA 91331-1484

2532-010-046

OCCUPANT
11548 DEARBORN CT
PACOIMA CA 91331-1484

2532-010-047

OCCUPANT
11545 DEARBORN CT 77
PACOIMA CA 91331-1484

2532-010-048

OCCUPANT
11541 DEARBORN CT
PACOIMA CA 91331-1484

2532-010-049

OCCUPANT
11537 DEARBORN CT
PACOIMA CA 91331-1484

2532-010-050

OCCUPANT
11531 DEARBORN CT 80
PACOIMA CA 91331-1484

2532-010-051

OCCUPANT
12350 SWEETBRIAR LN
PACOIMA CA 91331-1476

2532-010-052

OCCUPANT
12346 SWEETBRIAR LN
PACOIMA CA 91331-1476

2532-010-053

OCCUPANT
12342 SWEETBRIAR LN
PACOIMA CA 91331-1476

2532-010-054

OCCUPANT
12339 CARL ST
PACOIMA CA 91331-1468

2532-010-055

OCCUPANT
12343 CARL ST
PACOIMA CA 91331-1468

2532-010-056

OCCUPANT
12347 CARL ST
PACOIMA CA 91331-1468

2532-010-057

OCCUPANT
12357 CARL ST
PACOIMA CA 91331-1469

2532-010-058

OCCUPANT
12361 CARL ST
PACOIMA CA 91331-1469

2532-010-059

OCCUPANT
12363 CARL ST
PACOIMA CA 91331-1469

2532-010-060

OCCUPANT
12365 CARL ST
PACOIMA CA 91331-1469

2532-010-061

OCCUPANT
11512 HONEYGLEN RD
PACOIMA CA 91331-1481

2532-010-062

OCCUPANT
11516 HONEYGLEN RD
PACOIMA CA 91331-1481

2532-010-063

OCCUPANT
11522 HONEYGLEN RD 26
PACOIMA CA 91331-1481

2532-010-064

OCCUPANT
11526 HONEYGLEN RD 27
PACOIMA CA 91331-1481

2532-010-065

OCCUPANT
11530 HONEYGLEN RD
PACOIMA CA 91331-1481

2532-010-066

OCCUPANT
11534 HONEYGLEN RD 29
PACOIMA CA 91331-1481

2532-010-067

OCCUPANT
11538 HONEYGLEN RD
PACOIMA CA 91331-1487

2532-010-068

OCCUPANT
11542 HONEYGLEN RD
PACOIMA CA 91331-1487

2532-010-069

OCCUPANT
11546 HONEYGLEN RD
PACOIMA CA 91331-1487

2532-010-070

OCCUPANT
11550 HONEYGLEN RD
PACOIMA CA 91331-1487

2532-010-071

OCCUPANT
11556 HONEYGLEN RD
PACOIMA CA 91331-1487

2532-010-072

OCCUPANT
11560 HONEYGLEN RD
PACOIMA CA 91331-1487

2532-010-073

OCCUPANT
11564 HONEYGLEN RD 36
PACOIMA CA 91331-1487

2532-010-074

OCCUPANT
11568 HONEYGLEN RD 37
PACOIMA CA 91331-1487

2532-010-075

OCCUPANT
11570 HONEYGLEN RD
PACOIMA CA 91331-1487

2532-010-076

OCCUPANT
12345 STONEGATE RD
PACOIMA CA 91331-1480

2532-010-077

OCCUPANT
12347 STONEGATE RD
PACOIMA CA 91331-1480

2532-010-078

OCCUPANT
12351 STONEGATE RD
PACOIMA CA 91331-1480

2532-010-079

OCCUPANT
11565 HONEYGLEN RD
PACOIMA CA 91331-1483

2532-010-080

OCCUPANT
11561 HONEYGLEN RD
PACOIMA CA 91331-1483

2532-010-081

OCCUPANT
11557 HONEYGLEN RD
PACOIMA CA 91331-1483

2532-010-082

OCCUPANT
11551 HONEYGLEN RD
PACOIMA CA 91331-1483

2532-010-083

OCCUPANT
11547 HONEYGLEN RD
PACOIMA CA 91331-1483

2532-010-084

OCCUPANT
11545 HONEYGLEN RD
PACOIMA CA 91331-1483

2532-010-085

OCCUPANT
12325 SWEETBRIAR LN
PACOIMA CA 91331-1477

2532-010-086

OCCUPANT
12327 SWEETBRIAR LN
PACOIMA CA 91331-1477

2532-010-087

OCCUPANT
11530 DEARBORN CT
PACOIMA CA 91331-1484

2532-010-088

OCCUPANT
11536 DEARBORN CT 73
PACOIMA CA 91331-1484

2532-010-089

OCCUPANT
12336 SWEETBRIAR LN
PACOIMA CA 91331-1476

2532-010-090

OCCUPANT
12332 SWEETBRIAR LN
PACOIMA CA 91331-1476

2532-010-091

OCCUPANT
12328 SWEETBRIAR LN
PACOIMA CA 91331-1476

2532-010-092

OCCUPANT
12324 SWEETBRIAR LN
PACOIMA CA 91331-1476

2532-010-093

OCCUPANT
12320 SWEETBRIAR LN
PACOIMA CA 91331-1476

2532-010-094

OCCUPANT
11523 HONEYGLEN RD
PACOIMA CA 91331-1482

2532-010-095

OCCUPANT
12311 CARL ST
PACOIMA CA 91331-1470

2532-010-096

OCCUPANT
12319 CARL ST
PACOIMA CA 91331-1470

2532-010-097

OCCUPANT
12323 CARL ST 92
PACOIMA CA 91331-1470

2532-010-098

OCCUPANT
12327 CARL ST
PACOIMA CA 91331-1470

2532-010-099

OCCUPANT
12331 CARL ST
PACOIMA CA 91331-1468

2532-010-100

OCCUPANT
12335 CARL ST
PACOIMA CA 91331-1468

2532-011-011

OCCUPANT
12244 CLOVER RD
PACOIMA CA 91331-1456

2532-011-012

OCCUPANT
12242 CLOVER RD 8
PACOIMA CA 91331-1456

2532-011-013

OCCUPANT
12238 CLOVER RD
PACOIMA CA 91331-1456

2532-011-014

OCCUPANT
12234 CLOVER RD
PACOIMA CA 91331-1456

2532-011-015

OCCUPANT
12230 CLOVER RD
PACOIMA CA 91331-1456

2532-011-016

OCCUPANT
12226 CLOVER RD
PACOIMA CA 91331-1456

2532-011-017

OCCUPANT
12224 CLOVER RD
PACOIMA CA 91331-1456

2532-011-018

OCCUPANT
11448 GREEN VALLEY TE
PACOIMA CA 91331-1453

2532-011-019

OCCUPANT
11452 GREEN VALLEY TE 15
PACOIMA CA 91331-1453

2532-011-020

OCCUPANT
11454 GREEN VALLEY TE
PACOIMA CA 91331-1455

2532-011-021

OCCUPANT
11460 GREEN VALLEY TE
PACOIMA CA 91331-1455

2532-011-022

OCCUPANT
11462 GREEN VALLEY TE
PACOIMA CA 91331-1455

2532-011-023

OCCUPANT
11466 GREEN VALLEY TE
PACOIMA CA 91331-1455

2532-011-024

OCCUPANT
11470 GREEN VALLEY TE
PACOIMA CA 91331-1455

2532-011-025

OCCUPANT
11476 GREEN VALLEY TE 21
PACOIMA CA 91331-1455

2532-011-026

OCCUPANT
11480 GREEN VALLEY TE
PACOIMA CA 91331-1455

2532-011-027

OCCUPANT
11486 GREEN VALLEY TE
PACOIMA CA 91331-1455

2532-011-028

OCCUPANT
11441 MEADOWVIEW LN
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2532-011-029

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2532-011-030

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11473 MEADOWVIEW LN
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2532-011-032

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11469 MEADOWVIEW LN
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2532-011-033

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2532-011-034

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2532-011-035

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2532-011-036

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PACOIMA CA 91331-1452

2532-011-039

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11462 MEADOWVIEW LN
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2532-011-040

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11472 MEADOWVIEW LN
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2532-011-042

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11474 MEADOWVIEW LN
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2532-011-044

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2532-011-045

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11475 GREEN VALLEY TE
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11471 GREEN VALLEY TE
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2532-011-047

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2532-011-048

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11463 GREEN VALLEY TE
PACOIMA CA 91331-1454

2532-011-049

OCCUPANT
11459 GREEN VALLEY TE 167
PACOIMA CA 91331-1454

2532-011-050

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12231 CLOVER RD
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2532-011-052

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12310 CLOVER RD
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12306 CLOVER RD
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2532-011-057

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2532-011-058

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2532-011-072

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12332 HILLDALE CT
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12330 HILLDALE CT
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PACOIMA CA 91331-1472

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2532-012-044

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SYLMAR CA 91342-7101

Attachment 4

Scoping Meeting Sign-In Sheet

SIGN-IN SHEET

Foothill Trunk Line Unit 3 Project

Public Scoping Meeting

Wednesday, February 13, 2013, 6:30pm
Truesdale Training Center

The signing, registering, or completion of this document is voluntary. All persons may attend this meeting regardless of whether they sign, register, or complete this document.

NAME	ORGANIZATION/ AFFILIATION	ADDRESS	EMAIL	TELEPHONE
ANN JOB	SYLMAR NEIGHBORHOOD COUNCIL	14047 CANDLEWOOD DR. SYLMAR 91342	annjob@yahoo.com	818/364-9318

Attachment 5

Proof of Publication of Public Notices

Affidavit of Publication

RECEIVED
CITY CLERK'S OFFICE

2013 MAR 12 AM 11:21 9N15398

CITY CLERK

BY __________ DEPUTY

LA City Clerk
200 N Spring St. Ste 395
Los Angeles, CA 90012-3239

Tony Ayala ____________of

County and State being duly sworn, says:

That he is and at all times herein mentioned wa… citizen of the United States, over 21 years of age, and … a party to nor interested in the above entitled matter; … he is a principal clerk of the printers and publishers of … LOS ANGELES TIMES a newspaper printed an… published daily in the said Los Angeles County; that the

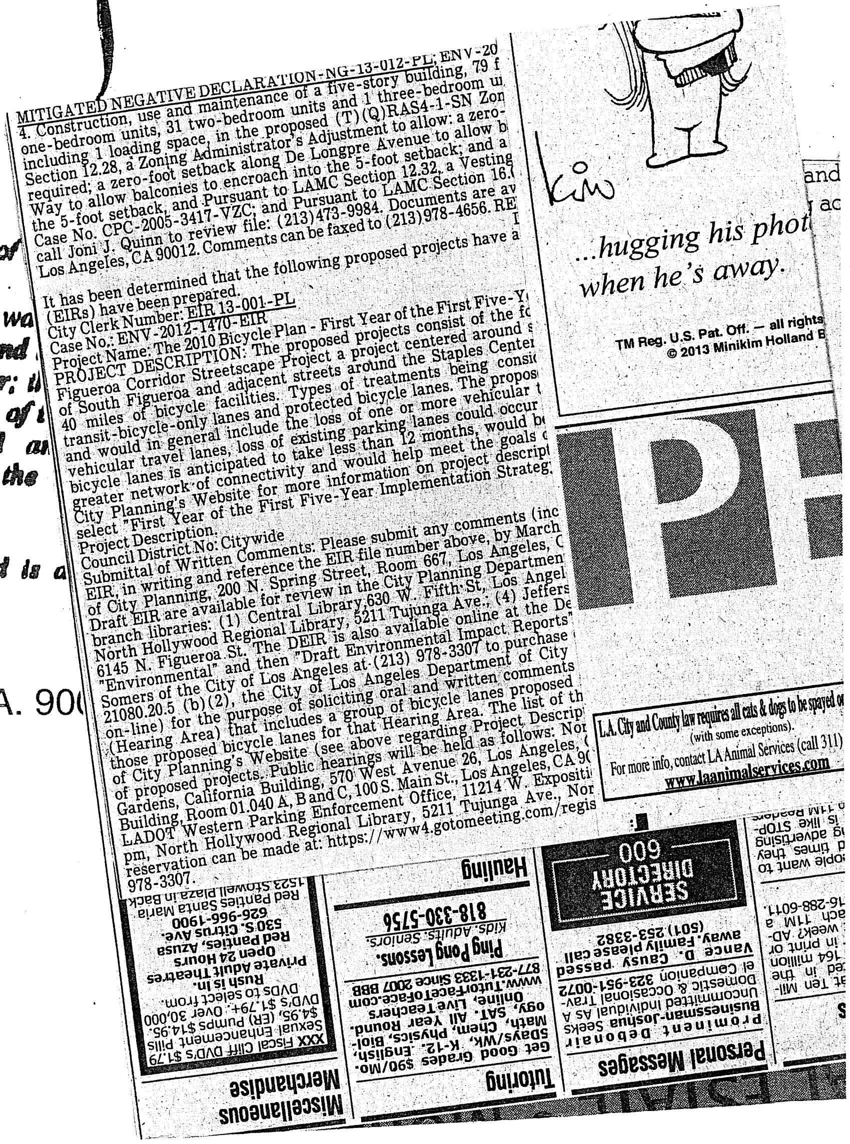
Legal Notice

in the above entitled matter of which the annexed is a… printed copy, was published in said newspaper

LOS ANGELES TIMES
202 West First St. Los Angeles, CA. 90…

on the following days, to-wit:

Thurs; January 17, 2013



MITIGATED NEGATIVE DECLARATION-NG-13-012-PL; ENV-20
4. Construction, use and maintenance of a five-story building, 79 f
one-bedroom units, 31 two-bedroom units and 1 three-bedroom u
including 1 loading space, in the proposed (T)(Q)RAS4-1-SN Zon
Section 12.28, a Zoning Administrator's Adjustment to allow: a zero-
required; a zero-foot setback along De Longpre Avenue to allow b
Way to allow balconies to encroach into the 5-foot setback; and a
the 5-foot setback, and Pursuant to LAMC Section 12.32, a Vesting
Case No. CPC-2005-3417-VZC; and Pursuant to LAMC Section 16.
call Joni J. Quinn to review file: (213)473-9984. Documents are av
Los Angeles, CA 90012. Comments can be faxed to (213)978-4656. RE

It has been determined that the following proposed projects have a
(EIRs) have been prepared.
City Clerk Number: EIR 13-001-PL
Case No.: ENV-2012-1470-EIR
Project Name: The 2010 Bicycle Plan - First Year of the First Five-Y
PROJECT DESCRIPTION: The proposed projects consist of the fo
Figueroa Corridor Streetscape Project a project centered around s
of South Figueroa and adjacent streets around the Staples Center
40 miles of bicycle facilities. Types of treatments being consi
transit-bicycle-only lanes and protected bicycle lanes. The propos
and would in general include the loss of one or more vehicular t
vehicular travel lanes, loss of existing parking lanes could occur
bicycle lanes is anticipated to take less than 12 months, would be
greater network of connectivity and would help meet the goals o
City Planning's Website for more information on project descrip
select "First Year of the First Five-Year Implementation Strateg
Project Description.
Council District No: Citywide
Submittal of Written Comments: Please submit any comments (inc
EIR, in writing and reference the EIR file number above, by March
of City Planning, 200 N. Spring Street, Room 667, Los Angeles, C
Draft EIR are available for review in the City Planning Departmen
branch libraries: (1) Central Library, 630 W. Fifth St, Los Angel
North Hollywood Regional Library, 5211 Tujunga Ave., (4) Jeffers
6145 N. Figueroa St. The DEIR is also available online at the De
"Environmental" and then "Draft Environmental Impact Reports"
Somers of the City of Los Angeles at (213) 978-3307 to purchase
21080.20.5 (b)(2), the City of Los Angeles Department of City
on-line) for the purpose of soliciting oral and written comments
(Hearing Area) that includes a group of bicycle lanes proposed
those proposed bicycle lanes for that Hearing Area. The list of th
of City Planning's Website (see above regarding Project Descrip
of proposed projects. Public hearings will be held as follows: Nor
Gardens, California Building, 570 West Avenue 26, Los Angeles, C
Building, Room 01.040 A, B and C, 100 S. Main St., Los Angeles, CA 9
LADOT Western Parking Enforcement Office, 11214 W. Expositi
pm, North Hollywood Regional Library, 5211 Tujunga Ave., Nor
reservation can be made at: https://www4.gotomeeting.com/regis
978-3307.

State of California

County of Los Angeles

DEBORAH L. BEAVERS
COMM. #1870011
Notary Public - California
San Bernardino County
My Comm. Expires Nov. 1, 2013

Subscribed and sworn to (or affirmed) before me on this

05 day of March, 20 13, by
Date Month Year

(1) Tony Ayala,
Name of Signer

proved to me on the basis of satisfactory evidence to be the person who appeared before me (.)

DLBeavers, Notary Public

Attachment 6

Comment Letters Received by LADWP

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

Notice of Preparation

January 16, 2013

To: Reviewing Agencies

Re: Foothill Trunk Line Unit 3
SCH# 2013011019

Attached for your review and comment is the Notice of Preparation (NOP) for the Foothill Trunk Line Unit 3 draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Nancy Chung
Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# **2013011019**
Project Title Foothill Trunk Line Unit 3
Lead Agency Los Angeles Department of Water and Power

Type **NOP** Notice of Preparation

Description LADWP proposes to install a 54-inch welded steel pipe as part of the proposed Foothill Trunk Line Unit 3 Project (proposed project). The proposed project would replace and upsize approximately 16,600 linear feet of the existing FTL from northwest of Hubbard Street, where it would connect to the 60-inch PCCP, to just southeast of Terra Bella Street, where it would connect to a 36-inch pipe along Foothill Boulevard and a 30-inch pipe on Terra Bella Street. Furhtermore, the proposed project would minimize dependency on the Sheldon Pump Station and would allow the LADWP to decommission several pipelines, which have a history of leaks, currently servicing the area. The proposed project would be located in the City of Los Angeles in the communities of Sylmar and Pacoima.

Lead Agency Contact

Name Nancy Chung
Agency Los Angeles Department of Water and Power
Phone 213 367 0404 ***Fax***
email
Address 111 North Hope Street, Room 1044
City Los Angeles ***State*** CA ***Zip*** 90012

Project Location

County Los Angeles
City
Region
Cross Streets 600 feet north of the intersection of Hubbard Street and Foothill Blvd. to Terra Bella Street
Lat / Long 34° 10' 56.3" N / 118° 14' 40.2" W
Parcel No. Public Utility Easement
Township ***Range*** ***Section*** ***Base***

Proximity to:

Highways 210
Airports Whiteman Airport
Railways N/A
Waterways Pacoima Wash
Schools Gridley Elem, Valley Region, Hillary T. Broadous
Land Use Zoning/General Plan

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Schools/Universities; Septic System; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Water Quality; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 5; Native American Heritage Commission; Public Utilities Commission; California Highway Patrol; Caltrans, Division of Aeronautics; Caltrans, District 7; State Water Resources Control Board; Regional Water Quality Control Board, Region 4

Date Received 01/16/2013 ***Start of Review*** 01/16/2013 ***End of Review*** 03/01/2013

NOP Distribution List

County: Los Angeles

SCH# 2013011019

esources Agency

☒ **Resources Agency**
Nadell Gayou

☐ **Dept. of Boating & Waterways**
Nicole Wong

☐ **California Coastal Commission**
Elizabeth A. Fuchs

☐ **Colorado River Board**
Gerald R. Zimmerman

☐ **Dept. of Conservation**
Elizabeth Carpenter

☐ **California Energy Commission**
Eric Knight

☐ **Cal Fire**
Dan Foster

☐ **Central Valley Flood Protection Board**
James Herota

☐ **Office of Historic Preservation**
Ron Parsons

☒ **Dept of Parks & Recreation**
Environmental Stewardship Section

☐ **California Department of Resources, Recycling & Recovery**
Sue O'Leary

☐ **S.F. Bay Conservation & Dev't. Comm.**
Steve McAdam

☒ **Dept. of Water Resources** Resources Agency
Nadell Gayou

ish and Game

☐ **Dept. of Fish & Wildlife**
Scott Flint
Environmental Services Division

☐ **Fish & Wildlife Region 1**
Donald Koch

☐ **Fish & Wildlife Region 1E**
Laurie Harnsberger

☐ **Fish & Wildlife Region 2**
Jeff Drongesen

☐ **Fish & Wildlife Region 3**
Charles Armor

☐ **Fish & Wildlife Region 4**
Julie Vance

☒ **Fish & Wildlife Region 5**
Leslie Newton-Reed
Habitat Conservation Program

☐ **Fish & Wildlife Region 6**
Gabrina Gatchel
Habitat Conservation Program

☐ **Fish & Wildlife Region 6 I/M**
Brad Henderson
Inyo/Mono, Habitat Conservation Program

☐ **Dept. of Fish & Wildlife M**
George Isaac
Marine Region

Other Departments

☐ **Food & Agriculture**
Sandra Schubert
Dept. of Food and Agriculture

☐ **Depart. of General Services**
Public School Construction

☐ **Dept. of General Services**
Anna Garbeff
Environmental Services Section

☐ **Dept. of Public Health**
Jeffery Worth
Dept. of Health/Drinking Water

☐ **Delta Stewardship Council**
Kevan Samsam

Independent Commissions,Boards

☐ **Delta Protection Commission**
Michael Machado

☐ **Cal EMA (Emergency Management Agency)**
Dennis Castrillo

☒ **Native American Heritage Comm.**
Debbie Treadway

☒ **Public Utilities Commission**
Leo Wong

☐ **Santa Monica Bay Restoration**
Guangyu Wang

☐ **State Lands Commission**
Jennifer Deleong

☐ **Tahoe Regional Planning Agency (TRPA)**
Cherry Jacques

Business, Trans & Housing

☒ **Caltrans - Division of Aeronautics**
Philip Crimmins

☐ **Caltrans - Planning**
Terri Pencovic

☒ **California Highway Patrol**
Suzann Ikeuchi
Office of Special Projects

☐ **Housing & Community Development**
CEQA Coordinator
Housing Policy Division

Dept. of Transportation

☐ **Caltrans, District 1**
Rex Jackman

☐ **Caltrans, District 2**
Marcelino Gonzalez

☐ **Caltrans, District 3**
Gary Arnold

☐ **Caltrans, District 4**
Erik Alm

☐ **Caltrans, District 5**
David Murray

☐ **Caltrans, District 6**
Michael Navarro

☒ **Caltrans, District 7**
Dianna Watson

☐ **Caltrans, District 8**
Dan Kopulsky

☐ **Caltrans, District 9**
Gayle Rosander

☐ **Caltrans, District 10**
Tom Dumas

☐ **Caltrans, District 11**
Jacob Armstrong

☐ **Caltrans, District 12**
Marlon Regisford

Cal EPA

Air Resources Board

☐ Airport/Energy Projects
Jim Lerner

☐ Transportation Projects
Douglas Ito

☐ Industrial Projects
Mike Tollstrup

☒ **State Water Resources Control Board**
Regional Programs Unit
Division of Financial Assistance

☐ **State Water Resources Control Board**
Student Intern, 401 Water Quality Certification Unit
Division of Water Quality

☐ **State Water Resouces Control Board**
Phil Crader
Division of Water Rights

☐ **Dept. of Toxic Substances Control**
CEQA Tracking Center

☐ **Department of Pesticide Regulation**
CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

☐ **RWQCB 1**
Cathleen Hudson
North Coast Region (1)

☐ **RWQCB 2**
Environmental Document Coordinator
San Francisco Bay Region (2)

☐ **RWQCB 3**
Central Coast Region (3)

☒ **RWQCB 4**
Teresa Rodgers
Los Angeles Region (4)

☐ **RWQCB 5S**
Central Valley Region (5)

☐ **RWQCB 5F**
Central Valley Region (5)
Fresno Branch Office

☐ **RWQCB 5R**
Central Valley Region (5)
Redding Branch Office

☐ **RWQCB 6**
Lahontan Region (6)

☐ **RWQCB 6V**
Lahontan Region (6)
Victorville Branch Office

☐ **RWQCB 7**
Colorado River Basin Region (7)

☐ **RWQCB 8**
Santa Ana Region (8)

☐ **RWQCB 9**
San Diego Region (9)

☐ **Other** ____________

☐ ____________
Conservancy

Last Updated 8/14/2012

STATE OF CALIFORNIA Edmund G. Brown, Jr., *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

January 24, 2013

Ms. Nancy Chung, Project Planner
Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Re: SCH#2013011019 CEQA Notice of Preparation (NOP); draf Environmental Impact Report (DEIR) for the **"Foothill Trunk Line Unit 3 Project:"** located within the Communities of Sylmar, and Pacoima; San Fernando Valley; Los Angeles County, California

Dear Ms. Chung:

The California Native American Heritage Commission (NAHC) is the State of California 'trustee agency' for the preservation and protection of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties or resources of religious and cultural significance to American Indian tribes law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendment s effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC advises the Lead Agency to request a Sacred Lands File search of the NAHC if one has not been done for the 'area of potential effect' or APE previously.

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties, including archaeological studies. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and California Public Resources Code Section 21083.2 (Archaeological Resources) that requires documentation, data recovery of cultural resources, construction to avoid sites and the possible use of covenant easements to protect sites.

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

Native American Contacts
Los Angeles County
January 24, 2013

Beverly Salazar Folkes
1931 Shadybrook Drive
Thousand Oaks, CA 91362
folkes@msn.com
805 492-7255
(805) 558-1154 - cell

Chumash
Tataviam
Ferrnandeño

Fernandeno Tataviam Band of Mission Indians
Ronnie Salas, Cultural Preservation Department
1019 - 2nd Street, Suite #1
San Fernando CA 91340
rsalas@tataviam-nsn.gov
(818) 837-0794 Office

(818) 837-0796 Fax

Fernandeno
Tataviam

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles, CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street
Bakersfield, CA 93305
deedominguez@juno.com
(626) 339-6785

Yowlumne
Kitanemuk

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838
Newhall, CA 91322
tsen2u@hotmail.com
(661) 753-9833 Office
(760) 885-0955 Cell
(760) 949-1604 Fax

Fernandeño
Tataviam
Serrano
Vanyume
Kitanemuk

Randy Guzman - Folkes
6471 Cornell Circle
Moorpark, CA 93021
ndnRandy@yahoo.com
(805) 905-1675 - cell

Chumash
Fernandeño
Tataviam
Shoshone Paiute
Yaqui

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the propo SCH#2013011019; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Foothill Trunk Line Unit 3 Project; located within the communities of Sylmar and Pacoima; San Fernando Valley; Los Angeles County, California.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

January 25, 2013

Nancy Chung
Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Notice of Preparation of a CEQA Document for the Foothill Trunk Line Unit 3 Project

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Please send the SCAQMD a copy of the Draft EIR upon its completion. Note that copies of the Draft EIR that are submitted to the State Clearinghouse are not forwarded to the SCAQMD. Please forward a copy of the Draft EIR directly to SCAQMD at the address in our letterhead. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. The lead agency may wish to consider using land use emissions estimating software such as the recently released CalEEMod. This model is available on the SCAQMD Website at: http://www.aqmd.gov/ceqa/models.html.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has developed a methodology for calculating PM2.5 emissions from construction and operational activities and processes. In connection with developing PM2.5 calculation methodologies, the SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD requests that the lead agency quantify PM2.5 emissions and compare the results to the recommended PM2.5 significance thresholds. Guidance for calculating PM2.5 emissions and PM2.5 significance thresholds can be found at the following internet address: http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html.

In addition to analyzing regional air quality impacts the SCAQMD recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized significance analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis") can be found on the SCAQMD's CEQA web pages at the following internet address: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html. An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additional mitigation measures can be found on the SCAQMD's CEQA web pages at the following internet address: www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/prdas/aqguide/aqguide.html. In addition, guidance on siting incompatible land uses can be found in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Perspective, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (http://www.aqmd.gov).

The SCAQMD staff is available to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. If you have any questions regarding this letter, please call Ian MacMillan, Program Supervisor, CEQA Section, at (909) 396-3244.

Sincerely,

Ian MacMillan
Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

IM
LAC130118-02
Control Number

DEPARTMENT OF THE ARMY
VENTURA REGULATORY FIELD OFFICE
2151 ALESSANDRO DRIVE, SUITE 110
VENTURA, CA 93001

January 25, 2013

REPLY TO
ATTENTION OF

Regulatory Division

Nancy Chung
City of Los Angeles, Department of Water and Power
111 North Hope Street, Suite 1044
Los Angeles, California 90012

SUBJECT: Notice of Preparation of Draft Environmental Impact Report for the Foothill Trunk Line Unit 3 Project

Dear Ms. Chung:

I am responding to the City's Notice of Preparation for the Draft Environmental Impact Report for the Foothill Trunk Line Unit 3 Project and initial study for the project (Corps File No. SPL-2013-00075-BAH) dated January 16, 2013. The project would open trench or jack the proposed 54-inch-diameter welded steel pipe approximately 16,600 feet along Foothill Boulevard in the communities of Sylmar and Pacoima. The notice identifies a crossing of Pacoima Wash between N. Brand Boulevard and Arroyo Street where the pipeline would be supported by "reinforced concrete piers on either side of the wash" (notice) or "would either be attached to the side of the existing bridge across the channel or installed adjacent to the bridge in a utility encasement on footings that would be located outside of the wash so as not to disturb the channel" (initial study). Because these proposed crossing designs would not likely result in a discharge of fill material in Pacoima Wash, a jurisdictional tributary to the Los Angeles River, a Department of the Army permit pursuant to Section 404 of the Clean Water Act would not be required from the Corps of Engineers.

If you have any questions, please contact me at 805-585-2145 or via e-mail at Bruce.A.Henderson@usace.army.mil. Please be advised that you can now comment on your experience with Regulatory Division by accessing the Corps web-based customer survey form at: http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

Bruce Henderson

Bruce Henderson
Sr. Project Manager
North Coast Branch
Regulatory Division

COUNTY OF LOS ANGELES
DEPARTMENT OF PARKS AND RECREATION
"Parks Make Life Better!"
Russ Guiney, Director John Wicker, Chief Deputy Director

February 26, 2013 Sent via email: Nancy.Chung@ladwp.com

Ms. Nancy Chung
Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Dear Ms. Chung:

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE FOOTHILL TRUNK LINE UNIT 3 PROJECT

Thank you for the opportunity to comment on the document cited above. We have determined that the proposed project, which proposes to replace and upsize approximately 16,600 linear feet of the existing Foothill Trunk Line, will not affect any Departmental facilities.

If you have any questions, please contact me at (213) 351-5127 or by email at: jyom@parks.lacounty.gov.

Sincerely,

Julie Yom, Park Planner
Environmental and Regulatory Permitting

JY/ LA DWP Foothill Trunk Line Unit 3 Project

c: Parks and Recreation (N. E. Garcia, K. King, J. Rupert, J. McCarthy)

Planning and Development Agency • 510 South Vermont Ave • Los Angeles, CA 90020-1975 • (213) 351-5198

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY Emund G. Brown, Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, REGIONAL PLANNING
IGR/CEQA BRANCH
100 MAIN STREET, MS # 16
LOS ANGELES, CA 90012-3606
PHONE: (213) 897-9140
FAX: (213) 897-1337

Flex your power!
Be energy efficient!

February 27, 2013

Ms. Nancy Chung
Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

RE: Foothill Trunk Line Project (IS)
IGR/CEQA #130117-ZJ
SCH#2013011019
Vic.: LA-210, PM R4.11 to R6.55
LA-118, PM R13.89

Dear Ms. Chung:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Foothill Trunk Line Project. The Foothill Trunk Line (FTL) is the major transmission pipeline that transports water from the Van Norman Pump Station No. 2 (VNPS) within the Los Angeles Reservoir Sylmar, to the 1449-foot system. The 1449-foot system is a network of reservoirs, pipelines, and pump stations that supplies water to the Sylmar, Pacoima, Sunland, and Tujunga Service Areas in the East Valley.

The objective of developing this project is to upsize the existing FTL pipeline to achieve size consistency among pipelines throughout the 1449-foot system. The FTL would allow for more efficient water transfer within the entire 1449-foot system by decreasing flow restriction and stabilizing flow patterns. If implemented, the FTL would increase LADWP's ability to reliably transport water throughout the Sylmar, Pacoima, Sunland and Tujunga Service Areas.

To fully evaluate the impacts of this project on the State transportation facilities a construction traffic study needs to be prepared and include the following information:

1. Traffic impacts on State Routes (SR) 118 and 210, and all significantly impacted streets, crossroads and controlling intersections.
2. An analysis of existing conditions and conditions during construction periods.
3. A truck/traffic construction management plan should be submitted to Caltrans for review.
4. Traffic volume counts, including anticipated AM and PM peak-hour volumes.
5. Level of service (LOS) before and during construction.
6. A brief construction traffic discussion showing ingress/egress, turning movements and a directional flow for construction vehicle trips at the on/off ramps.
7. Discussion of mitigation measures appropriate to alleviate anticipated traffic impacts, including sharing of mitigation costs.

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects should be designed to discharge clean run-off water. Additionally, discharge of storm water run-off is not permitted onto State highway facilities.

Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a Caltrans transportation permit. It is recommended that large size truck trips be limited to off-peak commute periods. In addition, a truck/traffic construction management plan may be needed for this project.

If you have any questions, you may reach Zeron Jefferson, project coordinator at (213) 897-0219 and please refer to IGR #130117-ZJ.

Sincerely,

Dianna Watson

DIANNA WATSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

From: Dubiel, Matthew [mailto:MDUBIEL@dpw.lacounty.gov]
Sent: Thursday, February 28, 2013 5:09 PM
To: Chung, Nancy
Cc: Cruz, Ruben; Yanez, Jarrett
Subject: Notice of Preparation of a Draft EIR for the Foothill Trunk Line Unit 3 Project - Comments

February 28, 2013

Ms. Nancy Chung
Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Dear Ms. Chung:

INITIAL STUDY/NOTICE OF PREPARATION
FOOTHILL TRUNK LINE UNIT 3
CITY OF LOS ANGELES

Thank you for the opportunity to review the Initial Study/Notice of Preparation for the Foothill Trunk Line Unit 3 project. The project would replace and upsize approximately 16,600 linear feet of the existing Foothill Trunk Line from northwest of Hubbard Street, where it would connect to the 60-inch pre-stressed concrete cylinder pipe, to the southeast of Terra Bella Street, where it would connect to a 36-inch pipe along Foothill Boulevard and a 30-inch pipe on Terra Bella Street. The project area is located in the City of Los Angeles in the communities of Sylmar and Pacoima.

The following comments are for your consideration and relate to the environmental document only:

Water Resources

1. The reports and drawings within the Environmental Impact Report should properly label all Los Angeles County Flood Control District (LACFCD) storm drains that will be affected during this project.

2. It should be noted that if an encroachment, connection, alteration, or access to a LACFCD facility is required, applicable permits must be applied for with our Land Development Division Permits/Subdivision Section.

In addition, we request the opportunity to review all future documents and drawings associated with the Foothill Trunk Line Unit 3 project.

If you have any questions regarding the water resource comments, please contact James Hilovsky of Flood Maintenance Division at (818) 896-0594 or jhilovsky@dpw.lacounty.gov.

If you have any other questions or require additional information, please contact Matthew Dubiel at (626) 458-4921 or mdubiel@dpw.lacounty.gov.

Thank you.

Matthew Dubiel, P.E.
County of Los Angeles Department of Public Works
Land Development Division, Subdivision Mapping Section,
CUP/CEQA/B&T Planning Unit
☎ (626) 458-4921 🖷(626)458-4949

Please click here to take our customer service survey

COMMENT CARD

Foothill Trunk Line Unit 3 Project

Written comments may be submitted tonight during the scoping meeting or mailed/emailed to Nancy Chung. Comments on the Initial Study must be received no later than March 1, 2013.

Los Angeles Department of Water and Power
Attn: Nancy Chung
111 North Hope Street, Room 1044
Los Angeles, California 90012
Nancy.Chung@ladwp.com

I have the following comments on the proposed Environmental Impact Report (EIR) scope of work for the subject project:

THANKS for holding this meeting. You were very responsive to my question.

Name: ANN JOB

Affiliation/Organization: SYLMAR NC

Address: 14047 CANDLEWOOD DR.
SYLMAR CA 91342

Phone: 818/364-9318

ESA Water

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

meeting notes

project	Foothill Trunk Line Unit 3 EIR	project no.	211490.15
date	2.13.2013	time	6:30 p.m.
present	Scoping Meeting	route to	FTLU3 Project Team
subject	Scoping Meeting Notes		

The scoping meeting for the Foothill Trunk Line Unit 3 EIR was scheduled to start at 6:30 p.m. No one from the public arrived until 8:00. The Project PowerPoint was presented by Chuck Holloway. The meeting convened at 8:30 p.m. The following questions were asked during the presentation:

1. What is the CEQA process? *The EIR records project and analyzes all its known environmental effects. Project information is decision makers in their evaluation of the proposed project*

2. What is the location of pipeline? *Foothill Boulevard*

3. Will there be construction at night? *Not sure yet*

4. Is the pipeline being prepared due to growth in the area? Would the pipeline be installed to replace the existing pipeline for existing population or provide for future water? *The pipeline is being replaced because the line was installed in the 1930s*

5. What is the construction schedule? *Winter 2013 to Winter 2019*

6. Have there been any public comments? *No*

7. Why is LADWP doing the project? *The pipeline is being replaced because the line was installed in the 1930s*

8. Who decided to do the project? *LADWP does periodic risk/benefit analysis of the entire system and the Foothill Trunk Line Unit 3 came up*

9. Was the project initiated because of the potential for earthquakes? *No*

10. Why wasn't the community here? *Over 1200 notices were sent to the community and the local neighborhood councils and chambers of commerce were notified about the meeting*

11. A suggestion was made for LADWP representatives to attend the next Sylmar Neighborhood council on February 28, 2013. *LADWP Public Outreach attended the last Sylmar Neighborhood Council Meeting*

Appendix B

Air Quality Modeling Results

AIR QUALITY APPENDIX

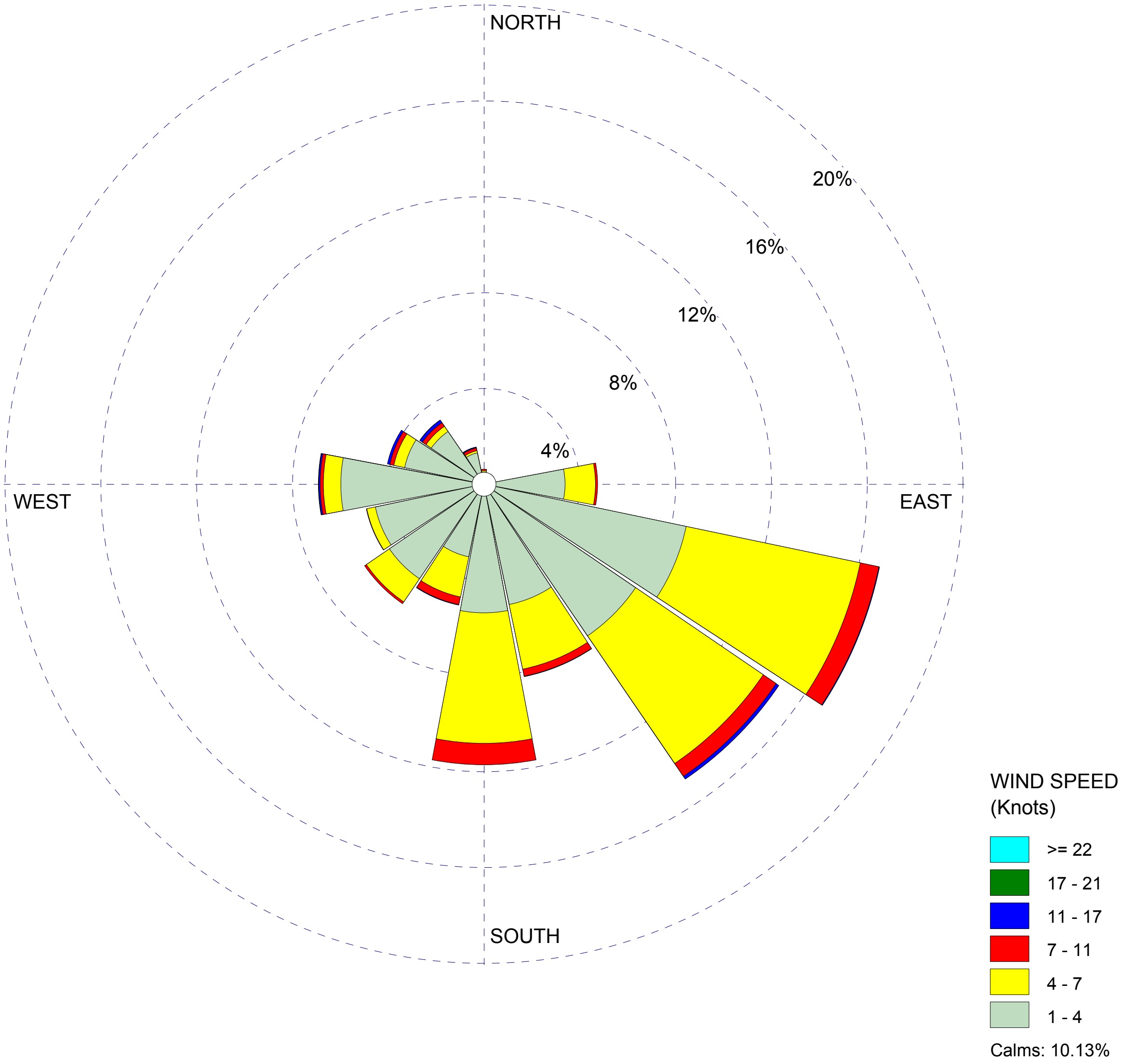
Wind and Climate Information

WIND ROSE PLOT:

Van de Kamp Innovation Center
Burbank Wind Monitoring Station

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

DATA PERIOD:

Start Date: 1/1/1981 - 00:00
End Date: 12/31/1981 - 23:00

COMPANY NAME:

MODELER:

CALM WINDS:

10.13%

TOTAL COUNT:

8760 hrs.

AVG. WIND SPEED:

3.30 Knots

DATE:

1/9/2013

PROJECT NO.:

WRPLOT View - Lakes Environmental Software

1981 - 2010

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1981-2010 Normals (~3 KB)

1971 - 2000

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1971-2000 Normals (~3 KB)

1961 - 1990

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1961-1990 Normals (~3 KB)

Period of Record

- Station Metadata
- Station Metadata Graphics

General Climate Summary Tables
- Temperature
- Precipitation
- Heating Degree Days
- Cooling Degree Days
- Growing Degree Days

Temperature
- Daily Extremes and Averages
- Spring 'Freeze' Probabilities
- Fall 'Freeze' Probabilities

BURBANK VALLEY PUMP PLA, CAL

Period of Record General Climate Summary - Tempera

Station:(041194) BURBANK VALLEY PUMP PLA

From Year=1939 To Year=2006

	Monthly Averages			Daily Extremes				Monthly Extremes			
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-
January	67.3	41.6	54.4	93	31/2003	22	29/1979	63.4	2003	45.1	1949
February	68.8	43.6	56.2	92	16/1977	27	15/1942	61.9	1954	50.7	1949
March	70.4	45.7	58.0	98	26/1988	22	07/1980	64.5	2004	52.7	1952
April	73.9	49.0	61.5	105	06/1989	32	05/1978	68.1	1989	53.4	1967
May	76.7	53.4	65.1	107	29/1984	39	21/1975	71.8	1984	60.6	1998
June	81.5	57.2	69.3	111	27/1976	43	14/1943	77.7	1981	64.0	1944
July	88.5	61.0	74.7	108	26/1943	45	02/1979	79.7	1984	69.0	1944
August	89.2	61.3	75.2	111	26/1944	46	28/1975	80.4	1994	71.7	1948
September	87.2	59.1	73.2	113	12/1971	43	26/1941	81.4	1984	67.3	1986
October	81.0	53.3	67.1	108	01/1980	33	30/1971	72.3	1991	62.7	2002
November	73.5	45.9	59.7	98	03/1976	29	30/1975	65.0	1949	54.0	1994
December	68.0	41.7	54.9	92	03/1958	22	08/1978	59.6	1958	49.3	1971
Annual	77.2	51.1	64.1	113	19710912	22	19781208	66.7	1984	61.9	1944
Winter	68.1	42.3	55.2	93	20030131	22	19781208	59.1	1981	48.6	1949
Spring	73.7	49.4	61.5	107	19840529	22	19800307	66.1	1993	58.2	1999
Summer	86.4	59.8	73.1	111	19440826	43	19430614	77.3	1981	69.1	1944
Fall	80.6	52.8	66.7	113	19710912	29	19751130	70.2	1991	63.9	1973

Table updated on Jul 28, 2006

For monthly and annual means, thresholds, and sums:

1981 - 2010

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1981-2010 Normals (~3 KB)

1971 - 2000

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1971-2000 Normals (~3 KB)

1961 - 1990

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1961-1990 Normals (~3 KB)

Period of Record

- Station Metadata
- Station Metadata Graphics

General Climate Summary Tables
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- Precipitation
- Heating Degree Days
- Cooling Degree Days
- Growing Degree Days

Temperature
- Daily Extremes and Averages
- Spring 'Freeze' Probabilities
- Fall 'Freeze' Probabilities

BURBANK VALLEY PUMP PLA, CAL

Period of Record General Climate Summary - Precipita

Station:(041194) BURBANK VALLEY PUMP PLA

From Year=1939 To Year=2006

	Precipitation										
	Mean	High	Year	Low	Year	1 Day Max.		>= 0.01 in.	>= 0.10 in.	>= 0.50 in.	>= 1.0
	in.	in.	-	in.	-	in.	dd/yyyy or yyyymmdd	# Days	# Days	# Days	# D
January	3.37	15.92	1995	0.00	1948	7.76	22/1943	6	4	2	
February	3.94	15.52	1998	0.00	1964	4.50	08/1993	6	4	2	
March	2.91	12.87	1978	0.00	1956	5.45	01/1983	6	4	2	
April	1.18	5.66	1965	0.00	1962	2.30	12/1956	4	2	1	
May	0.28	4.37	1998	0.00	1942	2.29	08/1977	2	1	0	
June	0.07	1.04	1993	0.00	1940	1.01	05/1993	1	0	0	
July	0.01	0.21	1986	0.00	1940	0.18	12/1992	0	0	0	
August	0.11	2.97	1977	0.00	1940	2.86	17/1977	1	0	0	
September	0.20	3.39	1976	0.00	1940	1.43	10/1976	1	1	0	
October	0.59	7.26	2004	0.00	1953	3.00	19/2004	2	1	0	
November	1.54	10.63	1965	0.00	1948	5.28	29/1970	3	2	1	
December	2.30	8.07	1940	0.00	1950	5.30	29/1965	5	3	2	
Annual	16.51	39.77	1983	3.52	1947	7.76	19430122	36	23	10	
Winter	9.62	32.33	2005	1.81	1961	7.76	19430122	17	12	6	
Spring	4.37	18.19	1983	0.00	1997	5.45	19830301	12	7	3	
Summer	0.19	2.97	1977	0.00	1940	2.86	19770817	2	0	0	
Fall	2.33	11.38	1965	0.00	1980	5.28	19701129	6	4	2	

Table updated on Jul 28, 2006

For monthly and annual means, thresholds, and sums:

Ambient Air Data

Wednesday, January 9, 2013

Up Links

- **Air Quality & Emissions**
  - **iADAM**: Air Quality Data Statistics
    - **iADAM**: Top Four Summary
      - Previous Page

Program Links

- Frequently Asked Questions

Resources

- Contact Us

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Burbank-W Palm Avenue

	2009		2010		2011	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Aug 31	0.145	Sep 26	0.111	Aug 25	0.120
Second High:	Aug 27	0.121	Sep 4	0.103	Aug 27	0.111
Third High:	Jul 19	0.118	Jun 5	0.096	Sep 5	0.109
Fourth High:	May 17	0.108	Jul 14	0.092	Jul 3	0.099
California:						
# Days Above the Standard:		16		3		8
California Designation Value:		0.13		0.12		0.11
Expected Peak Day Concentration:		0.125		0.120		0.113
National:						
# Days Above the Standard:		*1*		*0*		*0*
Nat'l Standard Design Value:		*0.121*		*0.121*		*0.118*
Year Coverage:		97		92		93

◄ Shift Backward [1 year] Shift Forward ►

Notes:

Hourly ozone measurements and related statistics are available at Burbank-W Palm Avenue between 1978 and 2011. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics*.

yellow exceeds a California ambient air quality standard. *orange* exceeds the revoked 1-hour national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Wednesday, January 9, 2013

Up Links

- **Air Quality & Emissions**
  - **iADAM**: Air Quality Data Statistics
    - **iADAM**: Top Four Summary
      - Previous Page

Program Links

- Frequently Asked Questions

Resources

- Contact Us

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Burbank-W Palm Avenue

	2009		2010		2011	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Aug 31	0.096	Jun 5	0.084	Sep 5	0.084
Second High:	Jul 19	0.094	Sep 26	0.079	May 4	0.083
Third High:	Aug 29	0.090	Sep 4	0.078	Jul 3	0.081
Fourth High:	Jul 18	0.086	Sep 25	0.076	Aug 28	0.081
California:						
First High:	Aug 31	0.097	Jun 5	0.084	Sep 5	0.084
Second High:	Jul 19	0.095	Sep 26	0.080	May 4	0.083
Third High:	Aug 29	0.090	Sep 4	0.079	Aug 28	0.082
Fourth High:	Jul 18	0.086	Sep 25	0.077	Jul 3	0.081
National:						
# Days Above the Standard:		14		4		6
Nat'l Standard Design Value:		0.088		0.084		0.081
National Year Coverage:		98		93		92
California:						
# Days Above the Standard:		28		9		10
California Designation Value:		0.097		0.097		0.090
Expected Peak Day Concentration:		0.101		0.098		0.092
California Year Coverage:		97		92		91

◄ Shift Backward 1 Shift Forward ►

Notes:

Eight-hour ozone averages and related statistics are available at Burbank-W Palm Avenue between 1978 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

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Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Wednesday, January 9, 2013

UP LINKS

- **Air Quality & Emissions**
  - **iADAM**: Air Quality Data Statistics
    - **iADAM**: Top Four Summary
      - Previous Page

PROGRAM LINKS

- Frequently Asked Questions

RESOURCES

- Contact Us

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Carbon Monoxide Averages

at Burbank-W Palm Avenue

iADAM

	2009		2010		2011	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Jan 1	2.89	Dec 4	2.35	Nov 29	2.37
Second High:	Nov 26	2.50	Jan 8	2.33	Dec 28	2.33
Third High:	Jan 8	2.39	Dec 3	2.30	Dec 9	2.33
Fourth High:	Jan 7	2.29	Dec 9	2.24	Dec 10	2.31
California:						
First High:	Jan 1	2.89	Dec 3	2.35	Nov 28	2.37
Second High:	Nov 25	2.50	Jan 7	2.33	Dec 27	2.33
Third High:	Jan 8	2.39	Dec 9	2.24	Dec 8	2.33
Fourth High:	Jan 7	2.29	Dec 2	2.24	Dec 31	2.33
National:						
# Days Above the Standard:		0		0		0
California:						
# Days Above the Standard:		0		0		0
Expected Peak Day Concentration:		2.86		2.66		2.67
Year Coverage:		97		85		96

◄ Shift Backward [1] Shift Forward ►

Notes:

Eight-hour carbon monoxide averages and related statistics are available at Burbank-W Palm Avenue between 1963 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Wednesday, January 9, 2013

Up Links

- **Air Quality & Emissions**
  - **iADAM**: Air Quality Data Statistics
    - **iADAM**: Top Four Summary
      - Previous Page

Program Links

- Frequently Asked Questions

Resources

- Contact Us

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Burbank-W Palm Avenue

	2009		2010		2011	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Aug 31	0.088	Jan 7	0.082	Oct 13	0.068
Second High:	Nov 2	0.083	Aug 26	0.069	Oct 12	0.063
Third High:	Mar 18	0.077	Sep 24	0.069	Oct 30	0.063
Fourth High:	Oct 25	0.075	Jan 6	0.069	Sep 6	0.061
California:						
# Days Above the Standard:		0		0		0
Annual Average:		0.027		0.024		*
Year Coverage:		85		76		68

◄ Shift Backward [1] Shift Forward ►

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Burbank-W Palm Avenue between 1963 and 2011. Some years in this range may not be represented.

All concentrations expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

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Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

The Board is one of five boards, departments, and offices under the umbrella of the California Environmental Protection Agency.
Cal/EPA | ARB | DPR | DTSC | OEHHA | SWRCB

Wednesday, January 9, 2013

UP LINKS

- **Air Quality & Emissions**
  - **iADAM**: Air Quality Data Statistics
    - **iADAM**: Top Four Summary
      - Previous Page

PROGRAM LINKS

- Frequently Asked Questions

RESOURCES

- Contact Us

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Burbank-W Palm Avenue

	2009		2010		2011	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Oct 27	130.3	Aug 24	51.0	Dec 1	96.7
Second High:	Nov 25	105.5	Jun 1	50.0	Dec 2	64.0
Third High:	Nov 24	91.9	Jul 19	46.0	Nov 30	57.4
Fourth High:	Nov 29	61.9	Jan 14	43.0	Jul 5	48.0
California:						
First High:	Sep 22	76.0	Aug 24	50.0	Oct 24	60.0
Second High:	Jan 1	75.0	Jun 1	49.0	Dec 29	52.0
Third High:	Mar 20	66.0	Jul 19	45.0	Oct 18	46.0
Fourth High:	Aug 11	62.0	Jan 14	42.0	Dec 5	42.0
National:						
Estimated # Days > 24-Hour Std:		*		*		0.0
Measured # Days > 24-Hour Std:		0		0		0
3-Yr Avg Est # Days > 24-Hr Std:		*		*		*
Annual Average:		*25.7*		*27.5*		*25.0*
3-Year Average:		*		*34*		*24*
California:						
Estimated # Days > 24-Hour Std:		60.9		*		*
Measured # Days > 24-Hour Std:		10		0		2
Annual Average:		38.9		*		*
3-Year Maximum Annual Average:		39		*		*
Year Coverage:		0		95		0

◄ Shift Backward [1] Shift Forward ►

Notes:

Daily PM10 averages and related statistics are available at Burbank-W Palm Avenue between 1988 and 2011. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics*.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Wednesday, January 9, 2013

UP LINKS

- **Air Quality & Emissions**
  - **iADAM**: Air Quality Data Statistics
    - **iADAM**: Top Four Summary
      - Previous Page

PROGRAM LINKS

- Frequently Asked Questions

RESOURCES

- Contact Us

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Burbank-W Palm Avenue

iADAM

	2009		2010		2011	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Jan 1	67.5	Oct 16	43.7	Oct 24	47.8
Second High:	Jan 2	53.0	Oct 14	38.7	Dec 31	42.6
Third High:	Mar 20	51.4	Oct 15	37.0	Dec 30	41.3
Fourth High:	Nov 8	43.9	Dec 4	36.5	Oct 19	38.1
California:						
First High:	Jan 1	67.5	Oct 16	43.7	Oct 24	47.8
Second High:	Mar 20	51.4	Oct 14	38.7	Dec 31	42.6
Third High:	Dec 26	38.2	Oct 15	37.0	Dec 30	41.3
Fourth High:	Dec 27	36.9	Dec 4	36.5	Oct 19	38.1
National:						
Estimated # Days > 24-Hour Std:		11.8		4.0		5.0
Measured # Days > 24-Hour Std:		11		4		5
24-Hour Standard Design Value:		41		34		34
24-Hour Standard 98th Percentile:		36.9		30.8		33.5
Annual Standard Design Value:		15.4		14.0		13.9
Annual Average:		15.3		12.7		13.4
California:						
Annual Std Designation Value:		14		14		14
Annual Average:		14.3		12.4		13.2
Year Coverage:		100		100		100

◄ Shift Backward 1 Shift Forward ►

Notes:

Daily PM2.5 averages and related statistics are available at Burbank-W Palm Avenue between 1999 and 2011. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Wednesday, January 9, 2013

UP LINKS

- **Air Quality & Emissions**
  - **iADAM**: Air Quality Data Statistics
    - **iADAM**: Top Four Summary
      - Previous Page

PROGRAM LINKS

- Frequently Asked Questions

RESOURCES

- Contact Us

Top 4 Summary: Highest 4 Daily Maximum State 24-Hour Sulfur Dioxide Averages

at Burbank-W Palm Avenue

	2009		2010		2011	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
First High:	Aug 6	0.003	Feb 26	0.004	Dec 30	0.002
Second High:	Aug 5	0.003	Jan 5	0.004	Sep 9	0.002
Third High:	Aug 2	0.003	Feb 28	0.004	Dec 9	0.002
Fourth High:	Aug 3	0.002	Jan 4	0.004	Aug 29	0.002
Annual Average:		*		*		*
Year Coverage:		49		83		69

◄ Shift Backward 1 Shift Forward ►

Notes:

Hourly sulfur dioxide measurements and related statistics are available at Burbank-W Palm Avenue between 1963 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

2009 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2009

Source/Receptor Area			Carbon Monoxide[a]			Ozone									Nitrogen Dioxide[d]				Sulfur Dioxide[e]		
											No. Days Standard Exceeded										
											Federal[b]		State[c]								
No.	Location	Station No.	No. Days of Data	Max. Conc. in ppm 1-hour	Max Conc. in ppm 8-hour	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	Fourth High Conc. ppm 8-hour	Health Advisory ≥ 0.15 ppm 1-hour	Old > 0.12 ppm 1-hour	Current > 0.075 ppm 8-hour	Current > 0.09 ppm 1-hour	Current > 0.070 ppm 8-hour	No. Days of Data	Max Conc. in ppm 1-hour	98th Percentile Conc. ppm 1-hour	Annual Average AAM Conc. ppm	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 24-hour
LOS ANGELES COUNTY																					
1	Central LA	087	357	3	2.2	365	0.139	0.100	0.073	0	1	2	3	5	365	0.12	0.07	0.0281	365	0.01	0.002
2	Northwest Coastal LA County	091	365	2	1.5	365	0.131	0.094	0.075	0	1	3	6	5	355	0.08	0.06	0.0170	--	--	--
3	Southwest Coastal LA County	820	349	2	1.9	352	0.077	0.070	0.061	0	0	0	0	0	362	0.08	0.07	0.0159	362	0.02	0.006
4	South Coastal LA County 1	072	362	3	2.2	363	0.089	0.068	0.064	0	0	0	0	0	362	0.11	0.07	0.0212	361	0.02	0.005
4	South Coastal LA County 2	077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	West San Fernando Valley	074	365	4	2.8	365	0.135	0.100	0.093	0	1	19	15	31	365	0.07	0.06	0.0171	--	--	--
7	East San Fernando Valley	069	365	3	2.9	365	0.145	0.096	0.086	1	1	14	16	28	353	0.09	0.07	0.0274	362	0.01	0.003
8	West San Gabriel Valley	088	365	4	2.1	365	0.176	0.114	0.095	1	3	12	12	19	365	0.08	0.06	0.0221	--	--	--
9	East San Gabriel Valley 1	060	357	3	1.7	365	0.150	0.107	0.091	1	4	17	23	32	365	0.10	0.07	0.0194	--	--	--
9	East San Gabriel Valley 2	591	351	3	2.1	352	0.150	0.118	0.108	3	7	42	45	64	350	0.09	0.06	0.0170	--	--	--
10	Pomona/Walnut Valley	075	365	3	1.8	365	0.138	0.099	0.095	0	1	23	25	37	365	0.10	0.08	0.0274	--	--	--
11	South San Gabriel Valley	085	365	3	2.1	365	0.131	0.101	0.072	0	1	3	8	6	361	0.10	0.07	0.0259	--	--	--
12	South Central LA County	112+	354	7	4.6	354	0.104	0.086	0.064	0	0	1	2	1	354	0.09	0.07	0.0214	--	--	--
13	Santa Clarita Valley	090	361	2	1.4	357	0.140	0.122	0.103	0	5	64	57	77	357	0.06	0.05	0.0151	--	--	--
ORANGE COUNTY																					
16	North Orange County	3177	365	4	2.3	365	0.115	0.082	0.075	0	0	3	4	9	365	0.10	0.06	0.0206	--	--	--
17	Central Orange County	3176	365	3	2.7	365	0.093	0.077	0.068	0	0	1	0	2	365	0.07	0.06	0.0179	--	--	--
18	North Coastal Orange County	3195	362	3	2.2	365	0.087	0.075	0.066	0	0	0	0	3	365	0.07	0.06	0.0130	364	0.01	0.004
19	Saddleback Valley	3812	362	2	1.0	362	0.121	0.095	0.084	0	0	10	7	14	--	--	--	--	--	--	--
RIVERSIDE COUNTY																					
22	Norco/Corona	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	364	2	1.9	346	0.116	0.100	0.089	0	0	35	25	57	357	0.08	0.06	0.0171	364	0.01	0.003
23	Metropolitan Riverside County 2	4146	365	3	1.8	--	--	--	--	--	--	--	--	--	365	0.08	0.06	0.0200	--	--	--
23	Mira Loma	4165	364	3	2.4	364	0.118	0.090	0.086	0	0	22	15	37	364	0.08	0.05	0.0158	--	--	--
24	Perris Valley	4149	--	--	--	354	0.125	0.108	0.101	0	1	67	53	88	--	--	--	--	--	--	--
25	Lake Elsinore	4158	365	1	0.7	365	0.128	0.105	0.096	0	1	37	24	65	365	0.06	0.04	0.0129	--	--	--
29	Banning Airport	4164	--	--	--	359	0.133	0.104	0.100	0	1	70	55	93	359	0.06	0.05	0.0109	--	--	--
30	Coachella Valley 1**	4137	365	2	0.7	365	0.120	0.098	0.096	0	0	53	28	73	349	0.05	0.04	0.0081	--	--	--
30	Coachella Valley 2**	4157	--	--	--	365	0.097	0.090	0.085	0	0	24	6	41	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																					
32	Northwest San Bernardino Valley	5175	365	2	1.5	365	0.146	0.121	0.102	1	3	49	51	71	363	0.11	0.07	0.0239	--	--	--
33	Southwest San Bernardino Valley	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	365	2	1.5	365	0.142	0.128	0.100	0	3	48	45	65	365	0.11	0.07	0.0235	365	0.01	0.002
34	Central San Bernardino Valley 2	5203	363	3	1.9	363	0.150	0.126	0.101	1	2	62	53	79	363	0.08	0.06	0.0196	--	--	--
35	East San Bernardino Valley	5204	--	--	--	365	0.145	0.122	0.100	1	1	73	62	91	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	364	0.149	0.117	0.110	2	7	92	70	107	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM				7	4.6		0.176	0.128	0.110	3	7	92	70	107		0.12	0.08	0.0281		0.02	0.006
SOUTH COAST AIR BASIN				7	4.6		0.176	0.128	0.110	6	15	113	102	133		0.12	0.08	0.0281		0.02	0.006

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

** Salton Sea Air Basin.

+ Site was relocated.

a) - The federal 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded, either.

b) - The federal 1-hour ozone standard was revoked and replaced by the 8-hour average ozone standard effective June 15, 2005. U.S. EPA has revised the federal 8-hour ozone standard from 0.084 ppm to 0.075 ppm, effective May 27, 2008.

c) - The 8-hour average California ozone standard of 0.070 ppm was established effective May 17, 2006.

d) - The federal standard is annual arithmetic mean NO_2 > 0.0534 ppm. California Air Resources Board has revised the NO_2 1-hour state standard from 0.25 ppm to 0.18 ppm and has established a new annual standard of 0.030 ppm, effective March 20, 2008. U.S. EPA has established a new NO2 1-hour standard of 100 ppb (0.100 ppm), effective April 7, 2010.

e) - The state standards are 1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm. U.S. EPA has revised the federal standard by establishing a new SO2 1-hour standard of 75 ppb (0.075 ppm) and revoking the existing annual (0.03 ppm) and 24-hour (0.14 ppm) SO2 standards, effective August 2, 2010. The federal and state SO_2 standards were not exceeded.

South Coast
Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182
www.aqmd.gov

2009 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2009

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 f)					Fine Particulates PM2.5 g)					Particulates TSP			Lead		Sulfate	
			No. Days of Data	Max. Conc. in µg/m^3 24-hour	No. (%) Samples Exceeding Standards Federal > 150 µg/m^3 24-hour	No. (%) Samples Exceeding Standards State > 50 µg/m^3 24-hour	Annual Average Conc. h) (AAM) µg/m^3	No. Days of Data	Max. Conc. in µg/m^3 24-hour	98th Percentile Conc. in µg/m^3 24-hour	No. (%) Samples Exceeding Federal Std > 35 µg/m^3 24-hour	Annual Average Conc. i) (AAM) µg/m^3	No. Days of Data	Max. Conc. in µg/m^3 24-hour	Annual Average Conc. (AAM) µg/m^3	Max. Monthly Average Conc. j) µg/m^3	Max. Quarterly Average Conc. j) µg/m^3	Max. Conc. in µg/m^3 24-hour	No. Days Exceeding State Std ≥ 25 µg/m^3 24-hour
LOS ANGELES COUNTY																			
1	Central LA	087	60	72	0	4(6.7)	33.1	359	61.7	34.0	7(1.9)	14.3	61	148	66.8	0.02	0.01	9.8	0
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	59	99	50.8	--	--	9.1	0
3	Southwest Coastal LA County	820	60	52	0	1(1.7)	25.4	--	--	--	--	--	48	87	42.4	0.01	0.01	8.6	0
4	South Coastal LA County 1	072	57	62	0	3(5.3)	30.5	328	63.0	34.2	6(1.8)	13.0	60	128	55.4	0.01	0.01	13.6	0
4	South Coastal LA County 2	077	56	83	0	5(8.9)	33.2	350	55.8	30.5	4(1.1)	12.5	59	159	65.2	0.01	0.01	12.1	0
6	West San Fernando Valley	074	--	--	--	--	--	110	39.9	27.2	1(0.9)	11.4	--	--	--	--	--	--	--
7	East San Fernando Valley	069	60	80	0	11(18.3)	39.2	243	67.5	34.4	4(1.6)	14.4	--	--	--	--	--	--	--
8	West San Gabriel Valley	088	--	--	--	--	--	109	52.0	35.7	3(2.8)	12.3	59	153	48.5	--	--	8.8	0
9	East San Gabriel Valley 1	060	52	74	0	7(13.5)	32.0	153	72.1	42.9	6(3.9)	12.8	58	208	74.9	--	--	7.9	0
9	East San Gabriel Valley 2	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	118	71.1	35.4	2(1.7)	14.8	59	194	69.7	0.04	0.02	9.9	0
12	South Central LA County+	112+	--	--	--	--	--	114	69.2	37.7	3(2.6)	14.7	57	118	59.6	0.03	0.02	9.9	0
13	Santa Clarita Valley	090	53	56	0	1(1.9)	23.4	--	--	--	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																			
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	56	63	0	1(1.8)	30.9	334	64.6	32.1	4(1.2)	11.8	--	--	--	--	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	60	56	0	1(1.7)	23.5	116	39.2	23.8	1(0.9)	9.5	--	--	--	--	--	--	--
RIVERSIDE COUNTY																			
22	Norco/Corona	4155	59	79	0	7(11.9)	35.6	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	119	77	0	35(29.4)	42.5	347	54.5	39.6	13(3.7)	15.3	60	161	87.6	0.01	0.01	7.3	0
23	Metropolitan Riverside County 2	4146	--	--	--	--	--	114	42.2	34.0	2(1.8)	13.4	61	162	66.0	0.01	0.01	6.8	0
23	Mira Loma	4165	59	108	0	33(55.9)	53.4	229	49.2	40.6	14(6.1)	16.9	--	--	--	--	--	--	--
24	Perris Valley	4149	58	80	0	9(15.5)	34.8	--	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	4164	59	99	0	1(1.7)	25.9	--	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	4137	54	140	0	1(1.9)	22.6	112	21.8	14.6	0	6.7	--	--	--	--	--	--	--
30	Coachella Valley 2**	4157	120	132	0	9(7.5)	32.5	112	27.5	17.0	0	7.9	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																			
32	Northwest San Bernardino Valley	5175	--	--	--	--	--	--	--	--	--	--	59	123	58.5	0.01	0.01	6.8	0
33	Southwest San Bernardino Valley	5817	62	70	0	9(14.5)	35.6	114	46.9	35.9	3(2.6)	14.7	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	60	75	0	13(21.7)	40.2	118	46.4	32.7	2(1.7)	14.3	58	185	84.3	--	--	6.7	0
34	Central San Bernardino Valley 2	5203	52	66	0	11(21.2)	41.5	110	37.8	35.2	2(1.8)	13.0	61	125	74.3	0.01	0.01	7.1	0
35	East San Bernardino Valley	5204	60	52	0	2(3.3)	30.2	--	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	51	57	0	1(2.0)	24.5	--	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	56	40.8	29.4	1(1.8)	9.9	--	--	--	--	--	--	--
	DISTRICT MAXIMUM			140	0	35	53.4		72.1	42.9	14	16.9		208	87.6	0.04	0.02	13.6	0
	SOUTH COAST AIR BASIN			108	0	60	53.4		72.1	42.9	27	16.9		208	87.6	0.04	0.02	13.6	0

µg/m^3 - Micrograms per cubic meter of air. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

** Salton Sea Air Basin.

+ Site was relocated.

f) - PM10 samples were collected every 6 days at all sites except for Station Numbers 4144 and 4157 where samples were collected every 3 days.

g) - PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 069, 072, 077, 087, 3176, 4144 and 4165 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

h) - Federal annual PM10 standard (AAM > 50 µg/m^3) was revoked effective December 17, 2006. State standard is annual average (AAM) > 20 µg/m^3.

i) - Federal PM2.5 standard is annual average (AAM) > 15.0 µg/m^3. State standard is annual average (AAM) > 12.0 µg/m^3.

j) - Federal lead standards are rolling 3-month average > 0.15 µg/m3, and quarterly average > 1.5 µg/m^3. State standard is monthly average ≥ 1.5 µg/m^3.

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Maps showing the source/receptor area boundaries can be accessed via the Internet by entering your address in the AQMD Current Hourly Air Quality Map, accessed from http://www2.aqmd.gov/webappl/gisaqi2/VEMap3D.aspx or at http://www.aqmd.gov/map/MapAQMD2.pdf . A map is also available free of charge from the AQMD Public Information Center at 1-800-CUT-SMOG.

2010 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2010

Source/Receptor Area			Carbon Monoxide[a]			Ozone									Nitrogen Dioxide[b]				Sulfur Dioxide[c]		
											No. Days Standard Exceeded										
											Federal		State								
No.	Location	Station No.	No. Days of Data	Max. Conc. in ppm 1-hour	Max Conc. in ppm 8-hour	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	Fourth High Conc. ppm 8-hour	Health Advisory ≥ 0.15 ppm 1-hour	Old > 0.12 ppm 1-hour	Current > 0.075 ppm 8-hour	Current > 0.09 ppm 1-hour	Current > 0.070 ppm 8-hour	No. Days of Data	Max Conc. in ppb 1-hour	98th Percentile Conc. ppb 1-hour	Annual Average AAM Conc. ppb	No. Days of Data	Max. Conc. in ppb 1-hour	Max. Conc. in ppb 24-hour
LOS ANGELES COUNTY																					
1	Central LA	087	364	3	2.3	357	0.098	0.080	0.064	0	0	1	1	1	364	89.0	70.5	25.0	355	9.8	1.5
2	Northwest Coastal LA County	091	364	2	1.4	360	0.099	0.078	0.069	0	0	1	2	4	365	70.8	57.4	15.6	--	--	--
3	Southwest Coastal LA County	820	344	3	2.2	319	0.089	0.070	0.059	0	0	0	0	1	358	75.8	60.9	12.1	327	25.9	3.5
4	South Coastal LA County 1	072	358	3	2.1	358	0.101	0.084	0.057	0	0	1	1	1	360	92.8	70.2	19.8	329	40.0	6.0
4	South Coastal LA County 2	077	--	--	--	--	--	--	--	--	--	--	--	--	--			--	--	--	--
6	West San Fernando Valley	074	365	3	2.6	295	0.122	0.091	0.086	0	0	19	11	40	365	75.0	56.0	16.7	--	--	--
7	East San Fernando Valley	069	364	3	2.4	317	0.111	0.084	0.076	0	0	4	3	11	359	82.0	64.3	24.1	233*	14.9	4.1
8	West San Gabriel Valley	088	355	3	2.0	325	0.101	0.081	0.075	0	0	3	1	6	355	71.0	63.0	19.6	--	--	--
9	East San Gabriel Valley 1	060	355	3	1.3	356	0.104	0.081	0.075	0	0	3	5	10	364	77.2	59.6	18.5	--	--	--
9	East San Gabriel Valley 2	591	360	2	1.3	350	0.124	0.099	0.090	0	0	20	25	48	360	78.5	55.5	15.4	--	--	--
10	Pomona/Walnut Valley	075	365	3	1.8	342	0.115	0.082	0.076	0	0	4	9	20	365	97.0	72.5	26.2	--	--	--
11	South San Gabriel Valley	085	364	2	1.9	358	0.112	0.086	0.059	0	0	1	1	1	364	79.0	65.4	22.9	--	--	--
12	South Central LA County	112	353	6	3.6	358	0.081	0.062	0.050	0	0	0	0	0	364	76.8	68.8	17.9	--	--	--
13	Santa Clarita Valley	090	355	2	1.1	331	0.126	0.105	0.087	0	1	23	18	44	364	59.3	54.2	14.3	--	--	--
ORANGE COUNTY																					
16	North Orange County	3177	356	3	1.8	351	0.118	0.096	0.071	0	0	1	2	4	333	82.5	61.6	20.1	--	--	--
17	Central Orange County	3176	358	3	2.0	331	0.104	0.088	0.060	0	0	1	1	1	364	73.3	61.1	17.5	--	--	--
18	North Coastal Orange County	3195	364	2	2.1	353	0.097	0.076	0.060	0	0	1	1	2	364	70.0	56.0	11.3	348	9.5	2.1
19	Saddleback Valley	3812	362	1	0.9	353	0.117	0.082	0.069	0	0	2	2	2	--			--	--	--	--
RIVERSIDE COUNTY																					
22	Norco/Corona	4155	--	--	--	--	--	--	--	--	--	--	--	--	--			--	--	--	--
23	Metropolitan Riverside County 1	4144	364	3	1.8	341	0.128	0.098	0.092	0	1	47	31	78	333	64.5	57.0	16.8	349	17.6	4.6
23	Metropolitan Riverside County 2	4146	355	3	1.7	--	--	--	--	--	--	--	--	--	361	60.8	51.5	17.2	--	--	--
23	Mira Loma	4165	360	3	1.9	324	0.121	0.094	0.090	0	0	38	22	63	365	62.2	50.3	15.1	--	--	--
24	Perris Valley	4149	--	--	--	343	0.122	0.107	0.099	0	0	50	42	82	--			--	--	--	--
25	Lake Elsinore	4158	363	1	0.6	355	0.107	0.091	0.086	0	0	24	15	42	363	51.2	40.6	10.1	--	--	--
29	Banning Airport	4164	--	--	--	328	0.124	0.107	0.099	0	0	60	31	84	365	65.7	53.2	11.6	--	--	--
30	Coachella Valley 1**	4137	365	2	0.5	361	0.114	0.099	0.092	0	0	52	23	83	365	45.7	39.0	8.5	--	--	--
30	Coachella Valley 2**	4157	--	--	--	348	0.100	0.087	0.084	0	0	19	7	47	--			--	--	--	--
SAN BERNARDINO COUNTY																	--				
32	Northwest San Bernardino Valley	5175	353	2	1.8	349	0.131	0.097	0.090	0	1	39	31	59	365	78.9	58.0	20.4	--	--	--
33	Southwest San Bernardino Valley	5817	--	--	--	--	--	--	--	--	--	--	--	--	--			--	--	--	--
34	Central San Bernardino Valley 1	5197	359	3	1.4	350	0.143	0.100	0.094	0	2	33	28	55	363	71.9	64.8	23.1	330*	6.6	1.6
34	Central San Bernardino Valley 2	5203	326	2	1.7	354	0.129	0.105	0.095	0	1	40	27	63	365	69.2	56.6	18.8	--	--	--
35	East San Bernardino Valley	5204	--	--	--	363	0.128	0.112	0.097	0	1	61	43	86	--			--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	364	0.142	0.123	0.109	0	6	74	52	101	--			--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--	--	--	--	--			--	--	--	--
DISTRICT MAXIMUM				6	3.6		0.143	0.123	0.109	0	6	74	52	101		97.0	72.5	26.2		40.0	6.0
SOUTH COAST AIR BASIN				6	3.6		0.143	0.123	0.109	0	7	102	79	131		97.0	72.5	26.2		40.0	6.0

ppm - Parts Per Million parts of air, by volume ppb – Parts Per Billion parts of air, by volume AAM = Annual Arithmetic Mean -- - Pollutant not monitored

** Salton Sea Air Basin

- In 2010, the State and Federal Ambient Air Quality Standards were met for the gaseous pollutants CO, NO2 and SO2 at all District regular monitoring sites, listed above.
  a) - The federal 8-hour standard is 8-hour average CO > 9 ppm and state 8-hour standard is 8-hour average CO > 9.0 ppm. The federal and state 1-hour standards are 35 ppm and 20 ppm.
  b) - The NO2 federal 1-hour standard is 100 ppb and the annual standard is annual arithmetic mean NO_2 > 0.0534 ppm. The state 1-hour and annual standards are 0.18 ppm and 0.030 ppm.
  c) - The federal SO2 1-hour standard is 75 ppb (0.075 ppm). The state standards are 1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm.
- Revised/New Standards in 2010:
  -- U.S. EPA established the new NO2 1-hour federal standard of 100 ppb (0.100 ppm), effective April 7, 2010.
  -- U.S. EPA revised the SO2 federal standard by establishing the new 1-hour standard of 75 ppb (0.075 ppm) and revoking the existing annual (0.03 ppm) and 24-hour (0.14 ppm) standards, effective August 2, 2010.

**South Coast
Air Quality Management District**
21865 Copley Drive
Diamond Bar, CA 91765-4182
www.aqmd.gov

2010 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2010

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 d)					Fine Particulates PM2.5 e)					Particulates TSP f)			Lead f)		Sulfate f)	
			No. Days of Data	Max. Conc. in $\mu g/m^3$ 24-hour	No. (%) Samples Exceeding Standards Federal > 150 $\mu g/m^3$ 24-hour	No. (%) Samples Exceeding Standards State > 50 $\mu g/m^3$ 24-hour	Annual Average Conc. (AAM) $\mu g/m^3$	No. Days of Data	Max. Conc. in $\mu g/m^3$ 24-hour	98th Percentile Conc. in $\mu g/m^3$ 24-hour	No. (%) Samples Exceeding Fzederal Std > 35 $\mu g/m^3$ 24-hour	Annual Average Conc. (AAM) $\mu g/m^3$	No. Days of Data c)	Max. Conc. in $\mu g/m^3$ 24-hour	Annual Average Conc. (AAM) $\mu g/m^3$	Max. Monthly Average Conc. $\mu g/m^3$	Max. Quarterly Average Conc. $\mu g/m^3$	Max. Conc. in $\mu g/m^3$ 24-hour	No. Days Exceeding State Std ≥ 25 $\mu g/m^3$ 24-hour
LOS ANGELES COUNTY																			
1	Central LA	087	56	42	0	0	27.1	335	39.2	27.1	2(0.6%)	11.9	53	105	53.3	0.02	0.01	9.1	0
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	59	82	40.8	--	--	7.5	0
3	Southwest Coastal LA County	820	55	37	0	0	20.6	--	--	--	--	--	55	85	36.7	0.01	0.01	9.7	0
4	South Coastal LA County 1	072	58	44	0	0	22.0	338	35.0	28.3	0	10.5	60	129	45.5	0.01	0.01	11.8	0
4	South Coastal LA County 2	077	59	76	0	2(3.4%)	27.3	351	33.7	26.5	0	10.4	57	130	50.8	0.01	0.01	12.2	0
6	West San Fernando Valley	074	--	--	--	--	--	100	40.7	30.4	1(1.0%)	10.2	--	--	--	--	--	--	--
7	East San Fernando Valley	069	55	51	0	1(1.8%)	29.6	322	43.7	31.8	4(1.2%)	12.5	--	--	--	--	--	--	--
8	West San Gabriel Valley	088	--	--	--	--	--	97	35.2	24.0	0	10.2	58	58	36.4	--	--	7.7	0
9	East San Gabriel Valley 1	060	55	70	0	5(9.1%)	29.8	93	44.4	35.4	1(1.1%)	10.9	53	136	58.2	--	--	6.4	0
9	East San Gabriel Valley 2	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	117	34.9	32.0	0	12.5	59	265	86.1	0.02	0.01	8.5	0
12	South Central LA County	112	--	--	--	--	--	111	38.2	31.8	1(0.9%)	12.5	58	94	49.2	0.01	0.01	7.8	0
13	Santa Clarita Valley	090	57	40	0	0	21.0	--	--	--	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																			
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	57	43	0	0	22.4	331	31.7	25.2	0	10.2	--	--	--	--	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	58	34	0	0	18.1	116	19.9	17.3	0	8.0	--	--	--	--	--	--	--
RIVERSIDE COUNTY																			
22	Norco/Corona	4155	61	50	0	0	27.2	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	122	75	0	7(5.7%)	32.8	351	46.5	32.0	4(1.1%)	13.2	60	131	64.3	0.01	0.01	6.7	0
23	Metropolitan Riverside County 2	4146	--	--	--	--	--	115	43.7	27.3	2(1.7%)	11.0	59	88	45.0	0.01	0.01	5.0	0
23	Mira Loma	4165	60	89	0	25(41.7%)	42.3	340	54.2	36.1	8(2.4%)	15.2	--	--	--	--	--	--	--
24	Perris Valley	4149	61	51	0	1(1.6%)	28.0	--	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	4164	60	55	0	1(1.7%)	21.8	--	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	4137	61	37	0	0	18.7	111	12.8	12.6	0	6.0	--	--	--	--	--	--	--
30	Coachella Valley 2**	4157	119	107	0	6(5%)	29.3	112	16.0	12.2	0	6.8	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																			
32	Northwest San Bernardino Valley	5175	--	--	--	--	--	--	--	--	--	--	59	86	46.7	0.01	0.01	10.1	0
33	Southwest San Bernardino Valley	5817	60	87	0	3(5%)	31.8	112	46.1	31.2	1(0.9%)	13.0	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	53	62	0	9(17%)	33.9	112	42.6	30.8	2(1.8%)	12.0	61	142	73.3	--	--	6.3	0
34	Central San Bernardino Valley 2	5203	59	63	0	3(5.1%)	32.4	119	39.3	29.7	2(1.7%)	11.1	60	106	57.7	0.01	0.01	11.4	0
35	East San Bernardino Valley	5204	58	57	0	1(1.7%)	25.8	--	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	57	39	0	0	18.9	--	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	53	35.4	27.5	0	8.4	--	--	--	--	--	--	--
	DISTRICT MAXIMUM			107	0	25	42.3		54.2	36.1	8	15.2		265	86.1	0.02	0.01	12.2	0
	SOUTH COAST AIR BASIN			89	0	34	42.3		54.2	36.1	13	15.2		265	86.1	0.02	0.01	12.2	0

** Salton Sea Air Basin $\mu g/m^3$ - Micrograms per cubic meter of air AAM = Annual Arithmetic Mean -- - Pollutant not monitored

- In 2010, Particulate Matter concentrations met the Ambient Air Quality Standard levels for the federal PM10 Standard, the State and Federal Lead Standards, and the State Sulfate standard at the regular monitoring sites, listed above.

  d) - PM10 samples were collected every 6 days at all sites except for Station Numbers 4144 and 4157, where samples were collected every 3 days. The Federal annual PM10 standard (AAM > 50 $\mu g/m^3$) was revoked in 2006.
  State standard is annual average (AAM) > 20 $\mu g/m^3$.

  e) - PM2.5 samples were collected every 3 days at all sites except for station numbers 069, 072, 077, 087, 3176, 4144 and 4165, where samples were taken daily, and station number 5818 where samples were taken every 6 days.
  Federal annual PM2.5 standard is annual average (AAM) > 15.0 $\mu g/m^3$. State standard is annual average (AAM) > 12.0 $\mu g/m^3$.

  f) - TSP Particulate, Lead and Sulfate samples were taken every 6 days at all sites monitored.
- Federal Equivalent Method (FEM) continuous monitoring instruments were operated at some of the above locations for PM10 and PM2.5 monitoring. The Federal Reference Method (FRM) data is used for the above statistics.

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For information on the current standard levels and most recent revisions please refer to the previous year "Air Quality" summary card or access the "Ambient Air Quality Standards" chart at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

Maps showing the source/receptor area boundaries can be accessed via the Internet by entering your address in the AQMD Current Hourly Air Quality Map, accessed from http://www2.aqmd.gov/webappl/gisaqi2/VEMap3D.aspx or at http://www.aqmd.gov/map/MapAQMD2.pdf . A map is also available free of charge from the AQMD Public Information Center at 1-800-CUT-SMOG.

Construction Emissions Calculations

LADWP Foothill Trunk Line Project- Summary of Construction Emissions

TOTAL EMISSIONS	**Emissions (ppd)**					
	ROG	**CO**	**NOX**	**SOX**	**PM10**	**PM2.5**
Construction Equipments	5.638	24	38	0.1	2	2.09
Worker Vehicle	0.153	5.394	0.561	0.010	0.134	0.058
Off-Site Trucks	0.105	1.492	0.370	0.000	0.001	0.001
Water Trucks	0.007	0.092	0.011	0.000	0.000	0.000
Excavation					0.016	0.002
Regional Daily Maximum	**6**	**31**	**39**	**0**	**2**	**2**
THRESHOLD	**75**	**550**	**100**	**150**	**150**	**55**
IMPACT?	NO	NO	NO	NO	NO	NO
On-Site Daily Maximum	**6**	**24**	**38**	**0**	**2.29**	**2.1**
THRESHOLD /a/	**n/a**	**498**	**80**	**n/a**	**4**	**3**
IMPACT?	n/a	NO	NO	n/a	NO	NO

/a/ The proposed project is assumed to be one acre. The closest residential receptor is approximately 25 meter from the project site.

Estimated Equipment Construction Emissions

Equipment Type	Qty	Operating Hrs/WD/ each	Operating Hours per Day	Number of Operating Days	Rog Rate (lbs/hr)	Rog (lbs/day)	Rog (lbs)	CO rate (lbs/hr)	CO (lbs/day)	CO (lbs)	NOX rate (lbs/hr)	NOX (lbs/day)	NOX (lbs)	SOX rate (lbs/hr)	SOX (lbs/day)	SOX (lbs)	PM rate (lbs/hr)	PM (lbs/day)	PM10 (lbs/day)	PM10 (lbs)	PM2.5 (lbs/day)	PM2.5 (lbs)	CO2 Rate (lbs/hr)	CO2 (lbs/day)	CO2 (lbs)	CH4 rate (lbs/hr)	CH4 (lbs/day)
Worst Day Scenario for 2014																											
Aerial Lifts	1	8	8	1	0.05	0.39	0.39	0.19	1.50	1.50	0.29	2.29	2.29	0.0004	0.00	0.00	0.018	0.1474	0.15	0.1474	0.14	0.1356	35	278	278	0.0044	0.03
Cement and Mortar Mixers	1	8	8	1	0.01	0.07	0.07	0.04	0.34	0.34	0.05	0.44	0.44	0.0001	0.00	0.00	0.002	0.0196	0.02	0.0196	0.02	0.0180	7	58	58	0.0008	0.01
Concrete/Industrial Saws	1	8	8	1	0.09	0.73	0.73	0.40	3.23	3.23	0.53	4.21	4.21	0.0007	0.01	0.01	0.041	0.33	0.33	0.3306	0.30	0.3041	58	468	468	0.0083	0.07
Cranes	1	2	2	1	0.13	0.26	0.26	0.46	0.91	0.91	1.11	2.21	2.21	0.0014	0.00	0.00	0.001	0.00	0.00	0.0028	0.00	0.0025	129	257	257	0.0115	0.02
Generator Sets	1	8	8	1	0.07	0.56	0.56	0.30	2.38	2.38	0.51	4.07	4.07	0.0007	0.01	0.01	0.030	0.2365	0.24	0.2365	0.22	0.2176	60.99	488	488	0.0063	0.05
Other Construction Equipment	1	8	8	1	0.08	0.66	0.66	0.37	2.96	2.96	0.72	5.73	5.73	0.0013	0.01	0.01	0.030	0.24	0.24	0.2366	0.22	0.2177	122.63	981	981	0.0074	0.06
Paving Equipment	1	8	8	1	0.11	0.87	0.87	0.43	3.42	3.42	0.73	5.85	5.85	0.0008	0.01	0.01	0.050	0.40	0.40	0.4018	0.37	0.3696	68.94	552	552	0.0098	0.08
Rollers	1	8	8	1	0.09	0.73	0.73	0.40	3.21	3.21	0.62	4.93	4.93	0.0008	0.01	0.01	0.042	0.3352	0.34	0.3352	0.31	0.3084	67.05	536	536	0.0082	0.07
Skid Steer Loaders	1	8	8	1	0.04	0.33	0.33	0.23	1.81	1.81	0.24	1.90	1.90	0.0004	0.00	0.00	0.015	0.12	0.12	0.1217	0.11	0.1120	30.28	242	242	0.0037	0.03
Tractors/Loaders/Backhoes	1	8	8	1	0.07	0.58	0.58	0.37	3.00	3.00	0.50	3.98	3.98	0.0008	0.01	0.01	0.034	0.2725	0.27	0.2725	0.25	0.2507	66.80	534	534	0.0066	0.05
Welders	1	8	8	1	0.06	0.47	0.47	0.20	1.63	1.63	0.24	1.95	1.95	0.0003	0.00	0.00	0.021	0.1646	0.16	0.1646	0.15	0.1514	25.60	205	205	0.0053	0.04
Year 2013 Construction Equipment Total Emissions				**11**		**5.64**	**5.18**		**24.38**	**22.55**		**37.57**	**34.83**		**0.05**	**0.05**		**2.27**	**2.27**	**2.10**	**2.09**	**1.93**		**4599**	**4,599.12**		**0.51**

EMFAC2011 RATES (grams per mile)

Vehicle Type	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Year 2014							
Haul Truck @ 30 MPH	0.32	7.9	1.87	0.0060	0.055	0.026	588.52
Water Truck @ 5 MPH	0.51	5.86	0.93	0.0170	0.065	0.035	1717.15
Worker Vehicle @30 MPH	0.04	1.39	0.13	0.0030	0.047	0.020	330.13
Light-Duty Truck @30 MPH	0.07	2.45	0.27	0.0040	0.048	0.021	433.10
Year 2015							
Haul Truck @ 30 MPH	0.28	7.1	1.72	0.0060	0.055	0.025	588.32
Water Truck @ 5 MPH	0.47	5.42	0.87	0.0170	0.064	0.035	1720.03
Worker Vehicle @30 MPH	0.03	1.24	0.11	0.0030	0.047	0.020	330.27
Light-Duty Truck @30 MPH	0.06	2.22	0.25	0.0040	0.048	0.021	433.15
Year 2016							
Haul Truck @ 30 MPH	0.25	6.36	1.58	0.0060	0.054	0.025	588.37
Water Truck @ 5 MPH	0.43	5.01	0.81	0.0170	0.064	0.034	1721.38
Worker Vehicle @30 MPH	0.03	1.12	0.1	0.0030	0.047	0.020	330.40
Light-Duty Truck @30 MPH	0.05	2.01	0.22	0.0040	0.048	0.020	433.23
Year 2017							
Haul Truck @ 30 MPH	0.22	5.72	1.46	0.0060	0.054	0.024	588.43
Water Truck @ 5 MPH	0.40	4.63	0.76	0.0170	0.063	0.034	1722.66
Worker Vehicle @30 MPH	0.02	1.01	0.09	0.0030	0.047	0.020	330.51
Light-Duty Truck @30 MPH	0.04	1.82	0.2	0.0040	0.048	0.020	433.31
Year 2018							
Haul Truck @ 30 MPH	0.19	5.17	1.34	0.0060	0.054	0.024	588.58
Water Truck @ 5 MPH	0.36	4.27	0.7	0.0170	0.062	0.033	1723.64
Worker Vehicle @30 MPH	0.02	0.91	0.08	0.0030	0.047	0.020	330.60
Light-Duty Truck @30 MPH	0.04	1.65	0.18	0.0040	0.047	0.020	433.42

Assumptions:

Construction Year	2014-2018
Season	Annual

LADWP Foothill Trunk Line - Mobile Emissions

WORKER VEHICLES				**Worker Vehicle Emissions (ppd)**						
		# of Workers	**Total VMT/Day**	**ROG**	**CO**	**NOX**	**SOX**	**PM10**	**PM2.5**	**CO2**
Worst-Day Scenario for Year 2014		**48**	**1,276.80**	**0.15**	**5.39**	**0.56**	**0.01**	**0.1336**	**0.0577**	**1,073.22**
	Cars	*24.0*	638.40	0.06	1.95	0.18	0.004	0.07	0.03	464.21
	Trucks	*24.0*	638.40	0.10	3.44	0.38	0.01	0.07	0.03	609.01
Total Worst- Day Scenario for Year 2014 Worker Vehicles Emissions (tons per year)				*0.0199*	*0.7012*	*0.0729*	*0.0013*	*0.0174*	*0.0075*	*139.5185*

OFF-SITE TRUCK T	**Heavy-duty Truck Emissions**										
		Trips per Day	**Round Trip Length /a/**	**VMT/day**	**ROG**	**CO**	**NOX**	**SOX**	**PM10**	**PM2.5**	**CO2**
Worst-Day Scenario for Year 2014- Haul Truck Trips (pounds per		34	10	340	0.105	1.492	0.370	0.000	0.001	0.001	463.893
Year 2014- Haul Truck Trips (tons per year)					*0.0012*	*0.017*	*0.004*	*0.000*	*0.000*	*0.000*	*5.335*

/a/ Dump site is located at 11520 Sheldon Street, Sun Valley, CA, which is approximately five miles (one-way trip) from project site.

WATER TRUCK EMISSIONS/b/				**Heavy-duty Truck Emissions (ppd)**						
	# of Water Trucks	**Hours of Operation Per Month**	**VMT/day**	**ROG**	**CO**	**NOX**	**SOX**	**PM10**	**PM2.5**	**CO2**
Year 2014 - Water Truck Emission (pounds per day)	1	40	8.70	0.01	0.09	0.01	0.00	0.00	0.00	36.50
Year 2014 - Water Truck Emission (Tons per Year)				0.0001	0.0011	0.0001	0.0000	0.0000	0.0000	0.4198

[b] Water trucks would operate on site two hours each day at a rate of 5 mph (compliance with Rule 403). Number of water trucks used and hours of operation are provided from project

LADWP Foothill Trunk Line - Fugitive Dust Emissions from Excavation

Excavation	**1**	**days[a]**

Fugitive Dust Stockpiling Parameters

Silt Content[c]	**Precipitation Days[d]**	**Mean Wind Speed Percent[e]**	**TSP Fraction**	**Area[f] (acres)**
6.9	10	0.06	0.5	0.02

Fugitive Dust Material Handling

Aerodynamic Particle Size Multiplier[g]	**Mean Wind Speed (mph)[h]**	**Moisture Content[i]**	**Dirt Handled (cy)[a]**	**t Handled (lbs./day)[j]**
0.35	3.8	7.9	90	225,000

Dragline Parameters

Drop Height (feet)	**Moisture Content[i]**	**PM_{10} Scaling Factor**	**$PM_{2.5}$ Scaling Factor**
3	7.9%	0.75	0.017

Incremental Increase in Fugitive Dust Emissions from Construction Operations

Equations:

Grading[k]: PM10 Emissions (lb/day) = 0.60 x 0.051 x mean vehicle speed$^{2.0}$ x VMT x (1 - control efficiency)

Storage Piles[l]: PM10 Emissions (lb/day) = 1.7 x (silt content/1.5) x ((365-precipitation days)/235) x wind speed percent/15 x TSP fraction x Area) x (1 - control efficiency)

Material Handling[m]: PM10 Emissions (lb/day) = (0.0032 x aerodynamic particle size multiplier x (wind speed (mph)/5)$^{1.3}$/(moisture content/2)$^{1.4}$ x dirt handled (lb/day)/2,000 (lb/ton)
(1 - control efficiency)

Dragline Equation for PM_{10} Emissions[o] (lbs/day) = [((0.0021) x (drop height)$^{0.7}$) / (moisture content)$^{0.3}$] x 0.75 x Dirt Handled x Control Efficiency

Dragline Equation for $PM_{2.5}$ Emissions[o] (lbs/day) = [((0.0021) x (drop height)$^{1.1}$) / (moisture content)$^{0.3}$] x 0.017 x Dirt Handled x Control Efficiency

Description	**Control Efficiency** %	**Unmitigated PM10[n]** lb/day	**Unmitigated PM2.5** lb/day
Storage Piles	61	0.00	0.00
Material Handling	61	0.01	0.002
Dragline	61	0.006	0.00037
Total		**0.02**	**0.00**

Notes:

a) Obtained from client.
b) Caterpillar Performance Handbook, Edition 33, October 2003 Operating Speeds, p 2-3.
c) USEPA, AP-42, July 1998, Table 11.9-3 Typical Values for Corection Factors Applicable to the Predictive Emission Factor Equations
d) Table A9-9-E2, SCAQMD CEQA Air Quality Handbook, 1993
e) Mean wind speed percent - percent of time mean wind speed exceeds 12 mph.
f) Assumed storage piles are 0.02 acres in size
g) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm
h) Mean wind speed at the Downtown Wind Monitoring Station.
i) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, equation 2-13, p 2-28.
h) Mean wind speed at the Burbank Wind Monitoring Station.
k) USEPA, AP-42, July 1998, Table 11.9-1, Equation for Site Grading ≤ 10 µm
l) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, Equation 1
m) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, Sept 1992, EPA-450/2-92-004, Equation 2-12.
n) Includes watering at least three times a day per Rule 403 (61% control efficiency).
o) Source: USEPA, AP-42, Emission Factor Equations for Uncontrolled Dust Sources at Western Surface Coal Mines, Table 11.9-1, Dragline calculations for PM_{10} and $PM_{2.5}$.

```
Title    : LADWP Foothill Trunk Line
Version  : Emfac2011-LDV V2.50.57.246
Run Date : 2013/02/21 16:45:14
Scen Year: 2014 -- All model years in the range 1970 to 2014 selected
Season   : Annual
Area     : Los Angeles
*********************************************************************************
****
     Year: 2014 -- Model Years 1970 to 2014 Inclusive -- Annual
     Emfac2011-LDV Emission Factors: V2.50.57.246

     County Average                          Los Angeles                County
Average

                             Table   1:  Running Exhaust Emissions (grams/mile)

     Pollutant Name: PM2.5                     Temperature:  64F  Relative Humidity:
43%

     Speed
      MPH       LDA      LDT      MDT      HDT      UBUS     MCY      ALL

        5      0.009    0.013    0.016    0.027    0.619    0.001    0.013
       30      0.002    0.003    0.005    0.007    0.176    0.000    0.003



     Pollutant Name: PM2.5 - Tire Wear         Temperature:  64F  Relative Humidity:
43%

     Speed
      MPH       LDA      LDT      MDT      HDT      UBUS     MCY      ALL

        5      0.002    0.002    0.002    0.002    0.002    0.002    0.002
       30      0.002    0.002    0.002    0.002    0.002    0.002    0.002



     Pollutant Name: PM2.5 - Brake Wear        Temperature:  64F  Relative Humidity:
43%

     Speed
      MPH       LDA      LDT      MDT      HDT      UBUS     MCY      ALL

        5      0.016    0.016    0.017    0.017    0.310    0.016    0.017
       30      0.016    0.016    0.017    0.017    0.310    0.016    0.017


Pollutant Name: PM10                      Temperature:  64F  Relative
Humidity:  43%

     Speed
      MPH       LDA      LDT      MDT      HDT      UBUS     MCY      ALL

        5      0.010    0.014    0.018    0.029    0.672    0.001    0.014
       30      0.002    0.003    0.005    0.007    0.191    0.001    0.003



     Pollutant Name: PM10  - Tire Wear         Temperature:  64F  Relative
Humidity:  43%
```

```
     Speed
      MPH        LDA       LDT       MDT       HDT       UBUS      MCY       ALL

        5       0.008     0.008     0.008     0.008     0.008     0.008     0.008
       30       0.008     0.008     0.008     0.008     0.008     0.008     0.008


     Pollutant Name: PM10  - Brake Wear        Temperature:  64F  Relative
Humidity:  43%

     Speed
      MPH        LDA       LDT       MDT       HDT       UBUS      MCY       ALL

        5       0.037     0.037     0.039     0.040     0.723     0.037     0.039
       30       0.037     0.037     0.039     0.040     0.723     0.037     0.039
```

Greenhouse Gas Emissions Calculations

LADWP Foothill Trunk Line Project- GHG Emissions for Construction

TOTAL EMISSIONS	**Emissions (tonnes per year)**	
	CO2	**CH4**
Year 2014		
Construction Equipment	598	0.066
Worker Vehicle	139.52	0.00
Off-Site Trucks	5.33	0.00
Water Trucks	0.42	0.00
Tonnes per year CO2e	743.16	1.39
Total tonnes/year		**744.55**
Year 2014 CO2e (tonnes per year)		**744.55**
Total Amortized GHG for Year 2014 to 2018 CO2e (tonnes per year)		**124.09**

SCAQMD Rule 403

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

- (D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;
- (E) identify a dust control supervisor that:
    - (i) is employed by or contracted with the property owner or developer;
    - (ii) is on the site or available on-site within 30 minutes during working hours;
    - (iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;
    - (iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and
- (F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

- (1) The provisions of this Rule shall not apply to:
  - (A) Dairy farms.
  - (B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.
  - (C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.
  - (D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:
    - (i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;
    - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and
    - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.
  - (E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:
    - (i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and
    - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and
    - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.

- (F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.
- (G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.
- (H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.
- (I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.
- (J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:
  - (i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and
  - (ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.
- (K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

- (A) When wind gusts exceed 25 miles per hour, provided that:

    - (i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;
    - (ii) records are maintained in accordance with subparagraph (e)(1)(C).
  - (B) To unpaved roads, provided such roads:
    - (i) are used solely for the maintenance of wind-generating equipment; or
    - (ii) are unpaved public alleys as defined in Rule 1186; or
    - (iii) are service roads that meet all of the following criteria:
      - (a) are less than 50 feet in width at all points along the road;
      - (b) are within 25 feet of the property line; and
      - (c) have a traffic volume less than 20 vehicle-trips per day.
  - (C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.
- (3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.
- (4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:
  - (A) Blasting operations which have been permitted by the California Division of Industrial Safety; and
  - (B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.
- (5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

  (A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

  (B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

  (C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	**Control Measure**	**Guidance**
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	**Control Measure**	**Guidance**
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	**Control Measure**	**Guidance**
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	**Control Measure**	**Guidance**
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	**Control Measure**	**Guidance**
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	**Control Measure**	**Guidance**
Unpaved roads/parking lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	**CONTROL ACTIONS**
Earth-moving: Construction cut areas and mining operations:	(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b) Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c) Apply chemical stabilizers within five working days of grading completion; OR (2d) Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a) Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR (3b) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (3c) Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR (3d) Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Unpaved Roads	(4a) (4b) (4c)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a) (5b) (5c) (5d)	Apply chemical stabilizers; OR Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR Install temporary coverings; OR Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY		**CONTROL MEASURES**
Earth-moving	(1A)	Cease all active operations; OR
	(2A)	Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B)	On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR
	(1B)	Apply chemical stabilizers prior to wind event; OR
	(2B)	Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR
	(3B)	Take the actions specified in Table 2, Item (3c); OR
	(4B)	Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C)	Apply chemical stabilizers prior to wind event; OR
	(2C)	Apply water twice per hour during active operation; OR
	(3C)	Stop all vehicular traffic.
Open storage piles	(1D)	Apply water twice per hour; OR
	(2D)	Install temporary coverings.
Paved road track-out	(1E)	Cover all haul vehicles; OR
	(2E)	Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

Appendix C
Cultural Resources

Appendix D

Noise Modeling Results

NOISE AND VIBRATION APPENDIX

Construction Noise Calculations

LADWP Foothill Trunk Line Project

Construction Noise Levels - Unmitigated

Reference Noise Distance	**50**
Reference Noise Level	**89**

Sensitive Receptor	**Distance (feet)**	**Attenuation Factors**	**Maximum Construction Noise Level (dBA)**	**Existing Ambient (dBA, Leq)**	**New Ambient (dBA, Leq)**	**Increase**
Single- and Multi-Family Residences Located Adjacent to Project	20	0	**97.0**	**65.4**	**97.0**	**31.6**
Value Inn Motel Located to the Southwest	130	0	**80.7**	**65.0**	**80.8**	**15.8**
Hubert H. Humphrey Memorial Recreation Center Located South of SR-118 and West of Alignment	660	6	**60.6**	**65.2**	**66.5**	**1.3**
Hillary T. Broadous Elementary Located South of SR-118 and West of Alignment	660	6	**60.6**	**65.2**	**66.5**	**1.3**
Gridley Elementary School Located to the West of Alignment	660	6	**60.6**	**65.4**	**66.6**	**1.2**
Hillary Broadous Early Education Center Located South of SR-118 and West of Alignment	685	6	**60.3**	**65.2**	**66.4**	**1.2**
Valley Region Elementary School #8 Located North of Pacoima Wash and West of Alignment	725	6	**59.8**	**65.0**	**66.1**	**1.1**
Hansen Dam Recreation Center Located to the South/Southeast	835	6	**58.5**	**57.7**	**61.2**	**3.5**

LADWP Foothill Trunk Line Project

Construction Noise Levels - Mitigated

Reference Noise Distance	**50**
Reference Noise Level	**89**

Sensitive Receptor	**Distance (feet)**	**Attenuation Factors**	**Maximum Construction Noise Level (dBA)**	**Existing Ambient (dBA, Leq)**	**New Ambient (dBA, Leq)**	**Increase**
Single- and Multi-Family Residences Located Adjacent to Project	20	3	**94.0**	**65.4**	**94.0**	**28.6**
Value Inn Motel Located to the Southwest	130	3	**77.7**	**65.0**	**77.9**	**12.9**
Hubert H. Humphrey Memorial Recreation Center Located South of SR-118 and West of Alignment	660	9	**57.6**	**65.2**	**65.9**	**0.7**
Hillary T. Broadous Elementary Located South of SR-118 and West of Alignment	660	9	**57.6**	**65.2**	**65.9**	**0.7**
Gridley Elementary School Located to the West of Alignment	660	9	**57.6**	**65.4**	**66.1**	**0.7**
Hillary Broadous Early Education Center Located South of SR-118 and West of Alignment	685	9	**57.3**	**65.2**	**65.8**	**0.6**
Valley Region Elementary School #8 Located North of Pacoima Wash and West of Alignment	725	9	**56.8**	**65.0**	**65.6**	**0.6**
Hansen Dam Recreation Center Located to the South/Southeast	835	9	**55.5**	**58.7**	**60.4**	**1.7**

LADWP Foothill Trunk Line Project

Trenchless Activity Noise Levels - Unmitigated

Reference Noise Distance	**50**
Reference Noise Level	**80**

Sensitive Receptor	**Distance (feet)**	**Attenuation Factors**	**Maximum Construction Noise Level (dBA)**	**Existing Ambient (dBA, Leq)**	**New Ambient (dBA, Leq)**	**Increase**
Foothill Boulevard and Hubbard Street						
Multi-Family Residences Located to the Southwest	165	0	**69.6**	**65.4**	**71.0**	**5.6**
Foothill Boulevard and Maclay Street						
Value Inn Motel Located to the Southwest	130	0	**71.7**	**65.0**	**72.5**	**7.5**
Multi-Family Residences Located to the Southwest	190	0	**68.4**	**65.0**	**70.0**	**5.0**
Foothill Boulvard Under the SR-118/I-210 Connector						
Single-Family Residences Located to the Northwest	140	0	**71.1**	**57.7**	**71.3**	**13.6**
Foothill and Van Nuy Boulevards						
Single-Family Residences Located to the Southwest	55	0	**79.2**	**65.2**	**79.3**	**14.1**

Construction Vibration Calculations

LADWP Foothill Trunk Line - Vibration Related to Building Damage

Reference Noise Distance	**25**	
Reference Noise Level	**0.089**	
Sensitive Receptor	**Distance (feet)**	**PPV**
Sensitive Receptor	12	**0.268**
Sensitive Receptor	15	**0.191**
Sensitive Receptor	20	**0.124**
Sensitive Receptor	25	**0.089**
Sensitive Receptor	50	**0.031**
Sensitive Receptor	75	**0.017**
Sensitive Receptor	100	**0.011**
Sensitive Receptor	125	**0.008**
Sensitive Receptor	150	**0.006**

Appendix E
Traffic Study

Traffic Study for the
City of Los Angeles Department of Water and Power
Foothill Trunk Line Unit 3 Project

Los Angeles, California

July 5, 2013

Prepared for:

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Table of Contents

List of Figures

List of Tables

Appendices

1. Introduction

This report documents the traffic analysis prepared by KOA Corporation to assess the traffic impact of the proposed Foothill Trunk Line Unit 3 Project, located in the San Fernando Valley area within the City of Los Angeles. The City of Los Angeles Department of Water and Power (LADWP) proposes to replace an existing pipeline within Foothill Boulevard between Hubbard Street and Terra Bella Street under the proposed Project.

This traffic study assesses the potential traffic impact of the construction of the proposed Project. Post-project, or operational, traffic impacts will be less than significant as the pipeline will not require active management to operate. Routine project maintenance in the operations period will not create a significant level of regularly-generated trips.

1.1 Project Location

The proposed Project corridor is located in the City of Los Angeles, within the communities of Sylmar and Pacoima.

Sylmar is bounded by the City of Los Angeles boundary to the north and east, the City of San Fernando to the south and southeast, and the I-405 and I-5 freeways to the west. Pacoima is bounded roughly on the southwest by the I-5 freeway, to the north by the City of San Fernando, Sylmar, and the State Route 118 (SR-118) freeway, to the east by the I-210 freeway and Foothill Boulevard, and the communities of Sunland, Tujunga, Shadow Hills, and Lake View Terrace to the east and south. The project area is mostly urbanized, and Foothill Boulevard serves as a commercial corridor as well as a link to multiple nearby I-210 access interchanges.

Foothill Boulevard, within this document, is referred to as an east-west roadway. It parallels the east-west trending I-210 freeway, and intersecting roadways such as Van Nuys Boulevard are north-south trending facilities. Figure 1 illustrates the area roadway network and the location of the project construction corridor.

The alignment of the proposed project would be located within the public right-of-way (ROW) of Foothill Boulevard, beginning at approximately 600 feet west of the intersection of Hubbard Street and Foothill Boulevard, continuing to the east along Foothill Boulevard, and ending at Terra Bella Street. Surrounding land uses along the proposed project alignment include single and multi-family residential, industrial, and commercial uses.

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Foothill Corridor

Figure 1

Project Construction Corridor

1.2 Project Description

The proposed Project would replace approximately 16,600 linear feet of existing smaller pipeline with a larger-diameter pipeline within the proposed corridor. The proposed project alignment would traverse multiple major existing storm drains, and a Los Angeles County Flood Control District flood channel (Pacoima Wash). The proposed project would also cross under the SR-118 freeway and connector ramps within its interchange at the I-210 freeway.

The proposed Project would include six connections, ten valves, and four tunnel pits. Most of the proposed project would be located underground and would not be visible. The only segment that would be visible is where the proposed project crosses over the Pacoima Wash. Minor appurtenant facilities, such as combination air valves and a rectifier station cabinet, would also be constructed above ground as part of the project.

1.3 Traffic Analysis Methodology

The focus of this traffic impact study is on the construction period of the proposed Project. The post-construction operations period will not generate significant levels of daily traffic, and only routine maintenance activities will be required. Selected intersections and roadway segments were analyzed along the construction route. Roadway intersections were examined for approach lane reductions and removals due to establishment of construction-related work areas and necessary diversions during trenching activities adjacent to or within the intersection. Roadway segments were examined for related travel lane reductions during construction.

The steps involved in the analysis included internal scoping of the work with the project team; collection of baseline traffic data; analysis of existing, existing-with-construction, and future with-construction conditions; identification if significant impacts and other circulation issues; and development of recommendations for any feasible mitigation measures. Further details of the methodology applied to this effort are summarized below.

Study Area and Orientation

Major signalized intersections along the project route were identified that would be affected by construction work zone footprints and/or trenching activities. In four locations along the project route where pipe jacking is planned to be utilized (underground construction with entrance/exit pits at each end) and intersections would not be affected by either work zone footprints or trenching activities, those intersections were not analyzed. An additional unsignalized intersection was included in the study area, which serves as a secondary access to the Home Depot commercial center. Foothill Boulevard, within this document, is referred to as an east-west roadway.

Data Collection

Truck/auto classification counts were included at all of the roadway segment analysis points, as there is a sizeable level of light industrial uses within and adjacent to the study area. These uses are primarily located within the southeast end of the corridor, within the Pacoima neighborhood.

These counts were conducted to determine the proportion of overall traffic volumes constituted by large and heavy-duty trucks (vehicles with three or more axles with or without articulation in terms of separate cabs and trailers). The following heavy-duty truck breakdowns, as proportions of total daily traffic volumes, was found from an examination of the classification counts by study roadway segment location:

- Foothill Boulevard, east of Hubbard Street: 0.3% are large trucks
- Foothill Boulevard, west of Maclay Street: 0.3% are large trucks
- Foothill Boulevard, between Arroyo Street and Vaughn Street: 0.4% are large trucks
- Foothill Boulevard, west of Fillmore Street: 0.8% are large trucks
- Foothill Boulevard, west of Van Nuys Boulevard: 0.9% are large trucks
- Foothill Boulevard, west of Terra Bella Street: 1.0% are large trucks

Peak-period percentages track closely with these values, and the hourly distribution of truck trips is not loaded heavily in the off-peak times such as night. The highest peak-hour percentages are at the last location in the list above, and range from 1.8 to 3.4 percent.

Definition of Analysis Periods

The study analysis periods were based on existing conditions (the time when the traffic counts were conducted), and the assumed peak-year of construction of the proposed Project (defining the future analysis year). The future analysis period was defined as the year 2019, the latest year of the project construction period.

1.4 Level of Service Definition

The concept of level of service (LOS) for roadway segments is typically defined in terms of average travel speed of all vehicles on the facility. Average travel speed is strongly influenced by the density of signalized intersections per mile, average intersection delay, the number of driveways per segment and the presence of on-street parking. `

Table 1 provides descriptions of general roadway operations for each LOS value, as defined within the 2000 *Highway Capacity Manual* (published by the Transportation Research Board).

All signalized intersection volume-to-capacity (V/C) calculations, which define the LOS values, were adjusted downward based on the presence within the corridor of the ATSAC/ATCS signal synchronization and adaptive control system of the City of Los Angeles. The Department of Transportation (LADOT) allows for a factor to be applied that acknowledges the traffic flow benefits of the system. The table data incorporates this factor, and the appendix worksheets provide the non-factored calculations.

Table 1 – Level of Service Definitions

Level of Service	**Flow Conditions**	Volume to Capacity Ratio
A	LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the arterial classification. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.	0.00-0.60
B	LOS B represents reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the arterial classification. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.	0.61-0.70
C	LOS C represents stable operations; however, ability to maneuver and change lanes in mid-block locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average speeds of about 50 percent of the average free-flow speed for the arterial classification. Motorists will experience appreciable tension while driving.	0.71-0.80
D	LOS D borders on a range in which small increases in flow may cause a substantial increase in delay and hence decreases in arterial speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these factors. Average travel speeds are about 40 percent of free-flow speed.	0.81-0.90
E	LOS E is characterized by significant delays and average travel speeds of one-third the free-flow speed of less. Such operations are caused by some combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	0.91-1.00
F	LOS F characterizes arterial flow at extremely low speeds below one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays and extensive queuing. Adverse progression is frequently a contributor to this condition.	Over 1.00

Section 3 of this report provides a review of existing LOS values at the study intersections and roadway segments. Section 5 provides a review of pre-Project (pre-construction and pre-operations) conditions. Construction period LOS values are reviewed within Section 6.

2. Project Construction Summary

This section of the report identifies the construction activity that would occur with the proposed pipeline route.

Due to the extensive surface work that is required, excavations and open trenching methods will have the greatest traffic circulation impacts. Approximately 12,750 linear feet of the total project of 16,600 linear feet would occur by open trench. Temporary lane closures along the proposed Project alignment would be required. Two-way travel along the affected roadways would be maintained, although the roadway would be restricted in capacity while work area boundaries are maintained.

Project construction activities will be accomplished in the following steps:

Step 1 – Survey and Trench Marking – The initial step will consist of surveying and marking the center line of the trench and surveying and marking underground substructures that will need to be potholed.

Step 2 – Sawcutting, Breaking and Removal of Pavement – Following the marking of the center line of the trench, concrete type pavement will be sawcut and then broken while asphalt pavement will be broken. The pavement will then be hauled away for disposal.

Step 3 – Excavations, Trenching, Pipeline Installation, and Backfilling – Each construction crew is estimated by LADWP to be capable of trenching approximately 10 linear feet per day. The trenching areas will be approximately eight feet wide by 10 feet deep and would be located within staging and work areas that will vary in width from approximately 25 feet to approximately 55 feet wide. Areas that are trenched or excavated would be covered with steel plates every evening until the road surface is restored; this would allow for continued usage of the affected roadway. When segments of the trench line are restored, more trenching would occur farther down the street.

This report analyzes the effects of typical construction work areas, including work areas for Steps 2, (Sawcutting, Breaking and Removal of Pavement), 3 (Excavations, Trenching, Pipeline installation, backfilling), and the physical effect of the establishment of these areas on typical roadway cross-sections. The worst-case physical extents of related roadway capacity constrictions within each Project segment have been considered.

Construction of the proposed Project would potentially impact intersections located along Foothill Boulevard. To minimize traffic disruptions at busy intersections during construction, LADWP intends to install the 54-inch welded steel pipe via pipe jacking at four intersections along the proposed alignment. Pipe jacking would be used to avoid ground disturbance to critical intersections and other locations where ground surface cannot be disturbed.

Pipe Jacking would be applied to approximately 3,100 feet of the Project corridor, in various locations, along Foothill Boulevard. This method employs a horizontal boring machine or an auger that is advanced in a tunnel bore to remove material ahead of the pipe. Temporary jacking pits and receiving pits are excavated on either side of the segment. Powerful hydraulic jacks are used to push a steel casing pipe from a jacking pit to a receiving pit. As the tunneling machine is driven forward, a jacking pipe is added into the pipe string. A jacking pit typically measures 14 feet by 40 feet and the receiving pit typically measures 10 feet by 20 feet, with a depth varying from 30 to 40 feet.

The pipe jacking method would be implemented at four locations along the following intersections, to avoid closure or diversion of access across Foothill Boulevard at these intersections and grade separations:

- Foothill Boulevard and Hubbard Street
- Foothill Boulevard and Maclay Street
- Foothill Boulevard and Arroyo Street
- Foothill Boulevard under the SR-118/I-210 Freeway Connector
- Foothill Boulevard and Van Nuys Boulevard

2.1 Project Construction Details

Most of the construction activities for the Project will occur within public rights-of-way on city streets pursuant to LADWP existing franchise agreements.

Temporary lane closures along streets as required for construction would be coordinated with the other City of Los Angeles entities such as the Bureau of Engineering (LABOE) and the Department of Transportation (LADOT). LADWP is a member of the California Joint Utility Traffic Control Committee, which in 1996 published the *Work Area Protection and Traffic Control Manual.* The traffic control plans and associated text depicted in this manual conform to the guidelines established by the Federal and State Departments of Transportation.

LADWP would follow the recommendations in the Manual regarding basic standards for the safe movement of traffic upon highways and streets in accordance with Section 21400 of the California Vehicle Code. These recommendations include provisions for safe access of police, fire, and other rescue vehicles. In addition, LADWP would obtain roadway encroachment permits and would submit traffic management plans to LABOE and LADOT for review and approval.

Throughout the construction of the trench, asphalt, concrete, and excavated material would be hauled off by truck for disposal at the approved disposal site of Vulcan Landfill in Sun Valley. This disposal site location is south of the study area.

In roadways, trucks would be used to haul material, typically as it is excavated from the trenches. As trucks are filled with spoils, they would leave the work areas and be replaced by empty trucks. Approximately six loads of excavated soils would be required per day, generating 12 daily round trips by trucks. Delivery trucks carrying materials and pipeline elements would arrive as-needed during construction, with a low average number of truck trips generated on an average day. As part of the final construction activities, roadway pavement would be restored.

Lane closure for construction activities will be shown on the traffic control plans, to be submitted to LADOT on each construction segment.

2.2 Project Schedule

Construction of the project is scheduled for a duration of approximately 60 months, commencing in late 2014 and ending in late 2019. Project trenching/jacking activity, however, would only occur within short segments of the roadway at a time, and progress along the corridor to complete the construction effort.

Typical construction hours would be Monday through Friday from 7:00 a.m. to 9:00 p.m., and on Saturdays from 8:00 a.m.-to 6:00 p.m. All pertinent LADOT requirements for working hours will be observed by LADWP.

The City of Los Angeles Rush Hour Ordinance limits in-street construction on weekdays to the hours of 9:00 a.m. through 3:30 p.m. A variance to the Mayor's Executive Order No. 2 to allow construction outside those times would be requested, however.

3. Existing Area Traffic Conditions

This report section describes the characteristics of roadways within the study area. A review of the collected traffic volumes is provided, along with a level of service analysis for these facilities.

3.1 Study Intersections and Roadway Segments

For the traffic impact analysis, 10 locations were defined as study intersections. Existing intersection traffic volumes were collected on Tuesday, December 11, 2012. The year-2012 volumes were considered to be adequate for the analysis of existing conditions.

The following are the nine signalized study intersections and one unsignalized study intersection:

1. Hubbard Street/Foothill Boulevard
2. Gridley Street/Foothill Boulevard
3. West driveway of Home Depot commercial center/Foothill Boulevard
4. Middle driveway of Home Depot commercial center/Foothill Boulevard (unsignalized)
5. Arroyo Street/Foothill Boulevard
6. Vaughn Street/Foothill Boulevard
7. Paxton Street/Foothill Boulevard
8. Filmore Street/Foothill Boulevard
9. Van Nuys Boulevard/Foothill Boulevard
10. Terra Bella Street/Foothill Boulevard

Study Intersection #4 is unsignalized and is located to the south of the signalized study intersection #3, which is also a driveway of the same commercial center. It is located between the El Pollo Loco and KFC restaurant pads. This center has a third driveway to the south, which provides minor access on the west end of the center, but due to its minor importance to the center it was not included as a study intersection. In addition, the following seven roadway segments were also included in the study area:

A. Foothill Boulevard, between Hubbard Street and Gridley Street
B. Foothill Boulevard, between Harding Street and Maclay Street
C. Foothill Boulevard, between Home Depot Driveways
D. Foothill Boulevard, between Arroyo Street and Vaughn Street
E. Foothill Boulevard, between Paxton Street and Filmore Street
F. Foothill Boulevard, between Filmore Street and Van Nuys Boulevard
G. Foothill Boulevard, between Pierce Street and Terra Bella Street

The associated daily roadway counts were also collected on the same day as the intersection counts.

Figure 2 illustrates the locations of the study intersections and roadway segments. Figure 3 illustrates the study intersection approach lanes and control configurations. The traffic count summaries are provided within Appendix A of this report.

3.2 Local Roadway Characteristics

The proposed Project alignment along Foothill Boulevard has two travel lanes in each direction. On-street parking is generally permitted along most of the alignment. Parking tends to be more restrictive near commercial areas. Table 2 summarizes the study segments by number of lanes, median type, parking restrictions, adjacent land uses, speed limits, and curb-to-curb physical width.

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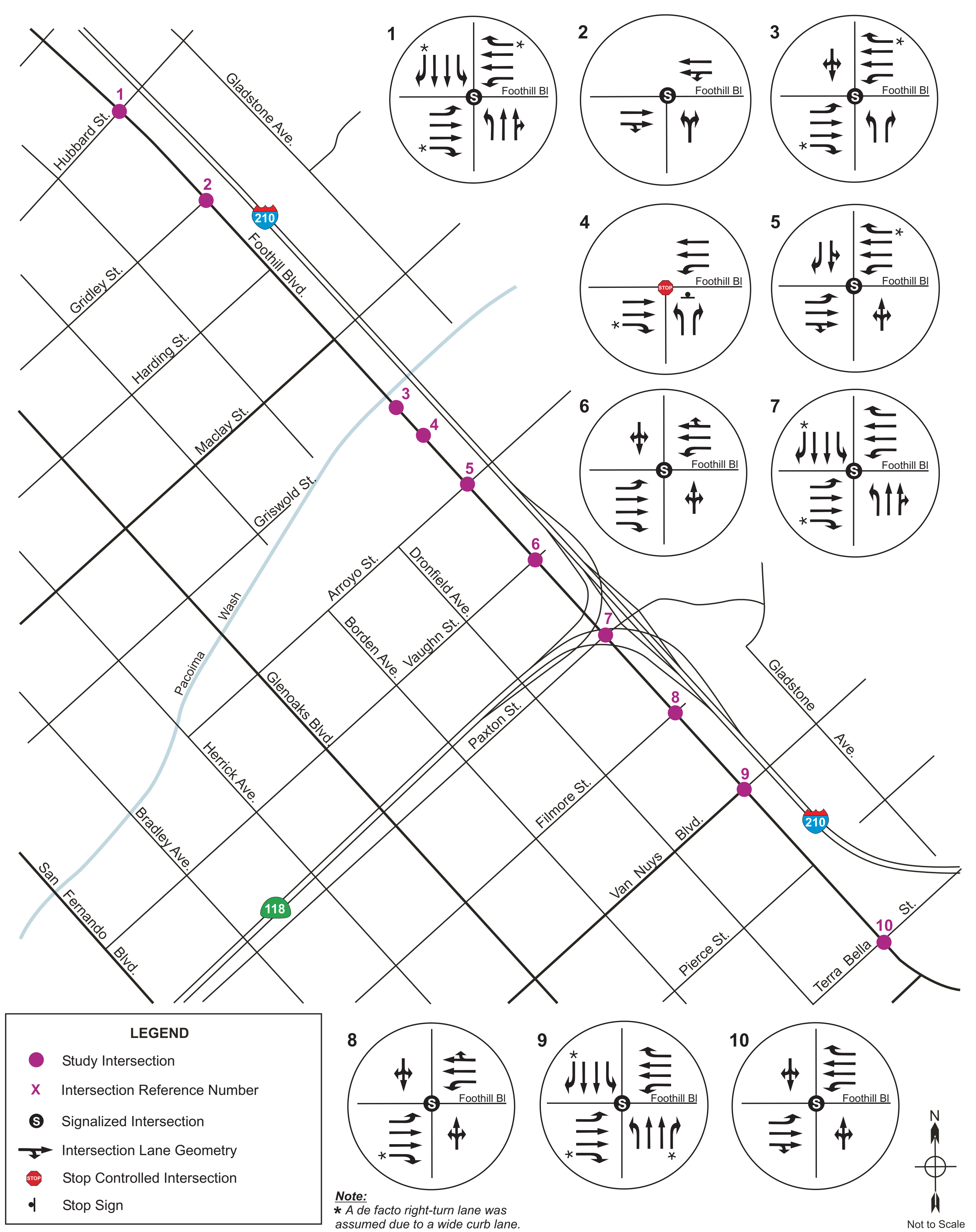
Figure 2

Study Intersections and Roadway Segments



Note:

** A de facto right-turn lane was assumed due to a wide curb lane.*

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Figure 3

Intersection Lane Configurations

Table 2 – Project Corridor Roadway Characteristics

Study Seg #	From	To	Funtional Classification	Lane		Median Type	Parking Restrictions		Land Use	Speed Limit	Streeet ROW(FT)
				NB/EB	SB/WB		WB	EB			
FOOTHILL BOULEVARD											
A	Hubbard St	Gridley St.	Major Hwy Class II	2	2	2LT	NSAT / PA	NSAT / PA	Residential	45	52' to 69'
B	Harding St.	Maclay St.	Major Hwy Class II	2	2	DY	NSAT / PA	NSAT	Residential	45	48' to 64'
C	Home Depot	Arroyo St	Major Hwy Class II	2	2	2LT	PA	NSAT	Commercial	40	78'
D	Arroyo St	Vaughn St	Major Hwy Class II	2	2	2LT	PA	PA	Commercial	40	80'
E	Paxton St.	Filmore St.	Major Hwy Class II	2	2	2LT	NPAT	NPAT	Commercial	40	80'
F	Filmore St.	Van Nuys Bl.	Major Hwy Class II	2	2	2LT	NPAT	NPAT / PA	Commercial Residential	40	64' to 80'
G	Pierce St.	Terra Bella St.	Major Hwy Class II	2	2	2LT	PA	PA	Commercial Residential	45	80'

DY - Doublle Yellow 2LT - Dual Left Turn PA - Parking Anytime NSAT - No Stopping Anytime NPAT - No Parking Anytime

3.3 Existing Area Transit Service

The project study area is served by public transit bus lines operated by the County of Los Angeles Metropolitan Transportation Authority (Metro) and LADOT. Table 3 provides a description of the transit lines that serve the study area.

Table 3 – Transit Service Summary

Agency	Line	From	To	Via	Approx. Peak Frequency
Metro	233	Lake View Terrace	Westwood	Van Nuys Boulevard, Foothill Boulevard, Terra Bella Street	12 to 15 minutes
Metro	290	Sylmar	Sunland	Foothill Boulevard	20 to 30 minutes
Metro Rapid Bus	761	Pacoima	Westwood	Van Nuys Boulevard, Foothill Boulevard, Paxton Street	8 to 20 minutes
LADOT Commuter Express	409	Sylmar	Downtown Los Angeles	Foothill Boulevard	10 to 20 minutes

3.4 Existing Intersection Levels of Service

This report section documents the existing weekday a.m. and p.m. peak-hour traffic operations within the study area. Based on the traffic counts conducted at the study intersections, a level of service (LOS) value and a corresponding volume-to-capacity (v/c) ratio was determined for each of the 10 locations. The Critical Movement Analysis (CMA) methodology, also known as the Circular 212 Planning methodology, is accepted by LADOT as defined by the published traffic study guidelines and was therefore used to conduct these calculations.

Table 4 provides the V/C and LOS values under existing (2012) conditions, for the a.m. and p.m. peak hours.

Table 4 – Intersection Level of Service Calculations – Existing (2012) Conditions

		Existing (2012) Conditions			
		AM Peak Hour		PM Peak Hour	
	Study Intersections	**V/C or Delay**	**LOS**	**V/C or Delay**	**LOS**
1	Hubbard Street & Foothill Boulevard	0.617	B	0.631	B
2	Gridley Street & Foothill Boulevard	0.391	A	0.493	A
3	Home Depot-Sam's Club & Foothill Boulevard	0.461	A	0.478	A
4	HD-Sams-Pollo Loco-KFC Dwy & Foothill Boulevard	19.4	C	16.4	C
5	Arroyo Street & Foothill Boulevard	0.589	A	0.563	A
6	Vaughn Street & Foothill Boulevard	0.329	A	0.311	A
7	Paxton Street & Foothill Boulevard	0.506	A	0.543	A
8	Filmore Street & Foothill Boulevard	0.339	A	0.349	A
9	Van Nuys Boulevard & Foothill Boulevard	0.496	A	0.521	A
10	Terra Bella Street & Foothill Boulevard	0.635	B	0.487	A

The data in Table 4 indicates that all of the study intersections are currently operating at LOS C or better during the a.m. and p.m. peak hours.

The existing (2012) peak-hour turn movement volumes at the study intersections are provided on Figure 4 (a.m. peak) and Figure 5 (p.m. peak).

The intersection level of service worksheets for the existing conditions scenario are provided in Appendix B of this report.

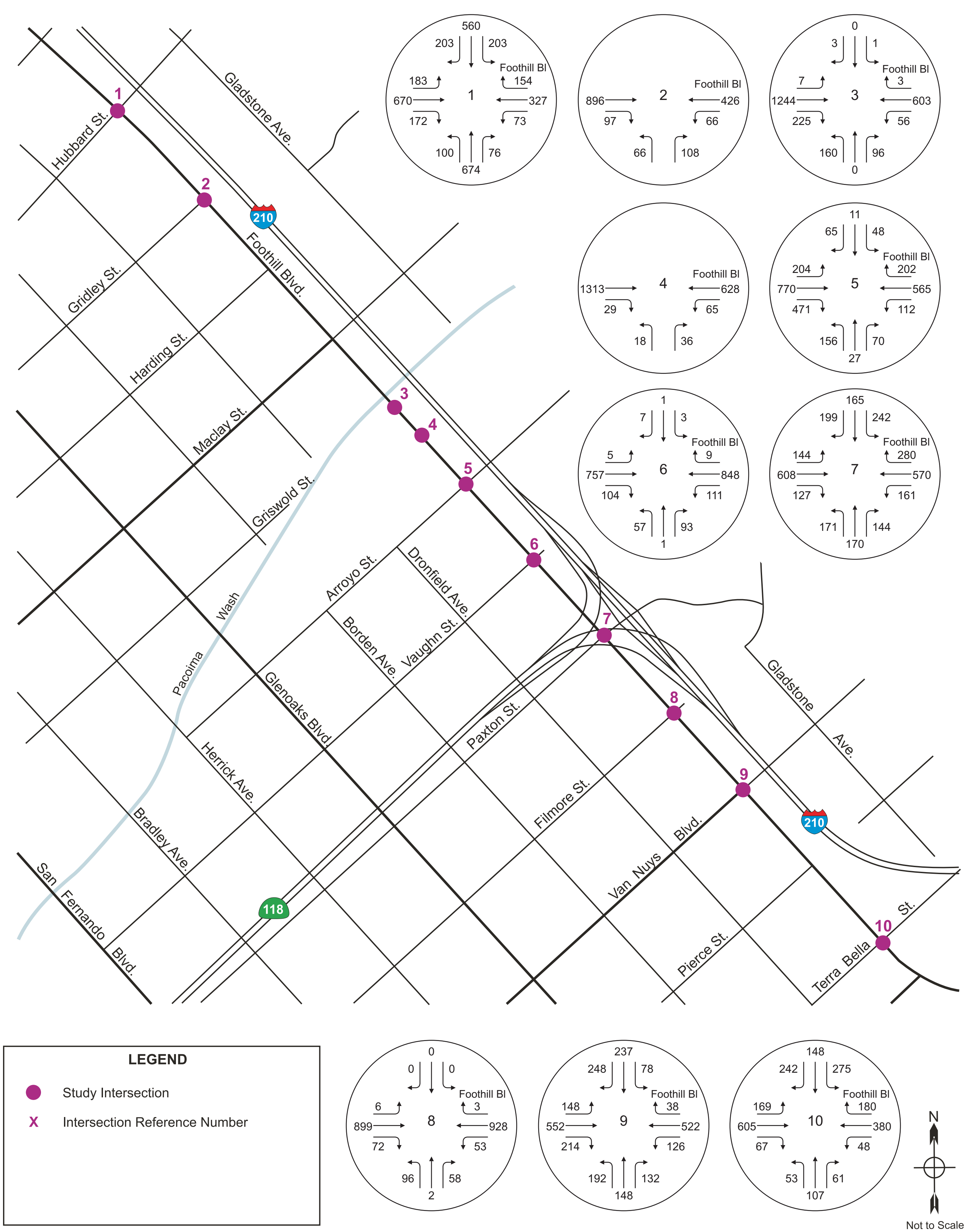

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Figure 4

Existing AM Peak Hour Traffic Volumes

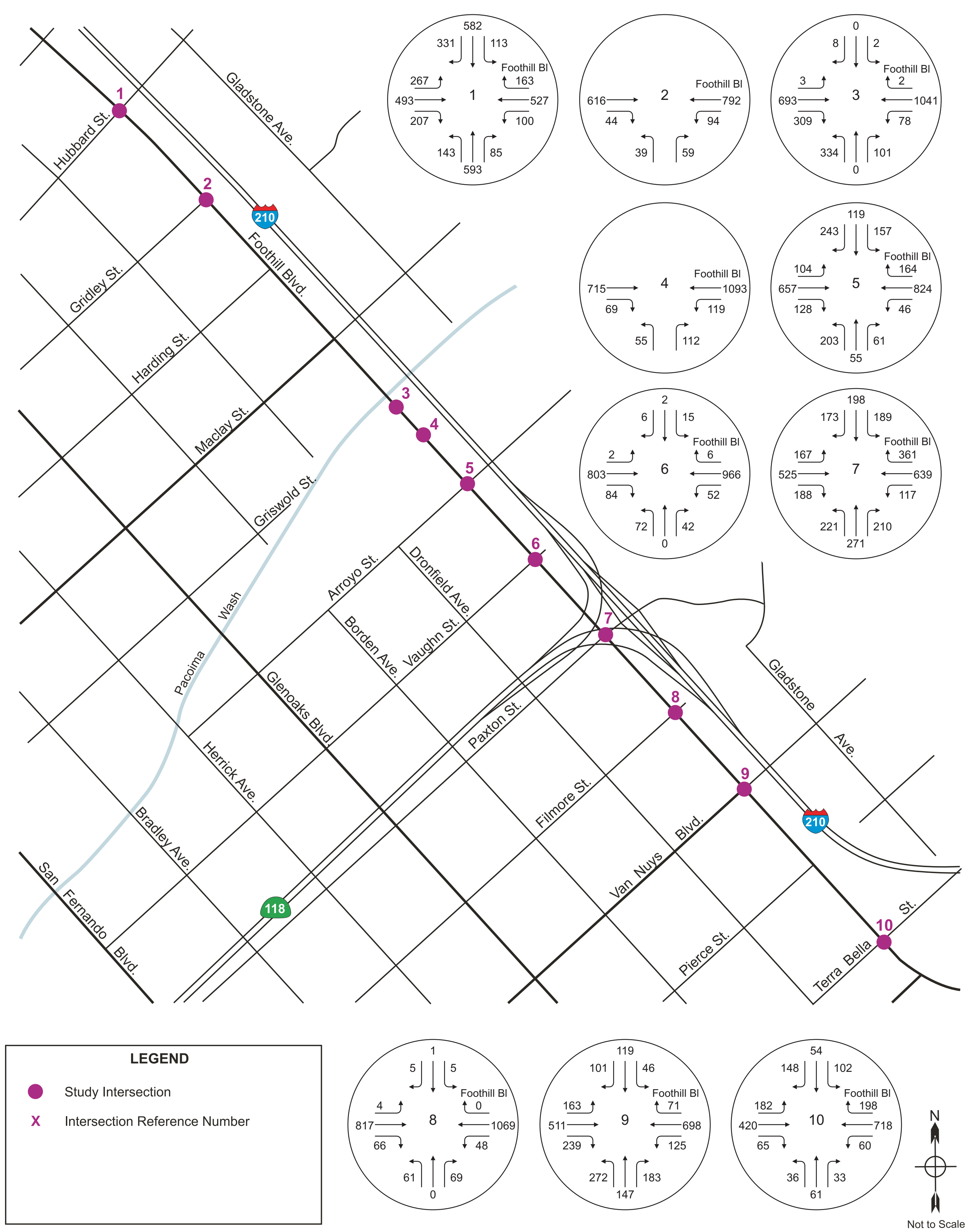

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Figure 5

Existing PM Peak Hour Traffic Volumes

3.5 Existing Roadway Segment Volumes

Table 5 provides a summary of the average daily traffic (ADT) volumes, based on the December 2012 counts.

Table 5 – Study Roadway Segments – Existing (Year 2012)
Weekday Daily Vehicle Volumes

	Street Segments	Existing ADT
A	Foothill Boulevard Between Hubbard Street and Gridley Street	17,696
B	Foothill Boulevard Between Harding Avenue and Maclay Street	19,177
C	Foothill Boulevard Between Home Depot Driveways	25,460
D	Foothill Boulevard Between Arroyo Street and Vaughn Street	24,014
E	Foothill Boulevard Between Paxton Street and Filmore Street	23,779
F	Foothill Boulevard Between Filmore Street and Van Nuys Boulevard	23,109
G	Foothill Boulevard Between Pierce Street and Terra Bella Street	17,392

The data in Table 5 indicates that the highest daily vehicle volume occurs on Foothill Boulevard between the Home Depot commercial center driveways.

The daily segment traffic count summaries are provided within Appendix A to this report.

4. Future 2019 Without-Project Conditions

This section provides an analysis of "without-Project" Conditions in the study area with ambient growth and area project trips. Construction of the proposed Project is scheduled for a duration of approximately 60 months, commencing in late 2014 and ending in late 2019. Construction would progress along the corridor over the course of the multi-year construction period.

The peak construction activity period within the overall construction timeframe was analyzed to determine potential Project construction-period impacts. The without-Project analysis was defined and analyzed through an application of an annual ambient growth rate to the existing traffic volumes, plus addition of volumes generated by area projects.

4.1 Ambient Growth

In order to forecast baseline traffic volumes for the analysis year of 2019 year-2012 peak-hour traffic count volumes from the existing conditions scenario were increased by an annual ambient growth rate of 1.0 percent. This rate was applied as a compounded factor of 1.062.

The application of this annual growth rate is consistent with sub-regional traffic growth data defined by the County of Los Angeles Congestion Management Program (CMP) document.

4.2 Area Projects

Three 1.5-mile radius lines, from Foothill Boulevard at Hubbard Street, Arroyo Street, and Terra Bella Street, were used to define a capture area for area approved and pending (cumulative) projects. The list of area projects was compiled based on information provided by LADOT Development Review staff. From this process, twelve projects were defined within the study area for inclusion in the analysis.

The projects included in the list would potentially contribute measurable traffic volumes to the study area during the future analysis period. The LADOT project database provides total peak-hour trips, compiled from environmental documentation or traffic studies. The in/out trip generation ratios applied to the area projects were based on rates within *Trip Generation*, published by the Institute of Transportation Engineers.

The area projects included in this study for future period analysis, and the trip generation of each, are provided in Appendix C.

Figure 6 illustrates the locations of the included area projects.

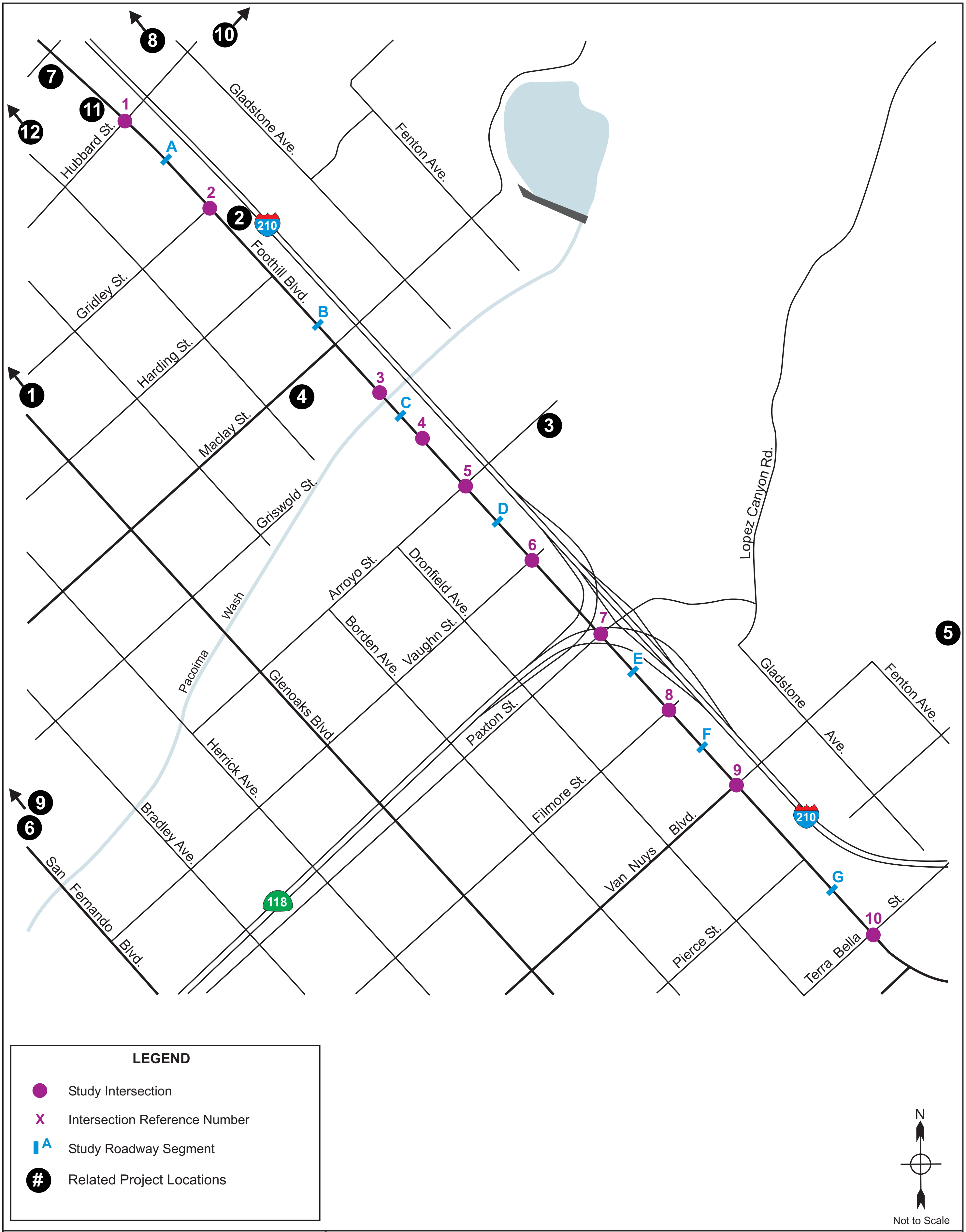

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Figure 6

Location of Related Projects

4.3 Intersection Levels of Service – 2019

To analyze future conditions in the year 2019 without the proposed Project, intersection turn volumes with ambient growth and trips generated by area projects were analyzed using the same methodology applied to the existing conditions analysis.

Table 6 provides the a.m. and p.m. peak-hour results of this analysis for the study intersections.

Table 6 – Level of Service Calculations – Future (Year-2019)
Without-Project Construction Conditions

		Future Without Project			
		AM Peak Hour		PM Peak Hour	
	Study Intersections	V/C or Delay	LOS	V/C or Delay	LOS
1	Hubbard Street & Foothill Boulevard	0.733	C	0.726	C
2	Gridley Street & Foothill Boulevard	0.442	A	0.556	A
3	Home Depot-Sam's Club & Foothill Boulevard	0.587	A	0.541	A
4	HD-Sams-Pollo Loco-KFC Dwy & Foothill Boulevard	27.0	D	18.7	C
5	Arroyo Street & Foothill Boulevard	0.816	D	0.679	B
6	Vaughn Street & Foothill Boulevard	0.394	A	0.353	A
7	Paxton Street & Foothill Boulevard	0.623	B	0.609	B
8	Filmore Street & Foothill Boulevard	0.383	A	0.388	A
9	Van Nuys Boulevard & Foothill Boulevard	0.567	A	0.581	A
10	Terra Bella Street & Foothill Boulevard	0.694	B	0.533	A

Under this scenario, all of the study intersections would continue to operate at LOS D or better during the weekday a.m. and p.m. peak hours. Only study intersections #4 and #5 would operate at LOS D (and only in the a.m. peak hour), while the remainder of the study intersections would operate at good LOS values of C or better.

The study intersection analysis worksheets for this scenario are provided in Appendix D of this report. The analyzed peak-hour traffic volumes at the study intersections for this scenario are provided on Figure 7 (a.m. peak) and Figure 8 (pm. peak).

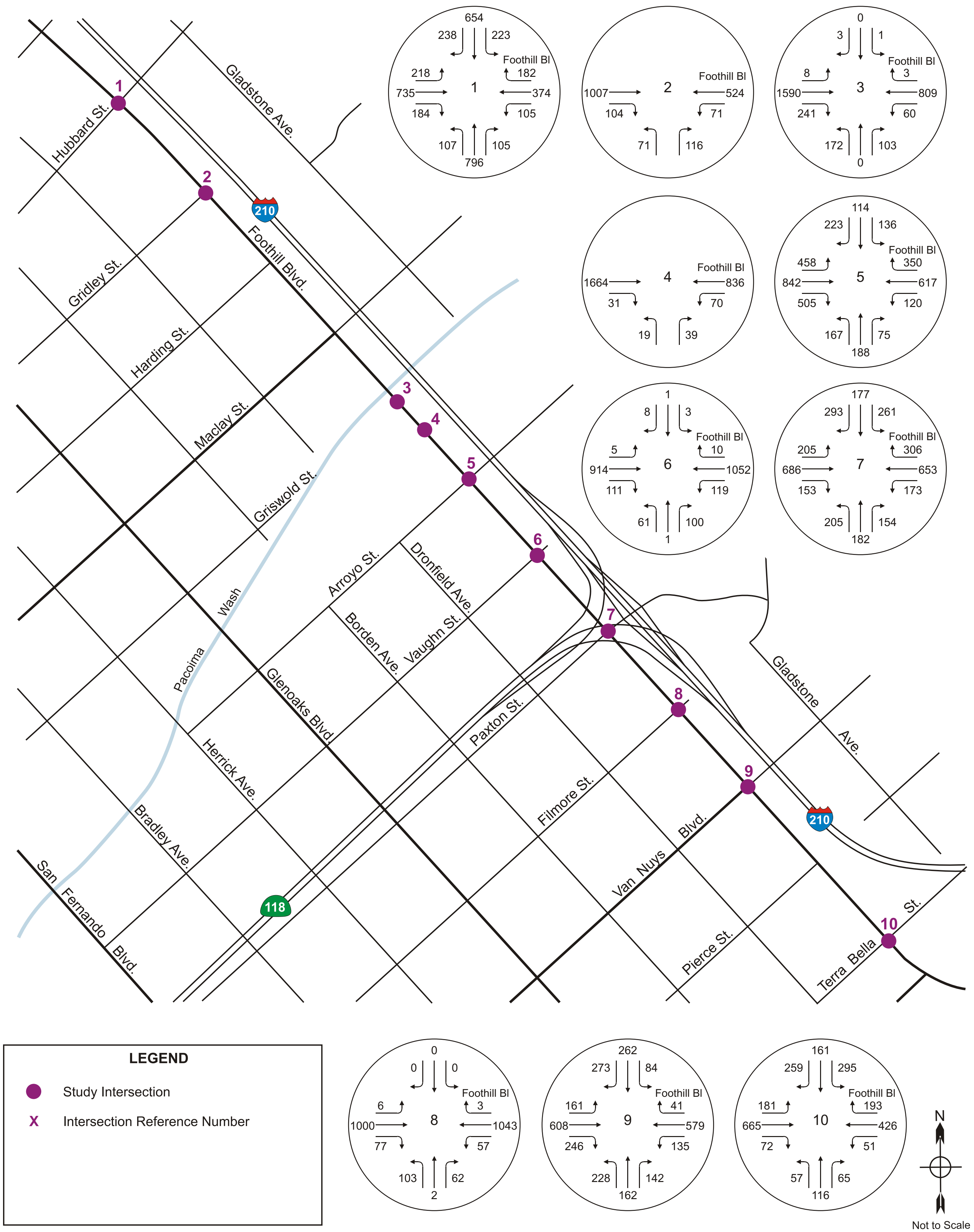

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Figure 7

Future without-Project - AM Peak Hour Intersection Volumes

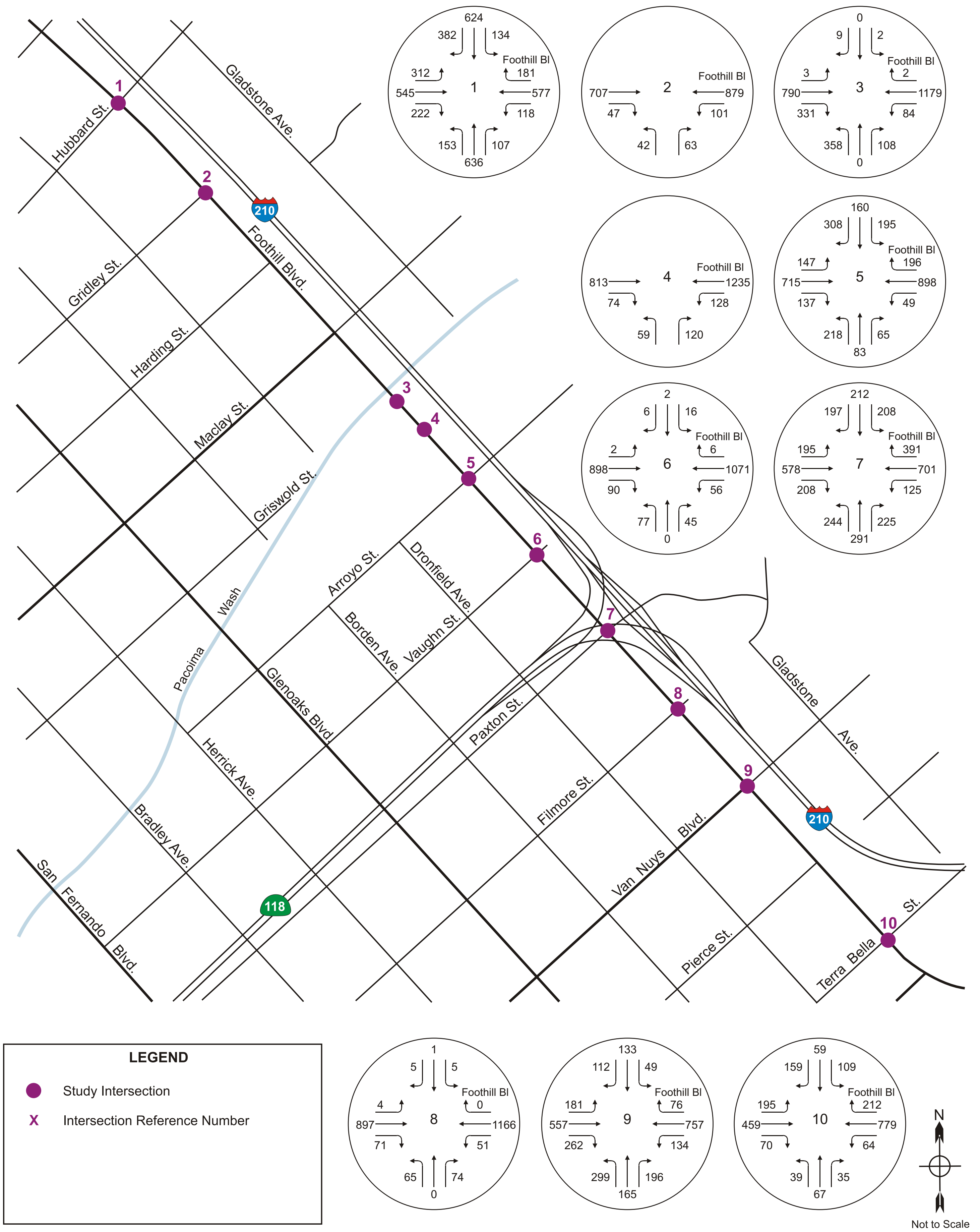

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Figure 8

Future without-Project - PM Peak Hour Intersection Volumes

4.4 Study Roadway Segment Volumes – 2019

Table 7 provides the average daily traffic volumes for year-2019 conditions at the study roadway segments, based on the application of ambient growth and the calculated daily trips from the included area projects.

Table 7 – Study Roadway Segments – Future (Year 2019) Without-Project Daily Vehicle Volumes

Street Segments		Future Base ADT
A	Foothill Boulevard Between Hubbard Street and Gridley Street	19,887
B	Foothill Boulevard Between Harding Avenue and Maclay Street	21,768
C	Foothill Boulevard Between Home Depot Driveways	28,859
D	Foothill Boulevard Between Arroyo Street and Vaughn Street	26,751
E	Foothill Boulevard Between Paxton Street and Filmore Street	26,001
F	Foothill Boulevard Between Filmore Street and Van Nuys Boulevard	25,283
G	Foothill Boulevard Between Pierce Street and Terra Bella Street	18,880

The highest daily vehicle volume is at Foothill Boulevard, between the Home Depot commercial center driveways.

5. Project Construction Period Trip Generation

This section provides definitions for truck and employee vehicle trip generation during the peak period of project construction, along with the distribution and assignment of those trips to the study area roadway network. To evaluate a worst-case scenario for construction trip generation of the proposed Project, it is assumed that each employee will drive to and from work with some carpooling.

This is a planning-level analysis of construction activity, used for the purposes of determining traffic impacts during the project construction period. Prior to initiating construction, a detailed construction plan will be developed by the construction manager to identify necessary resources and to define the construction supervisory and technical field organization and staffing levels required for the project. The methods and procedures for sequencing and implementing construction operations will also be detailed in the construction plan. In addition, a project safety program will be developed by the operator, consistent with federal and state requirements. This is a standard LADWP procedural requirement.

Therefore, basic construction details defined for the project planning process have been used to analyze potential construction-period impacts.

5.1 Project Trip Generation Methodology

Project trip generation calculations included construction employee vehicle trips and construction truck trip estimates. The trip generation totals were determined based on the most intense period of construction activity for the project.

In converting trucks to passenger car equivalents, a Passenger Car Equivalent (PCE) factor of 2.5 was assumed. This factoring was used to increase truck volumes due to the additional roadway space and design capacity utilized by larger and slower trucks. The applied value matches typical factors used in area studies that include trips generated by trucking activities. The factor is based on conservative factors defined by the Southern California Association of Governments (SCAG) Heavy Duty Truck Model.

For construction, the maximum number of employees on project roadway segment sites would be 48:

- For open cut trenching activities, there would be two 18-worker crews
- For pipe jacking activities, there would be one 12-worker crew

The maximum number of daily one-way truck trips would be 34 trips, with 28 generated by open-cut trenching construction activities and six generated by pipe jacking activities.

5.2 Project Trip Generation Calculations

In calculating peak-hour trips for the project, it is assumed that a majority of the construction employees will arrive and depart the sites or roadway segment via personal vehicles. The morning arrival by employees is assumed to overlap the a.m. peak hour by 50 percent, with the remaining 50 percent of employees assumed to be at the sites before 7:00 a.m. The same would occur during the p.m. peak hour, with 50 percent of employees assumed to depart the site before 4:00 p.m. Therefore, the same reduction was taken for both peak periods.

During project construction activity, daily truck haul activities will occur over an eight-hour period that begins during the a.m. peak period, and is complete during the p.m. peak period. End-of-workday trips were assumed to overlap the traditional peak of street traffic during the 4:00 p.m. to 6:00 p.m. time period.

As shown in Table 8, project construction would generate a daily total of 181 passenger car equivalent trips, with 72 (45+27) trips occurring during the a.m. peak hour and 72 (27+45) trips occurring during the p.m. peak hour.

Table 8 – Project Trip Generation

TRIP GENERATION	AVERAGE DAILY TRIPS			AM PEAK HOUR						PM PEAK HOUR					
				Truck Trips*		Employee Trips		Total Trips		Truck Trips*		Employee Trips		Total Trips	
	Trucks*	Employee	Total	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Field Personnel	0	96	96	0	0	24	6	24	6	0	0	6	24	6	24
Trucks - Open Cut	70	0	70	18	18	0	0	18	18	18	18	0	0	18	18
Trucks - Pipe Jacking	15	0	15	3	3	0	0	3	3	3	3	0	0	3	3
TOTAL TRIPS	**85**	**96**	**181**	**21**	**21**	**24**	**6**	**45**	**27**	**21**	**21**	**6**	**24**	**27**	**45**

** Truck trips include a Passenger Car Equivalency (PCE) factor of 2.5.*

Field Personnel - Two 18-worker crews (36 workers) for open cut, plus a 12-worker crew for pipe jacking, for the average day of construction.

Trucks - 14 daily trucks for open cut work and 3 daily trucks for pipe jacking work.

5.3 Proposed Construction Methods

The work areas necessary to install the pipelines along the proposed Project routes are planned to be established in segments, and the maximum number of lanes provided on Foothill Boulevard would be two (one in each direction). Major intersection approach lanes would be kept intact, as much as possible.

The construction closures would be established in segments along the project corridor, with two active closures for trenching activities and a third for pipe jacking activities. The assumed approach lane configurations for the project construction period traffic analysis were created based on initial project construction plans.

Typical construction hours would be Monday through Friday from 7:00 a.m. to 9:00 p.m., and on Saturdays from 8:00 a.m.-to 6:00 p.m. All pertinent LADOT requirements for working hours will be observed by LADWP.

5.4 Construction Project Trip Distribution

The distribution of construction truck trips was assumed to be primarily freeway-oriented. For the I-210 freeway to the north of the study area, 100 percent of the truck trips were assigned to that corridor and roadways between Foothill Boulevard and the applicable I-210 interchanges.

The distribution pattern for analyzed employee trips assumed that employees would arrive on-site from the I-210 freeway. All of the trips were distributed to and from the I-210 freeway, as the project corridor is adjacent to the freeway.

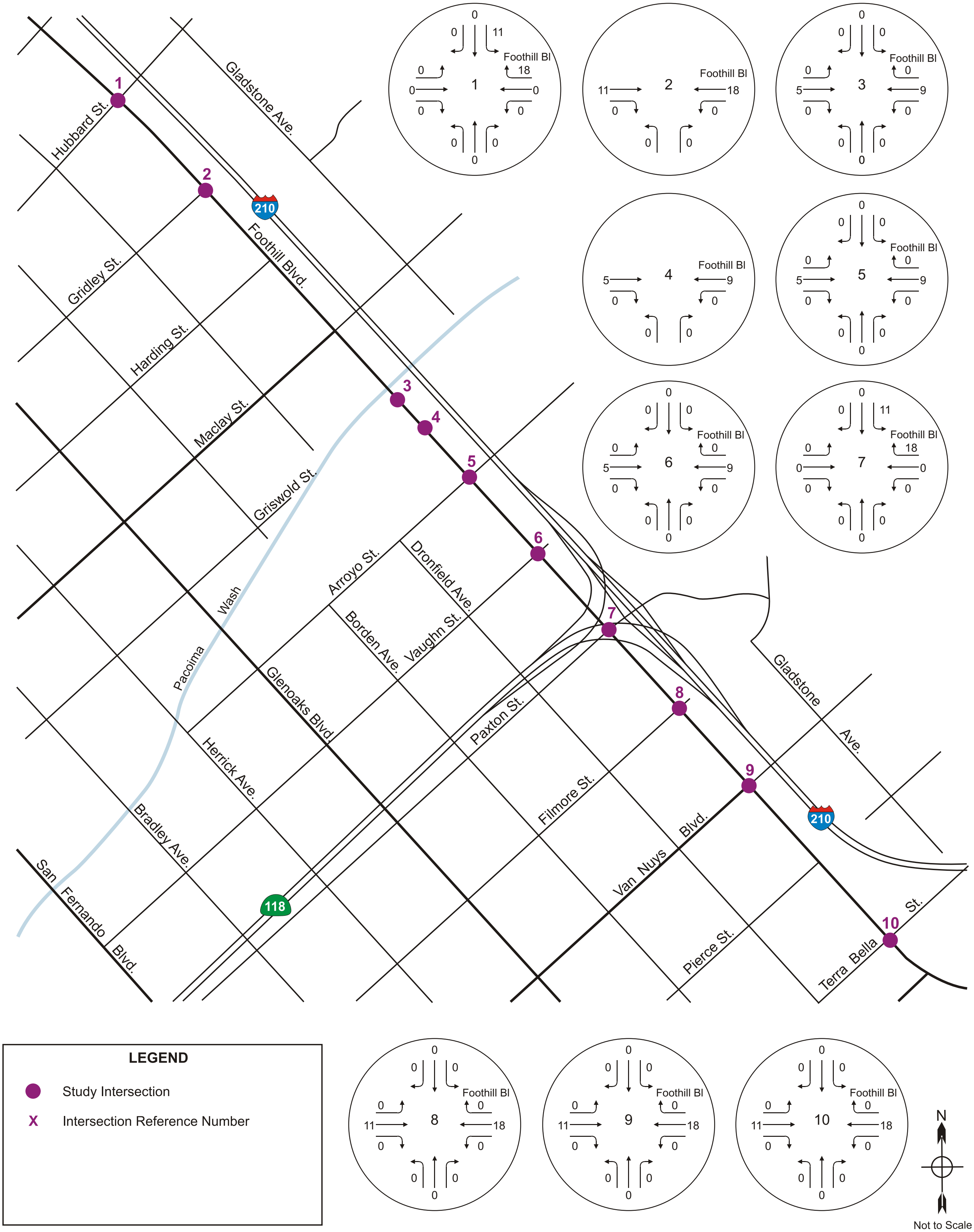

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Figure 9

Project Trip Assignment - AM Peak Hour

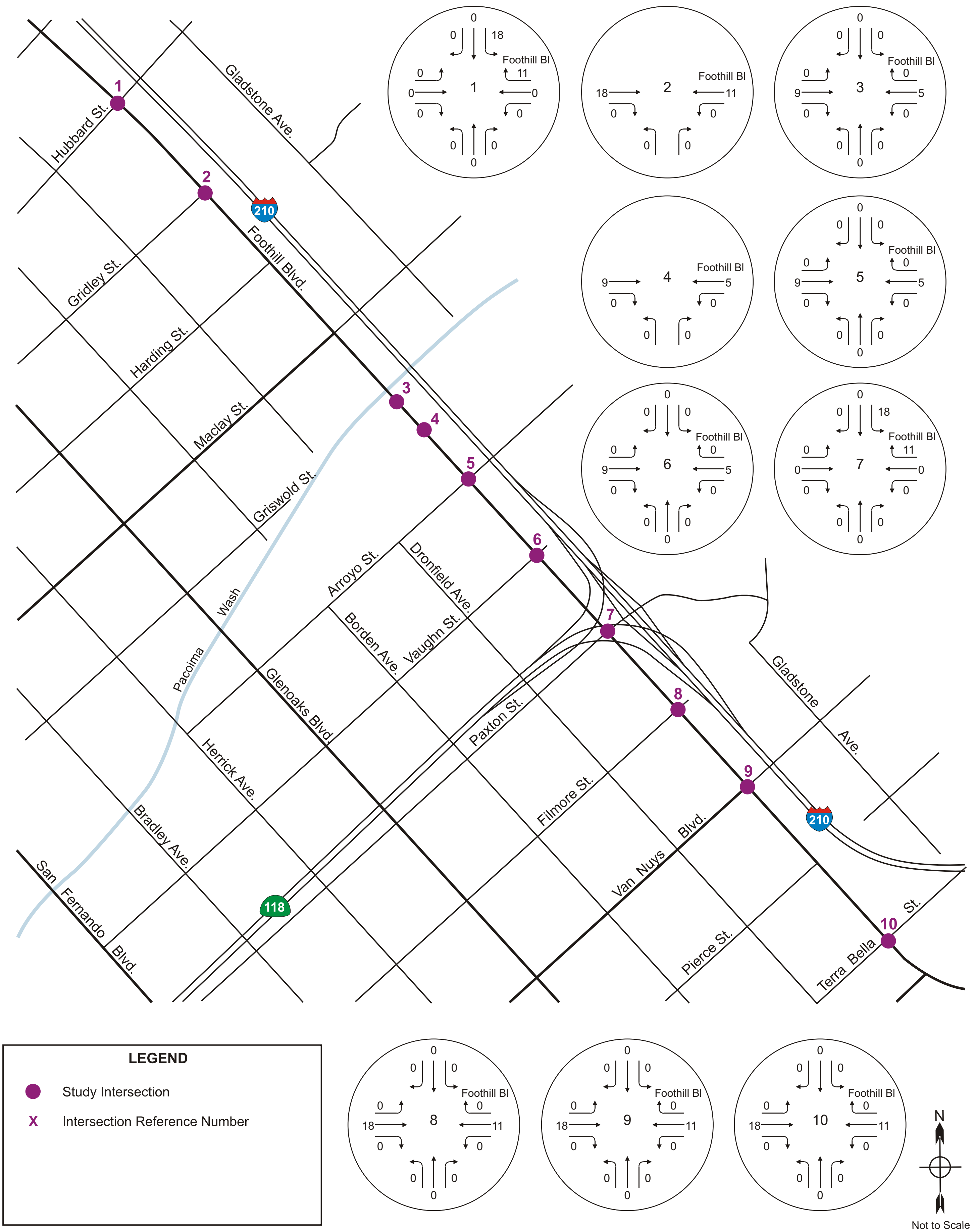

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Figure 10

Project Trip Assignment - PM Peak Hour

6. Project Construction-Period Conditions and Impacts

6.1 Significant Impact Guidelines

Traffic impacts are identified if a proposed development will result in a significant change in traffic conditions at a study intersection or roadway segment. A significant impact is typically identified if project-related traffic will cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if a facility is already operating below the acceptable level of service and project traffic will cause a further decline below a threshold.

The City of Los Angeles Department of Transportation has established specific thresholds for project related increases in the volume-to-capacity ratio (V/C) of signalized study intersections. The following increases in peak-hour V/C ratios are considered significant impacts:

Level of Service	**Final V/C***	**Project Related v/c increase**
C	< 0.70 – 0.80	Equal to or greater than 0.040
D	< 0.80 – 0.90	Equal to or greater than 0.020
E and F	0.90 or more	Equal to or greater than 0.010

Note: Final V/C is the V/C ratio at an intersection, considering impacts from the project, ambient and related project growth, and without proposed traffic impact mitigations.

Roadway segment and unsignalized intersection impacts were determined based on changes in peak-hour level of service values to E or F, or significant worsening within those values, due to Project construction. Study area traffic operations for the construction are discussed below, along with significant impact determinations.

6.2 Project Construction Period Study Intersection Analysis

The potential traffic impacts that would be caused by Project construction were considered by LADWP, based on the initial set of construction work area drawings, and were then revised to alleviate as many impacts as were feasible. Traffic impacts were then re-analyzed based on the higher capacity provided in some areas by the revised construction drawings. The impact analysis, therefore, is provided here for two Project scenarios:

- Project initial construction concept
- Project revised construction concept

Analysis of each of the Project construction scenarios is summarized in the sub-sections below.

<u>Impacts under Project Initial Construction Concept</u>

The study intersection operations across all analyzed scenarios, for the initial Project construction concept scenario, are summarized in Table 9.

Construction of the proposed Project under the initial work area construction drawing concepts would create significant impacts at six of the ten study intersections. These intersections would worsen in operations during the project construction period to LOS E or F in either the a.m. and/or p.m. peak hour.

The Home Depot commercial center access driveways – located at Intersection #3 and Intersection #4 – were analyzed as individual impacts with the other driveway closed and the effects of work area boundaries and related roadway lane reconfigurations. All of the other study intersection construction-period configurations were based on preliminary work area boundaries and related lane reconfigurations. Shifts in traffic to other turning movements were assumed, and major anticipated shifts in traffic were applied through the corridor to the next freeway interchange.

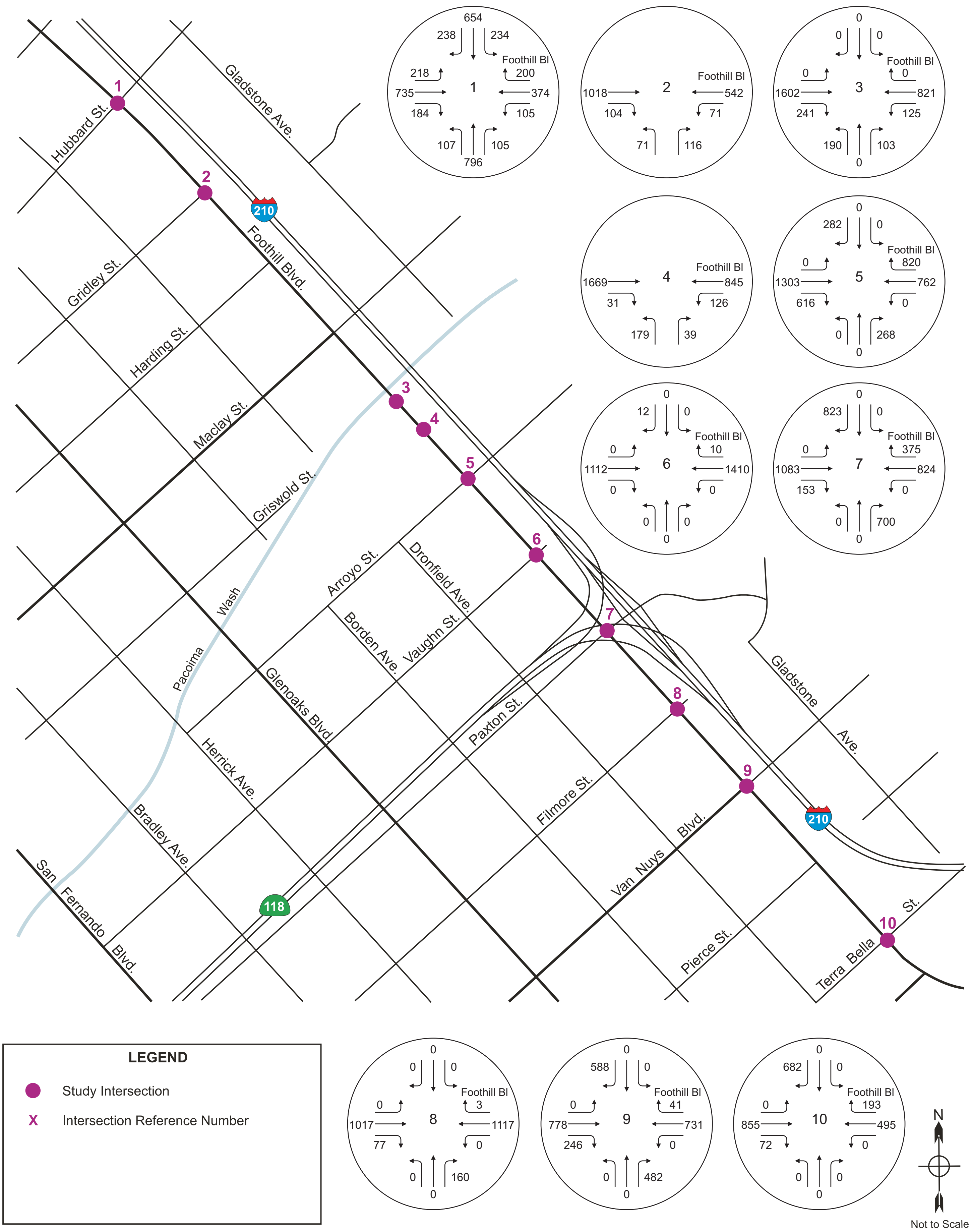
Identified impacts would be significant and unavoidable during the construction period, but only when each specific work zone for each crew is established. Not all of the work zones will be active at the same time.

The construction period analyzed traffic volumes at the study intersections are provided on Figure 11 (a.m. peak) and Figure 12 (p.m. peak). The intersection approach lane and control assumptions for the construction-period analysis are provided on Figure 13.

The level of service calculation worksheets for this analysis scenario are provided in Appendix E.

Table 9 – Study Intersection Impacts – Initial Construction Concept

		Future 2019 Without Project				Future 2019 With Project				Change in V/C		Significant Impact ?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour	
	Study Intersections	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS			
1	Hubbard Street & Foothill Boulevard	0.733	C	0.726	C	1.143	**F**	1.075	**F**	0.410	0.349	**Yes**
2	Gridley Street & Foothill Boulevard	0.442	A	0.556	A	0.819	D	0.631	B	0.377	0.075	No
3	Home Depot-Sam's Club & Foothill Boulevard	0.587	A	0.541	A	1.338	**F**	1.101	**F**	0.751	0.560	**Yes**
4	HD-Sams-Pollo Loco-KFC Dwy & Foothill Boulevard	27.0	D	18.7	C	>100	**F**	>100	**F**	n/a	n/a	**Yes**
5	Arroyo Street & Foothill Boulevard	0.816	D	0.679	B	1.368	**F**	1.252	**F**	0.552	0.573	**Yes**
6	Vaughn Street & Foothill Boulevard	0.394	A	0.353	A	0.855	D	0.781	C	0.461	0.428	No
7	Paxton Street & Foothill Boulevard	0.623	B	0.609	B	1.274	**F**	1.487	**F**	0.651	0.878	**Yes**
8	Filmore Street & Foothill Boulevard	0.383	A	0.388	A	0.754	C	0.812	D	0.371	0.424	No
9	Van Nuys Boulevard & Foothill Boulevard	0.567	A	0.581	A	1.031	**F**	0.818	D	0.464	0.237	**Yes**
10	Terra Bella Street & Foothill Boulevard	0.694	B	0.533	A	0.814	D	0.831	D	0.120	0.298	No



LEGEND

● Study Intersection

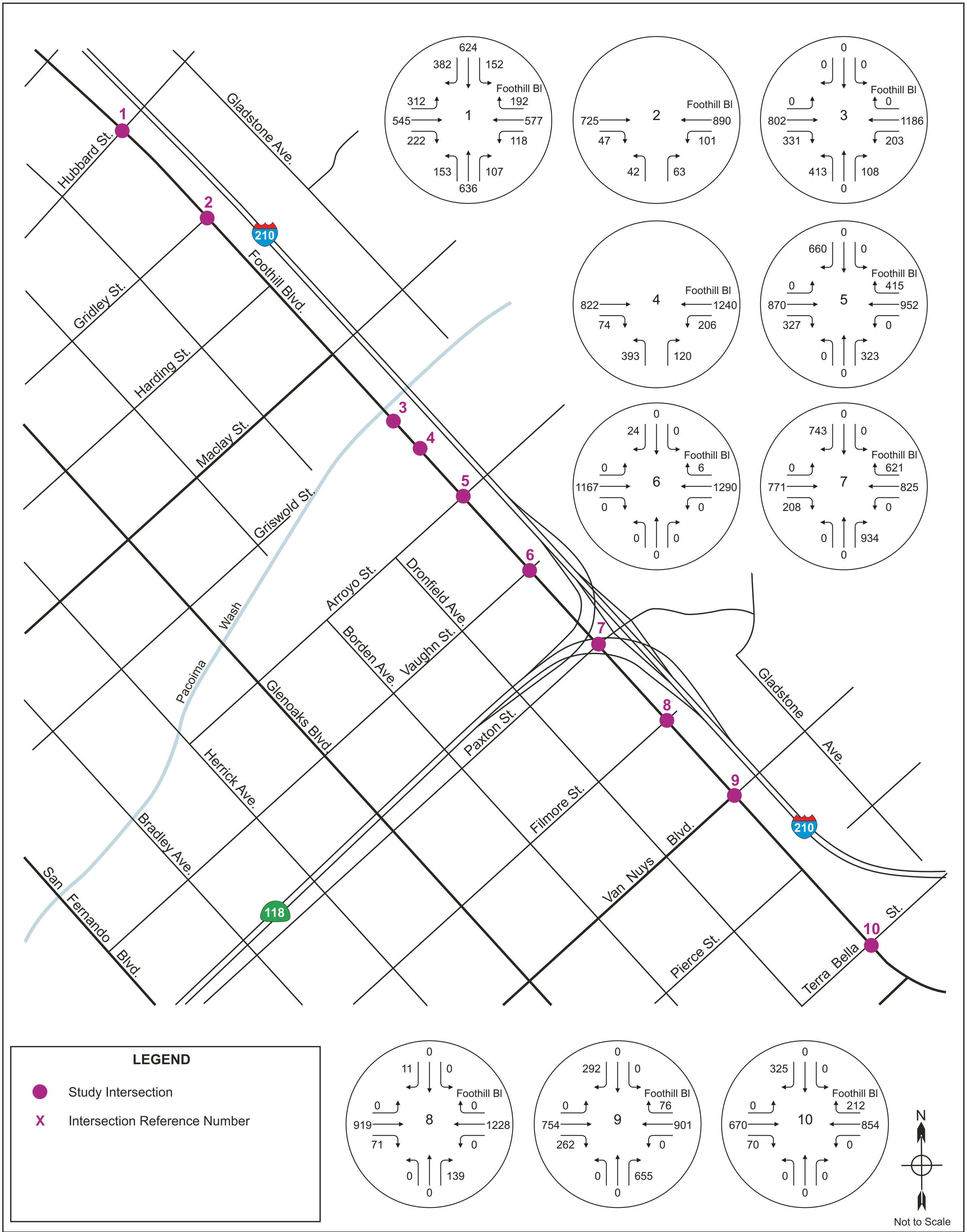
X Intersection Reference Number

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Foothill Corridor

Figure 11

Future with-Project Initial Construction - AM Peak Hour Intersection Volumes

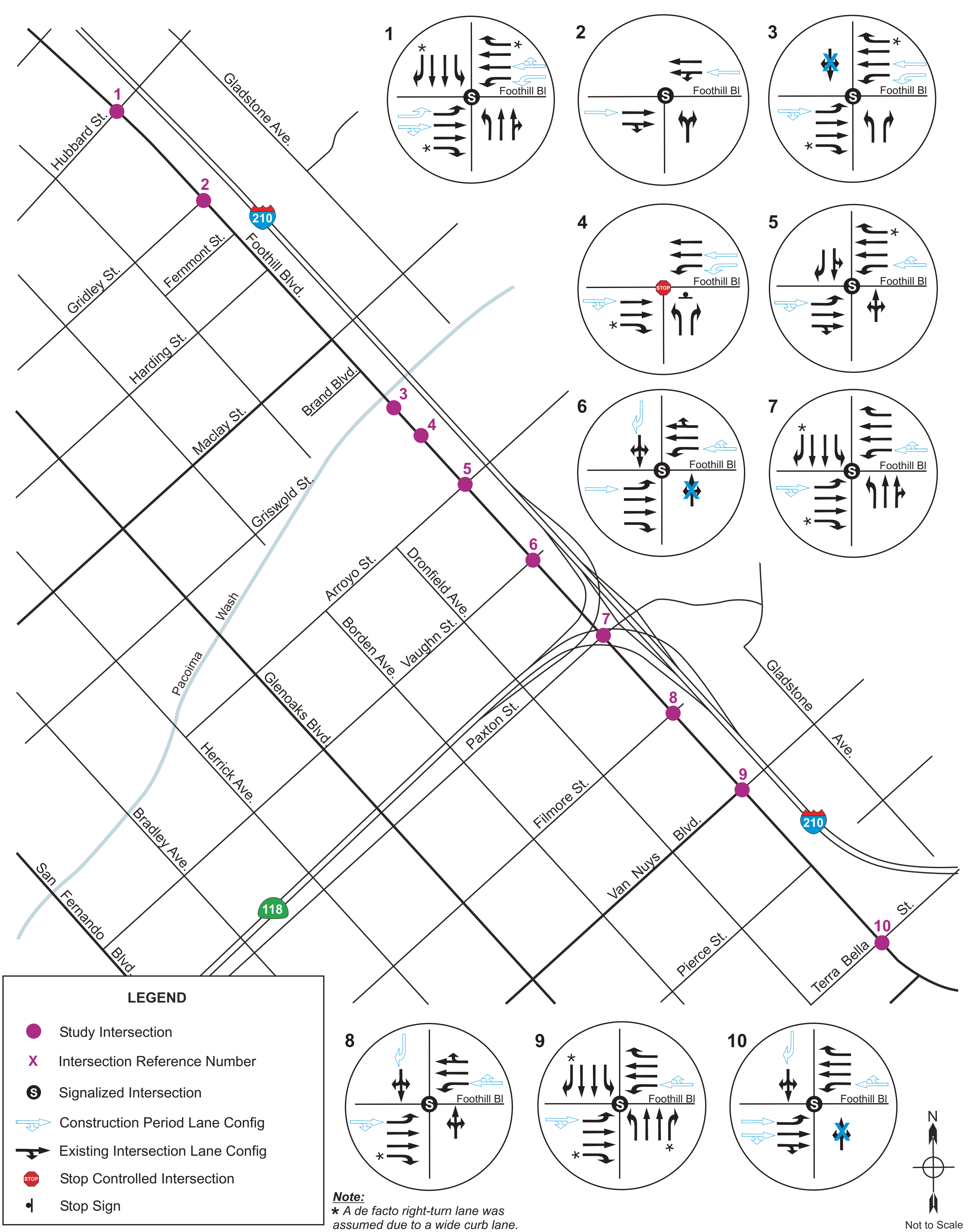


KOA CORPORATION
PLANNING & ENGINEERING

LADWP Foothill Corridor

Figure 12

Future with-Project Initial Construction - PM Peak Hour Intersection Volumes



Note:

** A de facto right-turn lane was assumed due to a wide curb lane.*

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Foothill Corridor

Figure 13

Initial Construction Period Intersection Lane Configurations

Impacts under Project Revised Construction Concept

The study intersection operations across all analyzed scenarios, for the revised Project construction concept scenario, are summarized in Table 10.

Construction of the proposed Project under the revised construction concept would create significant impacts at five of the ten study intersections. These intersections would worsen in operations during the project construction period to LOS E or F in either the a.m. and/or p.m. peak hour, but the total number impacted would be one less than that identified for the initial construction concept scenario, and one of the remaining impacted locations would only have an impact during one of the peak hours.

The Home Depot commercial center access driveways – located at Intersection #3 and Intersection #4 – would have full access based on the roadway lane reconfigurations analyzed for this scenario.

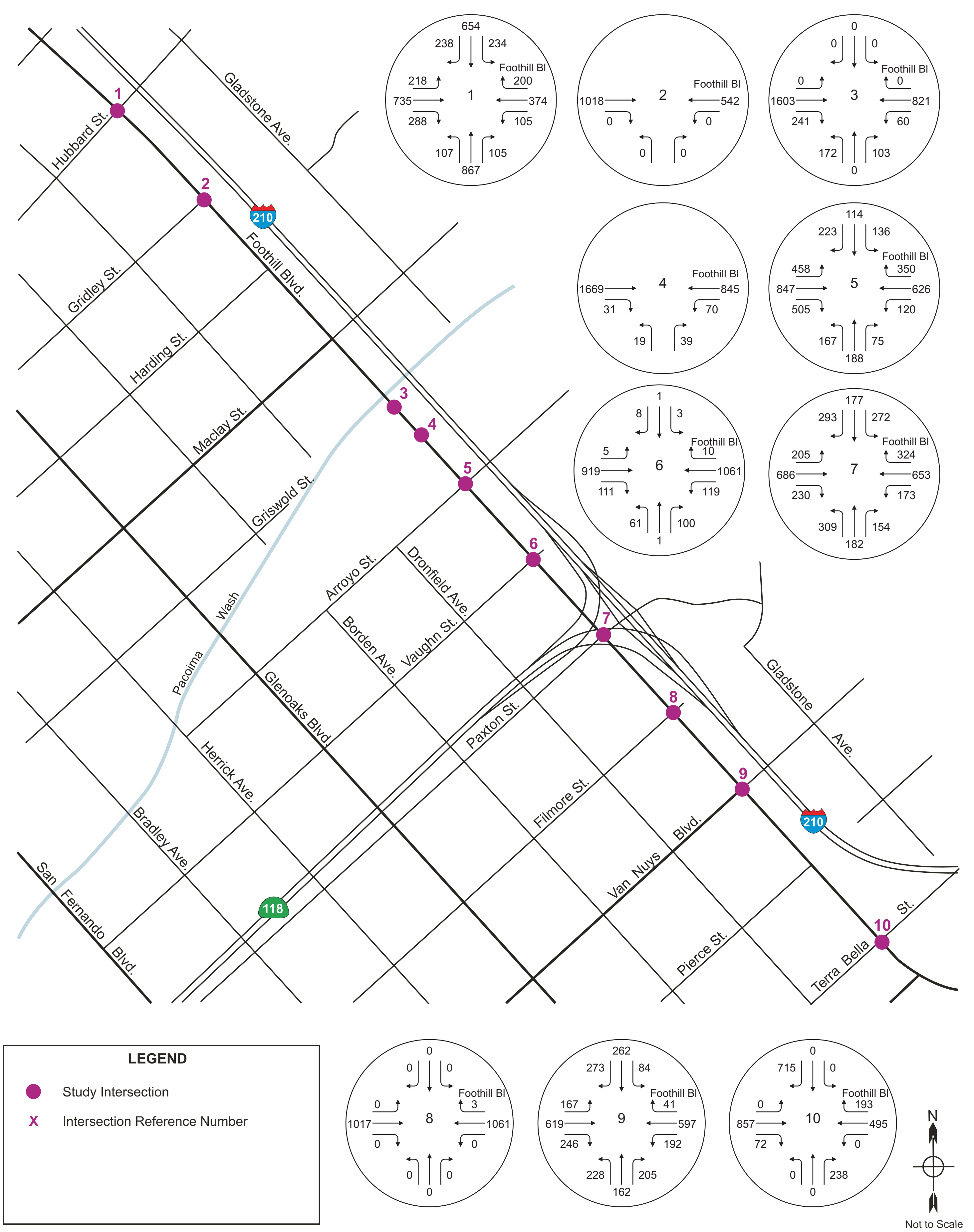
The construction period analyzed traffic volumes at the study intersections are provided on Figure 14 (a.m. peak) and Figure 15 (p.m. peak). The intersection approach lane and control assumptions for the construction-period analysis are provided on Figure 16.

The level of service calculation worksheets for this analysis scenario are provided in Appendix E.

Table 10 – Study Intersection Impacts – Revised Construction Concept

		Future 2019 Without Project				Future 2019 With Project				Significant Impact ?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Study Intersections	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	
1	Hubbard Street & Foothill Boulevard	0.657	B	0.697	B	0.961	**E**	1.041	**F**	**Yes**
2	Gridley Street & Foothill Boulevard	0.442	A	0.556	A	0.578	A	0.494	A	No
3	Home Depot-Sam's Club & Foothill Boulevard	0.587	A	0.541	A	1.284	**F**	0.950	**E**	**Yes**
4	HD-Sams-Pollo Loco-KFC Dwy & Foothill Boulevard	27.0	D	18.7	C	48.5	**E**	32.4	D	**Yes ***
5	Arroyo Street & Foothill Boulevard	0.816	D	0.679	B	1.233	**F**	1.114	**F**	**Yes**
6	Vaughn Street & Foothill Boulevard	0.394	A	0.353	A	0.396	A	0.638	B	No
7	Paxton Street & Foothill Boulevard	0.587	A	0.601	B	1.090	**F**	1.103	**F**	**Yes**
8	Filmore Street & Foothill Boulevard	0.383	A	0.388	A	0.610	B	0.693	B	No
9	Van Nuys Boulevard & Foothill Boulevard	0.559	A	0.478	A	0.820	D	0.781	C	No
10	Terra Bella Street & Foothill Boulevard	0.694	B	0.533	A	0.836	D	0.829	D	No

** This intersection would be signifcantly-impacted in the AM peak-hour only. Operations in the PM peak hour would remain at LOS D.*

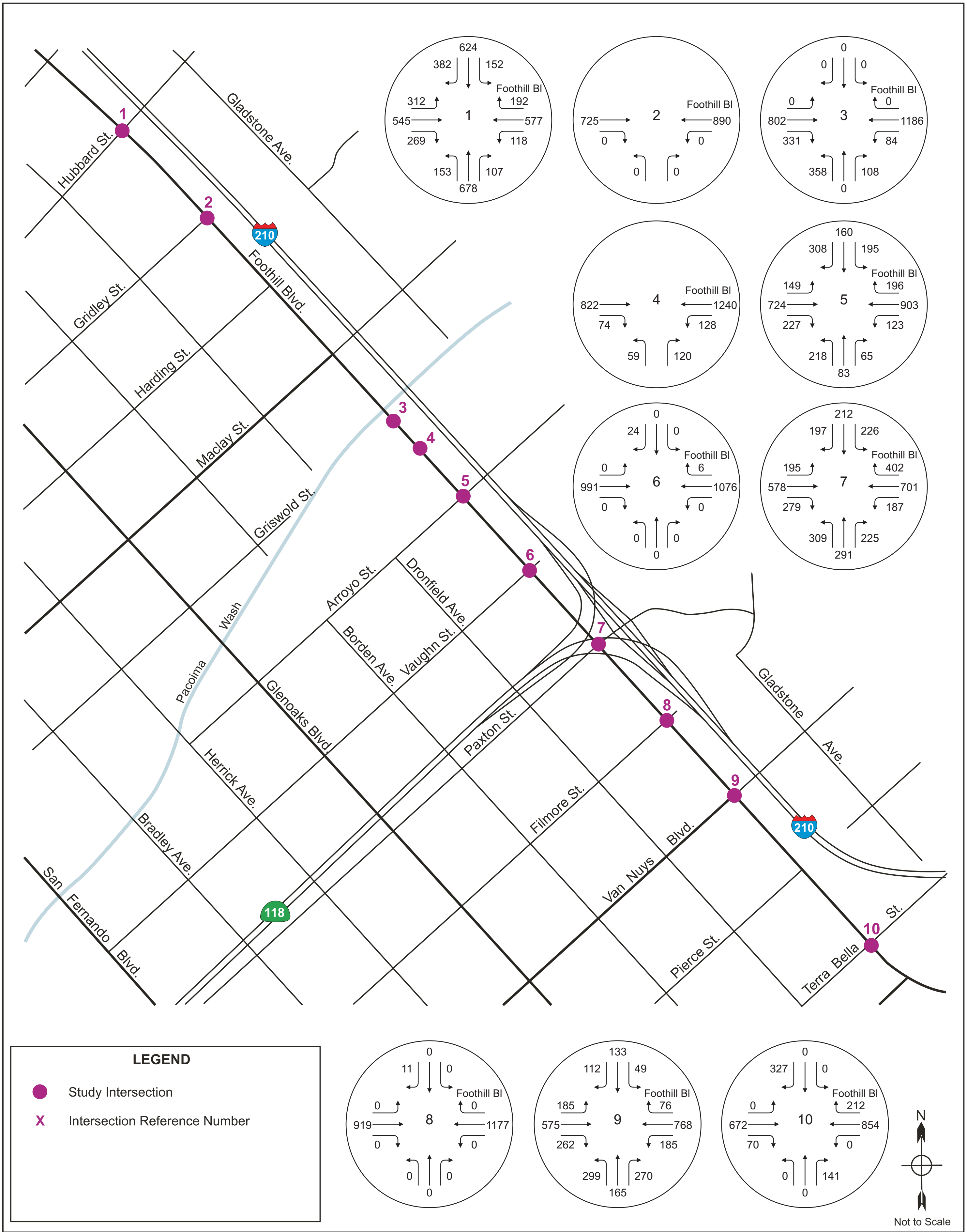


KOA CORPORATION
PLANNING & ENGINEERING

LADWP Foothill Corridor

Figure 14

Future with-Project Revised Construction - AM Peak Hour Intersection Volumes



LEGEND

● Study Intersection

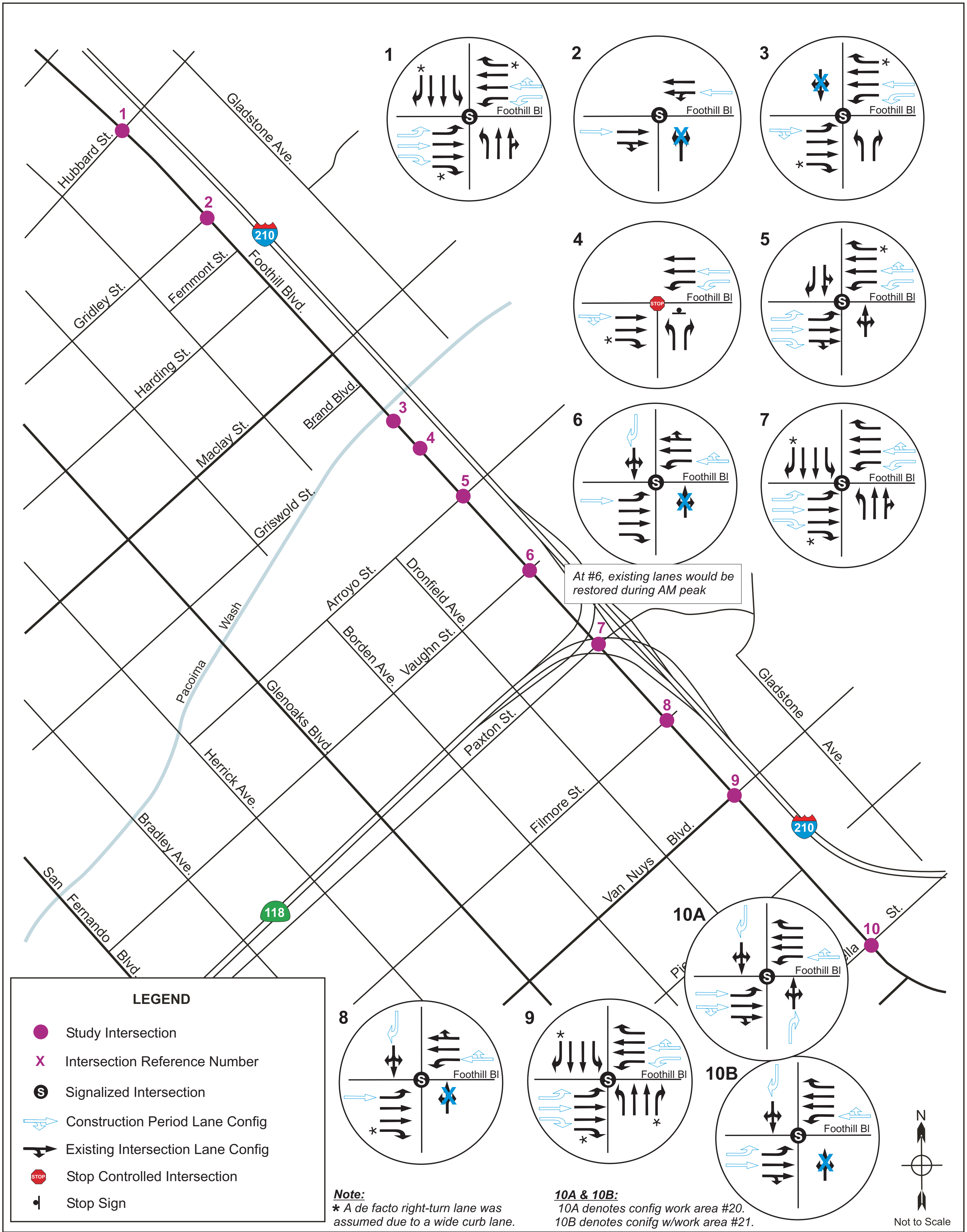
X Intersection Reference Number

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Foothill Corridor

Figure 15

Future with-Project Revised Construction - PM Peak Hour Intersection Volumes



Note:
** A de facto right-turn lane was assumed due to a wide curb lane.*

10A & 10B:
10A denotes config work area #20.
10B denotes conifg w/work area #21.

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Foothill Corridor

Figure 16

Revised Construction Period Intersection Lane Configurations

6.3 Project Construction Period Roadway Segment Analysis

The daily volumes on the study roadway segments, for conditions with and without construction of the proposed Project, are provided in Table 11. Volume percentage increases due to Project construction are provided for reference purposes. Impacts to these roadway segments are evaluated after this informational table.

Shifts in traffic due to lane closures at some of the study intersections will be differ between the two Project construction scenarios. The most conservative scenario – the initial construction concept – was analyzed here, to provide an evaluation of potential roadway segment impacts. The conclusions regarding roadway segment impacts would not be different between scenarios, as the reduction in travel lanes is the primary creator of impacts, and that reduction would be the same with either construction scenario.

Table 11 – Roadway Segment Daily Volumes

		Base Volumes				Proposed Project		
	Street Segments	Existing	Ambient Growth	Area Projects	Future Base	Project Only	Future with Project	% Increase
A	Foothill Boulevard Between Hubbard Street and Gridley Street	17,696	7.2%	917	19,887	71	19,958	0.4%
B	Foothill Boulevard Between Harding Avenue and Maclay Street	19,177	7.2%	1,210	21,768	71	21,839	0.3%
C	Foothill Boulevard Between Home Depot Driveways	25,460	7.2%	1,566	28,859	39	28,898	0.1%
D	Foothill Boulevard Between Arroyo Street and Vaughn Street	24,014	7.2%	1,008	26,751	39	26,790	0.1%
E	Foothill Boulevard Between Paxton Street and Filmore Street	23,779	7.2%	510	26,001	71	26,072	0.3%
F	Foothill Boulevard Between Filmore Street and Van Nuys Boulevard	23,109	7.2%	510	25,283	71	25,354	0.3%
G	Foothill Boulevard Between Pierce Street and Terra Bella Street	17,392	7.2%	236	18,880	71	18,951	0.4%

Segment G (Foothill Boulevard between Pierce Street and Terra Bella Street) would have the highest percentage of Project construction vehicle trips throughout the day. The significance of impacts on the analyzed roadway segments were determined via the analysis of peak-hour volumes, discussed below.

Peak hour traffic impacts were analyzed at the study roadway segments to determine potential significant impacts at these locations. Table 12 summarizes the peak-hour volumes from the daily counts.

All of the analyzed roadway segments would operate at LOS E or F. General mitigation measures for these significant impacts are discussed at the end of this report section.

Table 12 – Peak-Hour Study Roadway Segment Impacts

	Street Segments	Peak Period	Base Volumes									Proposed Project					
			# of Lanes	Capacity	Existing			Area Projects	Future Base			# of Lanes	Capacity	Project Only	Future with Project		
					Volumes	V/C	LOS		Volumes	V/C	LOS				Volumes	V/C	LOS
A	Foothill Boulevard	AM	4	3,200	1,281	0.400	A	113	1,486	0.464	A	2	1,600	29	1,515	0.947	**E**
	Between Hubbard Street and Gridley Street	PM			1,451	0.453	A	77	1,668	0.521	A			29	1,697	1.061	**F**
B	Foothill Boulevard	AM	4	3,200	1,444	0.451	A	135	1,683	0.526	A	2	1,600	29	1,712	1.070	**F**
	Between Harding Avenue and Maclay Street	PM			1,639	0.512	A	102	1,892	0.591	A			29	1,921	1.201	**F**
C	Foothill Boulevard	AM	4	3,200	1,779	0.556	A	419	2,326	0.727	C	2	1,600	14	2,340	1.463	**F**
	Between Home Depot Driveways	PM			1,923	0.601	B	110	2,480	0.775	C			14	2,494	1.559	**F**
D	Foothill Boulevard	AM	4	3,200	1,578	0.493	A	245	1,937	0.605	B	2	1,600	14	1,951	1.219	**F**
	Between Arroyo Street and Vaughn Street	PM			1,911	0.597	A	72	2,294	0.717	C			14	2,308	1.443	**F**
E	Foothill Boulevard	AM	4	3,200	1,782	0.557	A	84	1,994	0.623	B	2	1,600	29	2,023	1.264	**F**
	Between Paxton Street and Filmore Street	PM			1,983	0.620	B	41	2,210	0.691	B			29	2,239	1.399	**F**
F	Foothill Boulevard	AM	4	3,200	1,683	0.526	A	84	1,888	0.590	A	2	1,600	29	1,917	1.198	**F**
	Between Filmore Street and Van Nuys Boulevard	PM			1,952	0.610	B	41	2,177	0.680	B			29	2,206	1.379	**F**
G	Foothill Boulevard	AM	4	3,200	1,382	0.432	A	35	1,517	0.474	A	2	1,600	29	1,546	0.966	**E**
	Between Pierce Street and Terra Bella Street	PM			1,515	0.473	A	18	1,659	0.518	A			29	1,688	1.055	**F**

6.4 Recommended Mitigation Measures

Project construction period intersection operations, under the initial construction plan scenario, was determined to create significant but temporary traffic impacts at the following locations:

- Six of the 10 project study intersections
- All of the project study roadway segments

Project construction period intersection operations, under a revised construction plan scenario, has been determined to create significant but temporary traffic impacts at the following locations:

- Five of the 10 project study intersections
  (with one of the remaining intersection impacts occurring during one peak-hour only)
- All of the project study roadway segments

Specific Study Intersection Measures

Specific work zone extents will be established by LADWP as Project construction progresses along the Foothill Boulevard corridor. Not all of the significant impacts will be occur at the same time, and once segments are completed and work zones are removed and established in other areas, the designed roadway capacity will be restored and there will not be any long-term impacts.

Identified impacts would be significant and unavoidable during the construction period, but only when each specific work zone for each crew is established. Not all of the work zones will be active at the same time.

At the Home Depot Center Secondary Driveway (unsignalized study intersection #4), temporary signalization of this location should be considered, during periods when the related work zone will be established across the main Center access driveway (signalized study intersection #3). Although full access will be provided at the main driveway intersection during construction, lane capacity will be reduced.

In order to provide improved access to and from the Center, temporary signalization of the secondary driveway will help to alleviate access impacts at this location and remove the significant impact at study intersection #4.

General Measures

The following general measures are recommended for implementation as part of project construction planning and mobilization, in order to provide a safe movement of traffic within the areas of reduced capacity once construction activities are underway:

- Prior to construction, a construction traffic control plan shall be prepared by the Los Angeles Department of Water and Power for review and approval by the Los Angeles Department of Transportation.

- The plan shall include, at a minimum, signage within the Foothill Boulevard corridor in advance of the start of construction, warning of potential delays once construction starts.

- The plan should include signage to alert motorists to temporary or limited access points to adjacent properties; appropriate barricades for road closures; construction speed limit signage along the haul route; and parking restrictions during construction.

- A detour plan should be developed, including identification of wayfinding signage locations, to encourage traffic diversions for through traffic to multiple parallel routes such as San Fernando road and other corridors.

- Traffic shall be controlled during construction by adhering to the guidelines contained in Standard Specifications for Public Works Construction used by many municipalities in California and Caltrans' Traffic Manual, Chapter 5, "Manual of Traffic Controls for Construction and Maintenance Work Zones" and applicable City requirements. These guidelines provide methods to minimize construction effects on traffic flow.

Roadway Segment Impacts

Project construction activities will create significant but temporary impacts at all of the analyzed study roadway segments. Application of the general measures listed above will mitigate potential impacts along these segments, to the extent feasible with reduced capacity provisions.

7. Congestion Management Program (CMP) Analysis

This section demonstrates the ways in which this traffic study was prepared to be in conformance with the procedures mandated by the County of Los Angeles Congestion Management Program.

The Congestion Management Program (CMP) was created statewide because of Proposition 111 and has been implemented locally by the Los Angeles County Metropolitan Transportation Authority (LACMTA). The CMP for Los Angeles County requires the analysis of the traffic impacts of individual development projects with potentially regional significance. A specific system of arterial roadways plus all freeways comprises the CMP system. In conformance with CMP Transportation Impact Analysis (TIA) Guidelines, a traffic impact analysis is conducted at:

- CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where the proposed project would add 50 or more vehicle trips during either morning or afternoon weekday peak hours.

- CMP mainline freeway-monitoring locations, where the project would add 150 or more trips, in either direction, during the either the morning or afternoon weekday peak hours.

Truck trips within the totals below have been adjusted by a passenger-car equivalent (PCE) factor of 2.5, as explained within the analysis. Construction employee vehicle trips have also been included.

Impacts to CMP Arterials

The nearest CMP monitoring location to the study area is Sierra Highway at Placerita Canyon Road, which is located approximately 11 miles north of the project site. Based on the trip generation and distribution of the project, it is not expected that 50 or more construction project trips would be added to the nearby CMP intersections. Therefore, no further analysis of potential CMP impacts is required.

Impacts to CMP Freeways

The nearest CMP mainline freeway-monitoring locations to the project site are on the I-210 freeway at Polk Street and at Terra Bella Street. The proposed project is expected to add less than 150 new trips per hour, in either direction, to any freeway segment based on the project trip generation defined in Table 9. Therefore, no further analysis of CMP freeway monitoring stations is required.

8. Conclusions

The following is concluded from the traffic impact analysis conducted for this report.

The traffic analysis summarized within this report assessed the traffic impact of the proposed Foothill Trunk Line Unit 3 Project, located in the San Fernando Valley area within the City of Los Angeles. The City of Los Angeles Department of Water and Power (LADWP) proposes to replace existing pipelines within Foothill Boulevard between Hubbard Street and Terra Bella Street under the proposed Project.

Project construction period intersection operations, under the initial construction plan scenario, was determined to create significant but temporary traffic impacts at the following locations:

- Six of the 10 project study intersections
- All of the project study roadway segments

Project construction period intersection operations, under a revised construction plan scenario, has been determined to create significant but temporary traffic impacts at the following locations:

- Five of the 10 project study intersections
  (with one of the remaining intersection impacts occurring during one peak-hour only)
- All of the project study roadway segments

Once completed, the proposed Project will not create any significant impacts on the area's traffic circulation system. A summary of the project construction-period traffic recommendations is provided below.

Specific Study Intersection Measures

Specific work zone extents will be established by LADWP as Project construction progresses along the Foothill Boulevard corridor. Not all of the significant impacts will be occur at the same time, and once segments are completed and work zones are removed and established in other areas, the designed roadway capacity will be restored and there will not be any long-term impacts.

Identified impacts would be significant and unavoidable during the construction period, but only when each specific work zone for each crew is established. Not all of the work zones will be active at the same time.

At the Home Depot Center Secondary Driveway (unsignalized study intersection #4), temporary signalization of this location should be considered, during periods when the related work zone will be established across the main Center access driveway (signalized study intersection #3). Although full access will be provided at the main driveway intersection during construction, lane capacity will be reduced.

In order to provide improved access to and from the Center, temporary signalization of the secondary driveway will help to alleviate access impacts at this location and remove the significant impact at study intersection #4.

General Measures

The following general measures are recommended for implementation as part of project construction planning and mobilization, in order to provide a safe movement of traffic within the areas of reduced capacity once construction activities are underway:

- Prior to construction, a construction traffic control plan shall be prepared by the Los Angeles Department of Water and Power for review and approval by the Los Angeles Department of Transportation.

- The plan shall include, at a minimum, signage within the Foothill Boulevard corridor in advance of the start of construction, warning of potential delays once construction starts.

- The plan should include signage to alert motorists to temporary or limited access points to adjacent properties; appropriate barricades for road closures; construction speed limit signage along the haul route; and parking restrictions during construction.

- A detour plan should be developed, including identification of wayfinding signage locations, to encourage traffic diversions for through traffic to multiple parallel routes such as San Fernando road and other corridors.

- Traffic shall be controlled during construction by adhering to the guidelines contained in Standard Specifications for Public Works Construction used by many municipalities in California and Caltrans' Traffic Manual, Chapter 5, "Manual of Traffic Controls for Construction and Maintenance Work Zones" and applicable City requirements. These guidelines provide methods to minimize construction effects on traffic flow.

Roadway Segment Impacts

Project construction activities will create significant but temporary impacts at all of the analyzed study roadway segments. Application of the general measures listed above will mitigate potential impacts along these segments, to the extent feasible with reduced capacity provisions.

APPENDIX A
Traffic Count Data

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

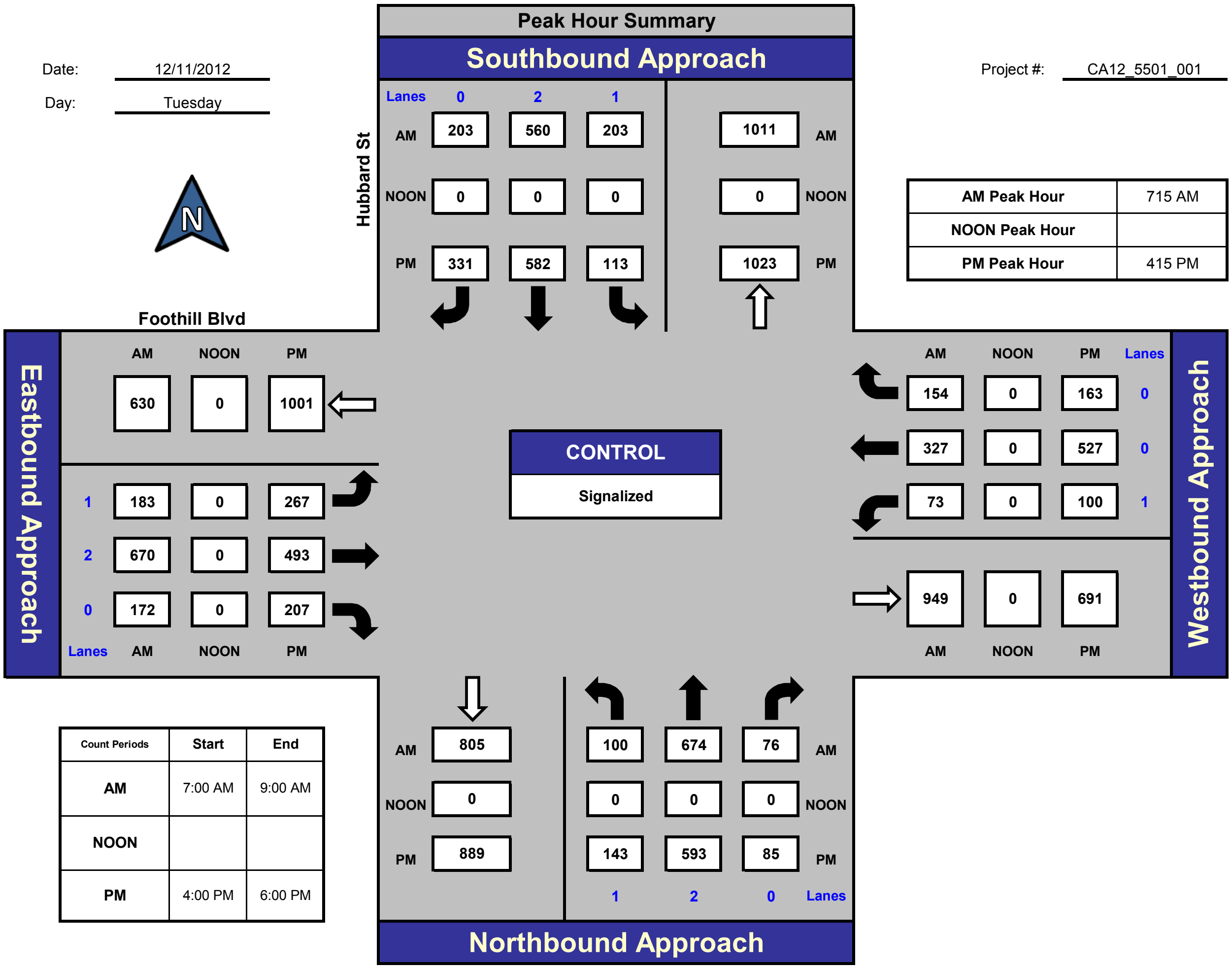
Hubbard St and Foothill Blvd , City of Sylmar

Date: 12/11/2012

Day: Tuesday

Project #: CA12_5501_001

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	415 PM



Peak Hour Summary

Southbound Approach (Hubbard St)

Lanes	0	2	1		
AM	203	560	203	1011	AM
NOON	0	0	0	0	NOON
PM	331	582	113	1023	PM

Eastbound Approach (Foothill Blvd)

	AM	NOON	PM
	630	0	1001
1	183	0	267
2	670	0	493
0	172	0	207
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
154	0	163	0
327	0	527	0
73	0	100	1
949	0	691	
AM	NOON	PM	

Northbound Approach

AM	805	100	674	76	AM
NOON	0	0	0	0	NOON
PM	889	143	593	85	PM
		1	2	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

966	1011	AM
0	0	NOON
1026	1023	PM

West Leg

AM	NOON	PM
630	0	1001
1025	0	967

East Leg

554	0	790
949	0	691
AM	NOON	PM

South Leg

AM	805	850
NOON	0	0
PM	889	821

Total Volume Per Leg

North Leg

1977	AM
0	NOON
2049	PM

West Leg

AM	NOON	PM
1655	0	1968

East Leg

1503	0	1481
AM	NOON	PM

South Leg

AM	1655
NOON	0
PM	1710

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_001 **Day:** TUESDAY

City: City of Sylmar **Date:** 12/11/2012

AM

NS/EW Streets:	Hubbard St			Hubbard St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	2	0	1	0	0	
7:00 AM	9	115	22	16	73	48	59	102	24	13	40	18	539
7:15 AM	19	187	12	40	135	48	45	116	29	16	59	37	743
7:30 AM	24	175	23	68	134	44	45	182	48	21	98	50	912
7:45 AM	37	169	29	45	170	47	41	182	50	22	79	38	909
8:00 AM	20	143	12	50	121	64	52	190	45	14	91	29	831
8:15 AM	29	121	18	36	123	55	46	93	24	14	58	27	644
8:30 AM	24	99	11	17	64	55	54	86	20	12	60	26	528
8:45 AM	24	109	14	22	91	55	42	73	20	9	49	15	523

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	186	1118	141	294	911	416	384	1024	260	121	534	240	5629
APPROACH %'s :	12.87%	77.37%	9.76%	18.14%	56.20%	25.66%	23.02%	61.39%	15.59%	13.52%	59.66%	26.82%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	100	674	76	203	560	203	183	670	172	73	327	154	3395
PEAK HR FACTOR :		0.904			0.922			0.893			0.820		0.931

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_001 **Day:** TUESDAY

City: City of Sylmar **Date:** 12/11/2012

PM

NS/EW Streets:	Hubbard St			Hubbard St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	2	0	1	0	0	
4:00 PM	36	147	15	31	145	87	54	120	41	27	119	31	853
4:15 PM	26	133	22	30	140	87	74	131	63	21	139	39	905
4:30 PM	32	142	18	29	167	89	58	118	48	23	130	34	888
4:45 PM	41	153	25	27	125	70	70	120	56	32	148	43	910
5:00 PM	44	165	20	27	150	85	65	124	40	24	110	47	901
5:15 PM	35	143	15	24	111	62	60	128	38	23	129	38	806
5:30 PM	33	141	20	50	173	84	59	96	48	22	116	39	881
5:45 PM	39	151	26	32	136	60	64	118	50	21	125	38	860

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	286	1175	161	250	1147	624	504	955	384	193	1016	309	7004
APPROACH %'s :	17.63%	72.44%	9.93%	12.37%	56.75%	30.88%	27.35%	51.82%	20.84%	12.71%	66.93%	20.36%	

PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	143	593	85	113	582	331	267	493	207	100	527	163	3604
PEAK HR FACTOR :		0.896			0.900			0.902			0.886		0.990

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

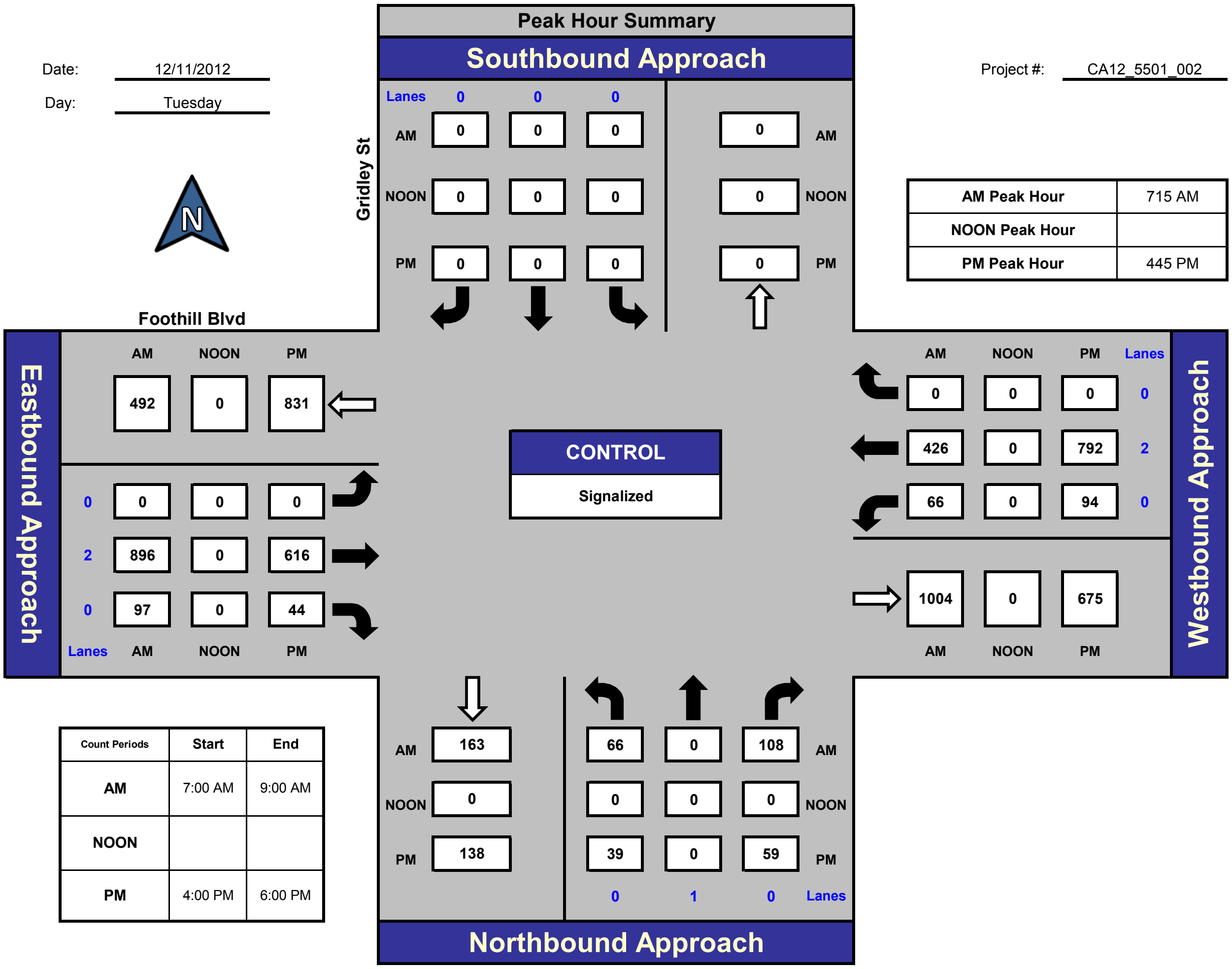
Gridley St and Foothill Blvd , City of Sylmar

Date: 12/11/2012

Day: Tuesday

Project #: CA12_5501_002

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM



Peak Hour Summary

Gridley St

Foothill Blvd

Southbound Approach

Lanes	0	0	0		
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM

Eastbound Approach

	AM	NOON	PM
	492	0	831
0	0	0	0
2	896	0	616
0	97	0	44
Lanes	AM	NOON	PM

CONTROL

Signalized

Westbound Approach

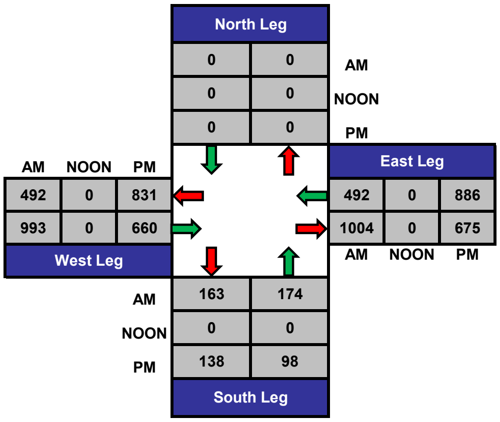
AM	NOON	PM	Lanes
0	0	0	0
426	0	792	2
66	0	94	0
1004	0	675	
AM	NOON	PM	

Northbound Approach

AM	163	66	0	108	AM
NOON	0	0	0	0	NOON
PM	138	39	0	59	PM
		0	1	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



North Leg

0	0	AM
0	0	NOON
0	0	PM

West Leg

AM	NOON	PM
492	0	831
993	0	660

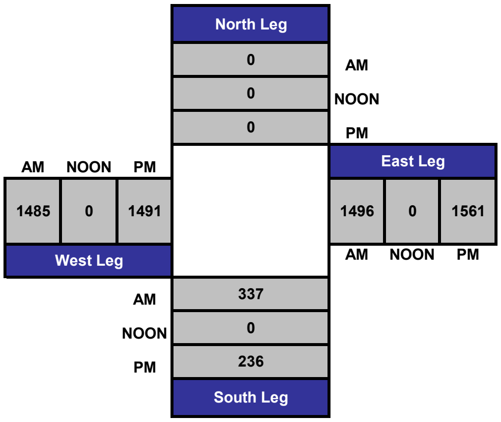
East Leg

492	0	886
1004	0	675
AM	NOON	PM

South Leg

AM	163	174
NOON	0	0
PM	138	98

Total Volume Per Leg



North Leg

0	AM
0	NOON
0	PM

West Leg

AM	NOON	PM
1485	0	1491

East Leg

1496	0	1561
AM	NOON	PM

South Leg

AM	337
NOON	0
PM	236

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_002

Day: TUESDAY

City: City of Sylmar

Date: 12/11/2012

AM

NS/EW Streets:	Gridley St			Gridley St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	0	0	0	2	0	0	2	0	
7:00 AM	5		17					136	6	9	64		237
7:15 AM	10		50					178	15	21	77		351
7:30 AM	19		29					246	45	20	123		482
7:45 AM	28		22					232	29	19	106		436
8:00 AM	9		7					240	8	6	120		390
8:15 AM	7		7					142	6	2	101		265
8:30 AM	5		8					103	4	7	81		208
8:45 AM	4		7					108	1	4	78		202

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	87	0	147	0	0	0	0	1385	114	88	750	0	2571
APPROACH %'s :	37.18%	0.00%	62.82%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	92.39%	7.61%	10.50%	89.50%	0.00%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	66	0	108	0	0	0	0	896	97	66	426	0	1659
PEAK HR FACTOR :		0.725			0.000			0.853			0.860		0.860

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_002 **Day:** TUESDAY

City: City of Sylmar **Date:** 12/11/2012

PM

NS/EW Streets:	Gridley St			Gridley St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	0	0	0	2	0	0	2	0	
4:00 PM	9		12					145	12	23	194		395
4:15 PM	1		11					154	15	14	183		378
4:30 PM	8		9					151	11	24	215		418
4:45 PM	11		13					149	13	21	221		428
5:00 PM	10		11					161	10	24	197		413
5:15 PM	8		12					158	10	21	173		382
5:30 PM	10		23					148	11	28	201		421
5:45 PM	12		13					151	15	28	199		418

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	69	0	104	0	0	0	0	1217	97	183	1583	0	3253
APPROACH %'s :	39.88%	0.00%	60.12%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	92.62%	7.38%	10.36%	89.64%	0.00%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	39	0	59	0	0	0	0	616	44	94	792	0	1644
PEAK HR FACTOR :		0.742			0.000			0.965			0.915		0.960

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

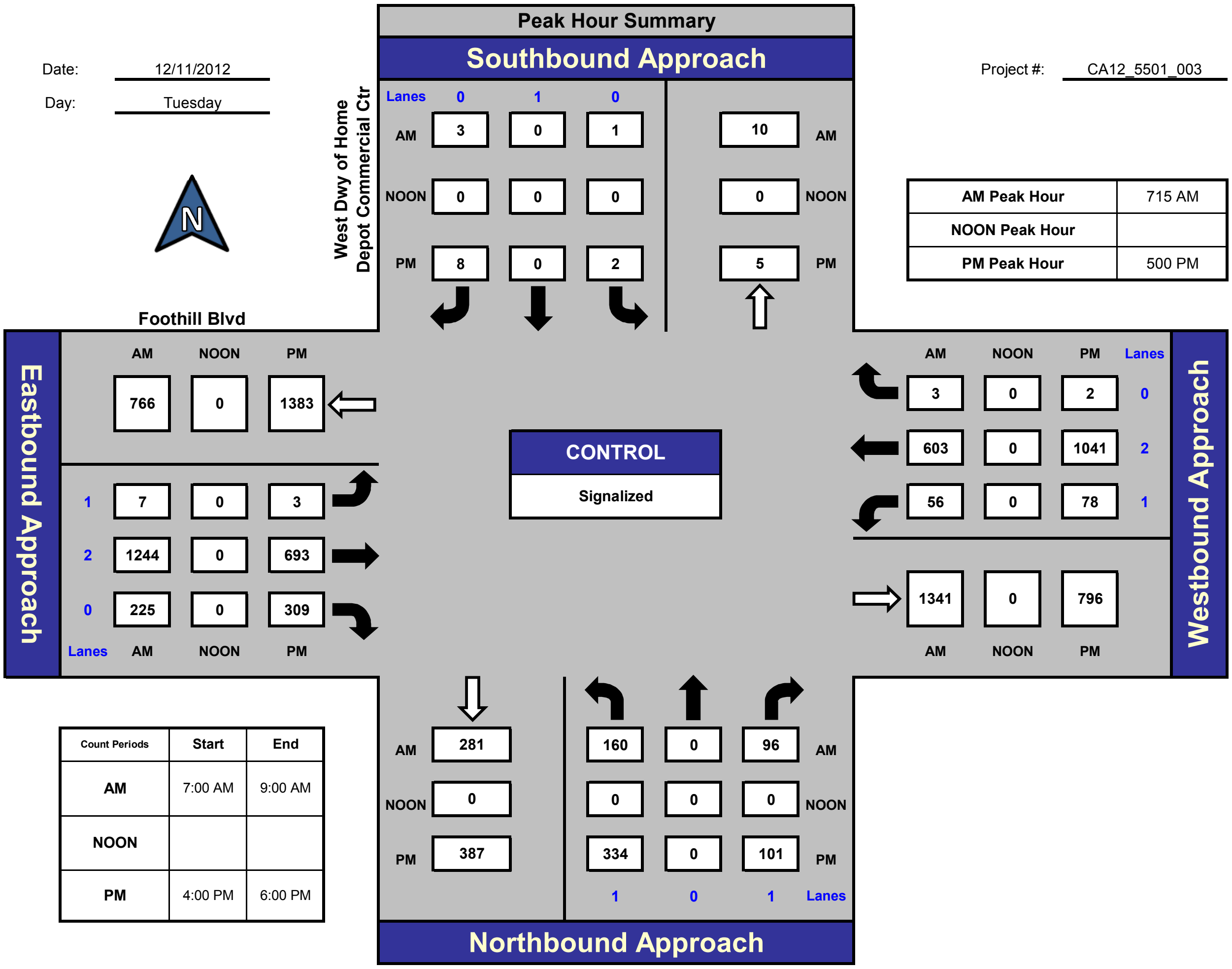
West Dwy of Home Depot Commercial Ctr and Foothill Blvd , City of Sylmar

Date: 12/11/2012

Day: Tuesday

Project #: CA12_5501_003

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM



Peak Hour Summary

Southbound Approach

Lanes	0	1	0		
AM	3	0	1	10	AM
NOON	0	0	0	0	NOON
PM	8	0	2	5	PM

Eastbound Approach

	AM	NOON	PM
	766	0	1383

Lanes	AM	NOON	PM
1	7	0	3
2	1244	0	693
0	225	0	309

Westbound Approach

AM	NOON	PM	Lanes
3	0	2	0
603	0	1041	2
56	0	78	1

AM	NOON	PM
1341	0	796

CONTROL

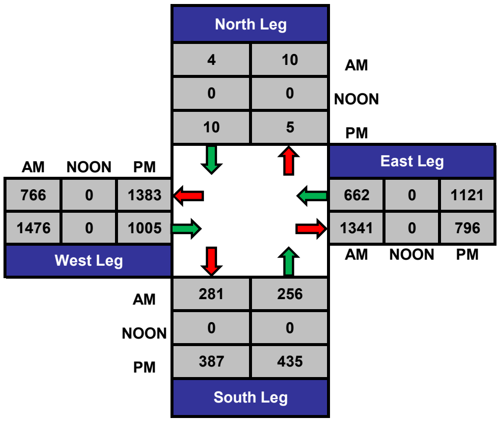
Signalized

Northbound Approach

AM	281	160	0	96	AM
NOON	0	0	0	0	NOON
PM	387	334	0	101	PM
		1	0	1	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



North Leg

4	10	AM
0	0	NOON
10	5	PM

West Leg

AM	NOON	PM
766	0	1383
1476	0	1005

East Leg

662	0	1121
1341	0	796
AM	NOON	PM

South Leg

AM	281	256
NOON	0	0
PM	387	435

Total Volume Per Leg

North Leg

14	AM
0	NOON
15	PM

West Leg

AM	NOON	PM
2242	0	2388

East Leg

2003	0	1917
AM	NOON	PM

South Leg

AM	537
NOON	0
PM	822

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_003 **Day:** TUESDAY

City: City of Sylmar **Date:** 12/11/2012

AM

NS/EW Streets:	West Dwy of Home Depot Commercial Ctr			West Dwy of Home Depot Commercial Ctr			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	1	0	1	2	0	1	2	0	
7:00 AM	33		17	1		0	1	178	44	7	92	0	373
7:15 AM	34		26	0		1	1	248	45	12	117	0	484
7:30 AM	35		24	1		0	2	332	47	11	171	1	624
7:45 AM	33		19	0		1	2	369	67	14	171	0	676
8:00 AM	58		27	0		1	2	295	66	19	144	2	614
8:15 AM	33		23	0		2	4	145	54	17	120	2	400
8:30 AM	47		22	1		2	4	149	59	20	106	1	411
8:45 AM	57		28	1		0	2	157	59	11	102	2	419
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	330	0	186	4	0	7	18	1873	441	111	1023	8	4001
APPROACH %'s :	63.95%	0.00%	36.05%	36.36%	0.00%	63.64%	0.77%	80.32%	18.91%	9.72%	89.58%	0.70%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	160	0	96	1	0	3	7	1244	225	56	603	3	2398
PEAK HR FACTOR :		0.753			1.000			0.842			0.895		0.887

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_003

Day: TUESDAY

City: City of Sylmar

Date: 12/11/2012

PM

NS/EW Streets:	West Dwy of Home Depot Commercial Ctr			West Dwy of Home Depot Commercial Ctr			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	1	0	1	2	0	1	2	0	
4:00 PM	75		16	2		3	0	181	62	17	235	0	591
4:15 PM	80		21	0		0	0	172	63	21	237	2	596
4:30 PM	78		24	0		1	1	175	77	17	271	1	645
4:45 PM	76		20	2		2	1	184	78	19	285	3	670
5:00 PM	97		23	1		1	0	156	68	23	285	1	655
5:15 PM	78		26	1		2	2	172	84	17	212	1	595
5:30 PM	81		25	0		4	1	164	81	15	280	0	651
5:45 PM	78		27	0		1	0	201	76	23	264	0	670

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	643	0	182	6	0	14	5	1405	589	152	2069	8	5073
APPROACH %'s :	77.94%	0.00%	22.06%	30.00%	0.00%	70.00%	0.25%	70.29%	29.46%	6.82%	92.82%	0.36%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	334	0	101	2	0	8	3	693	309	78	1041	2	2571
PEAK HR FACTOR :		0.906			0.625			0.907			0.907		0.959

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Middle Dwy of Home Depot btwn Pollo Loco & KFC and Foothill Blvd , City of Sylmar

Date: 12/11/2012

Day: Tuesday

Project #: CA12_5501_004

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	415 PM

Peak Hour Summary

Foothill Blvd

Middle Dwy of Home Depot btwn Pollo Loco & KFC

Southbound Approach

	↲	↓	↳	⇧	
Lanes	0	0	0		
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM

Eastbound Approach

	AM	NOON	PM	
	646	0	1148	⇦
0	0	0	0	⬏
2	1313	0	715	→
0	29	0	69	↴
Lanes	AM	NOON	PM	

Westbound Approach

	AM	NOON	PM	Lanes
↰	0	0	0	0
←	628	0	1093	2
↙	65	0	119	0
⇨	1349	0	827	
	AM	NOON	PM	

CONTROL

1-Way Stop (NB)

Northbound Approach

	⇩	↰	↑	↱	
AM	94	18	0	36	AM
NOON	0	0	0	0	NOON
PM	188	55	0	112	PM
		0	2	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

0	0	AM
0	0	NOON
0	0	PM

West Leg

AM	NOON	PM
646	0	1148
1342	0	784

East Leg

AM	NOON	PM
693	0	1212
1349	0	827

South Leg

AM	94	54
NOON	0	0
PM	188	167

Total Volume Per Leg

North Leg

0	AM
0	NOON
0	PM

West Leg

AM	NOON	PM
1988	0	1932

East Leg

AM	NOON	PM
2042	0	2039

South Leg

AM	148
NOON	0
PM	355

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_004 **Day:** TUESDAY

City: City of Sylmar **Date:** 12/11/2012

AM

NS/EW Streets:	Middle Dwy of Home Depot btwn Pollo Loco & KFC			Middle Dwy of Home Depot btwn Pollo Loco & KFC			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	0	0	0	2	0	0	2	0	
7:00 AM	2		5					189	3	9	86		294
7:15 AM	3		3					270	8	18	128		430
7:30 AM	7		18					349	7	11	161		553
7:45 AM	2		10					385	3	21	189		610
8:00 AM	6		5					309	11	15	150		496
8:15 AM	1		9					165	4	16	134		329
8:30 AM	8		6					162	7	22	122		327
8:45 AM	8		11					175	14	20	105		333

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	37	0	67	0	0	0	0	2004	57	132	1075	0	3372
APPROACH %'s :	35.58%	0.00%	64.42%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	97.23%	2.77%	10.94%	89.06%	0.00%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	18	0	36	0	0	0	0	1313	29	65	628	0	2089
PEAK HR FACTOR :		0.540			0.000			0.865			0.825		0.856

CONTROL : 1-Way Stop (NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_004

Day: TUESDAY

City: City of Sylmar

Date: 12/11/2012

PM

NS/EW Streets:	Middle Dwy of Home Depot btwn Pollo Loco & KFC			Middle Dwy of Home Depot btwn Pollo Loco & KFC			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	0	0	0	2	0	0	2	0	
4:00 PM	12		28					179	19	26	227		491
4:15 PM	16		26					177	18	30	245		512
4:30 PM	11		26					183	14	32	270		536
4:45 PM	12		34					189	20	35	296		586
5:00 PM	16		26					166	17	22	282		529
5:15 PM	12		23					175	16	36	214		476
5:30 PM	11		21					175	22	30	276		535
5:45 PM	20		16					202	24	31	263		556

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	110	0	200	0	0	0	0	1446	150	242	2073	0	4221
APPROACH %'s :	35.48%	0.00%	64.52%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	90.60%	9.40%	10.45%	89.55%	0.00%	

PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	55	0	112	0	0	0	0	715	69	119	1093	0	2163
PEAK HR FACTOR :		0.908			0.000			0.938			0.915		0.923

CONTROL : 1-Way Stop (NB)

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

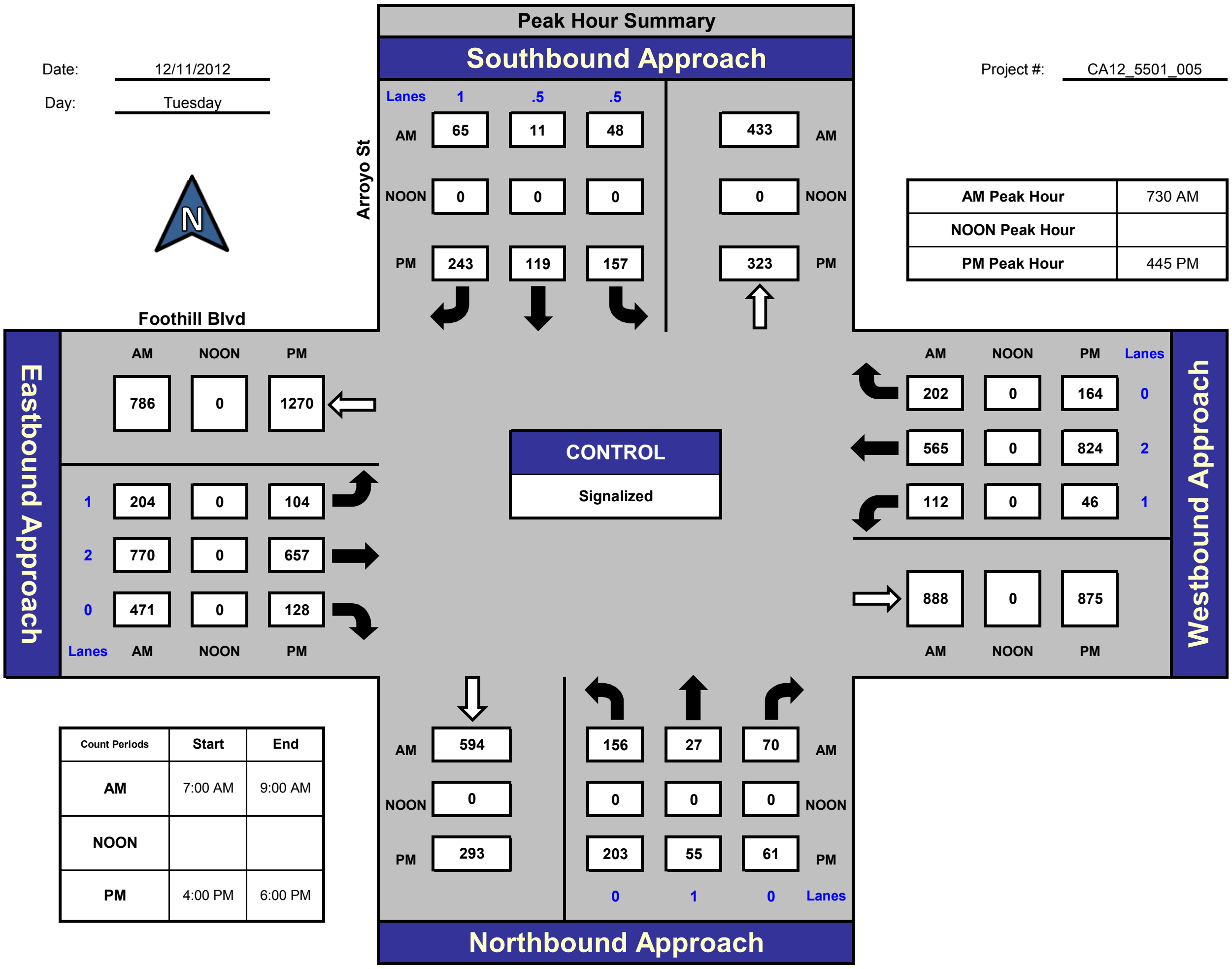
Arroyo St and Foothill Blvd , City of Sylmar

Date: 12/11/2012

Day: Tuesday

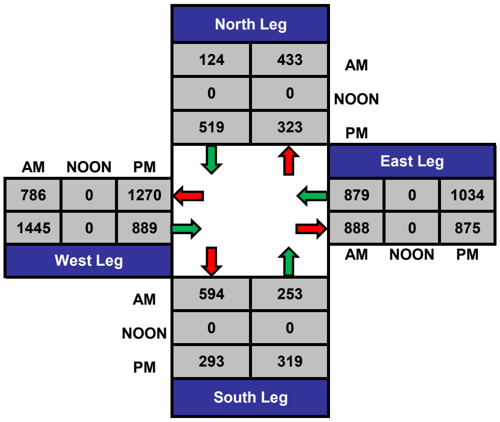
Project #: CA12_5501_005

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

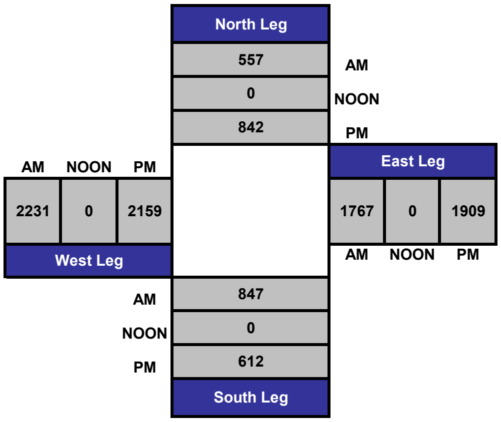


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_005

Day: TUESDAY

City: City of Sylmar

Date: 12/11/2012

AM

NS/EW Streets:	Arroyo St			Arroyo St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	.5	.5	1	1	2	0	1	2	0	
7:00 AM	9	8	2	12	1	12	45	114	55	17	94	30	399
7:15 AM	32	6	5	8	4	12	36	158	80	28	122	35	526
7:30 AM	40	6	25	12	2	13	35	198	173	27	145	31	707
7:45 AM	53	7	23	10	1	10	57	245	115	25	156	66	768
8:00 AM	40	9	13	11	4	13	56	187	101	29	129	51	643
8:15 AM	23	5	9	15	4	29	56	140	82	31	135	54	583
8:30 AM	30	10	12	9	9	18	47	110	59	13	108	53	478
8:45 AM	21	4	4	7	8	25	36	100	64	18	100	42	429

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	248	55	93	84	33	132	368	1252	729	188	989	362	4533
APPROACH %'s :	62.63%	13.89%	23.48%	33.73%	13.25%	53.01%	15.67%	53.30%	31.03%	12.22%	64.26%	23.52%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	156	27	70	48	11	65	204	770	471	112	565	202	2701
PEAK HR FACTOR :		0.762			0.646			0.866			0.890		0.879

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_005 **Day:** TUESDAY

City: City of Sylmar **Date:** 12/11/2012

PM

NS/EW Streets:	Arroyo St			Arroyo St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	.5	.5	1	1	2	0	1	2	0	
4:00 PM	55	9	20	22	24	46	26	156	36	12	175	25	606
4:15 PM	42	10	16	29	9	44	26	165	37	14	209	26	627
4:30 PM	54	14	16	46	38	51	29	154	44	15	219	33	713
4:45 PM	52	16	11	26	27	52	31	170	43	17	231	39	715
5:00 PM	57	16	25	34	22	52	24	166	22	11	212	38	679
5:15 PM	53	9	13	16	21	45	28	170	27	12	192	36	622
5:30 PM	41	14	12	81	49	94	21	151	36	6	189	51	745
5:45 PM	42	10	6	34	25	56	37	169	43	10	227	55	714

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	396	98	119	288	215	440	222	1301	288	97	1654	303	5421
APPROACH %'s :	64.60%	15.99%	19.41%	30.54%	22.80%	46.66%	12.26%	71.84%	15.90%	4.72%	80.53%	14.75%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	203	55	61	157	119	243	104	657	128	46	824	164	2761
PEAK HR FACTOR :		0.814			0.579			0.911			0.901		0.927

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

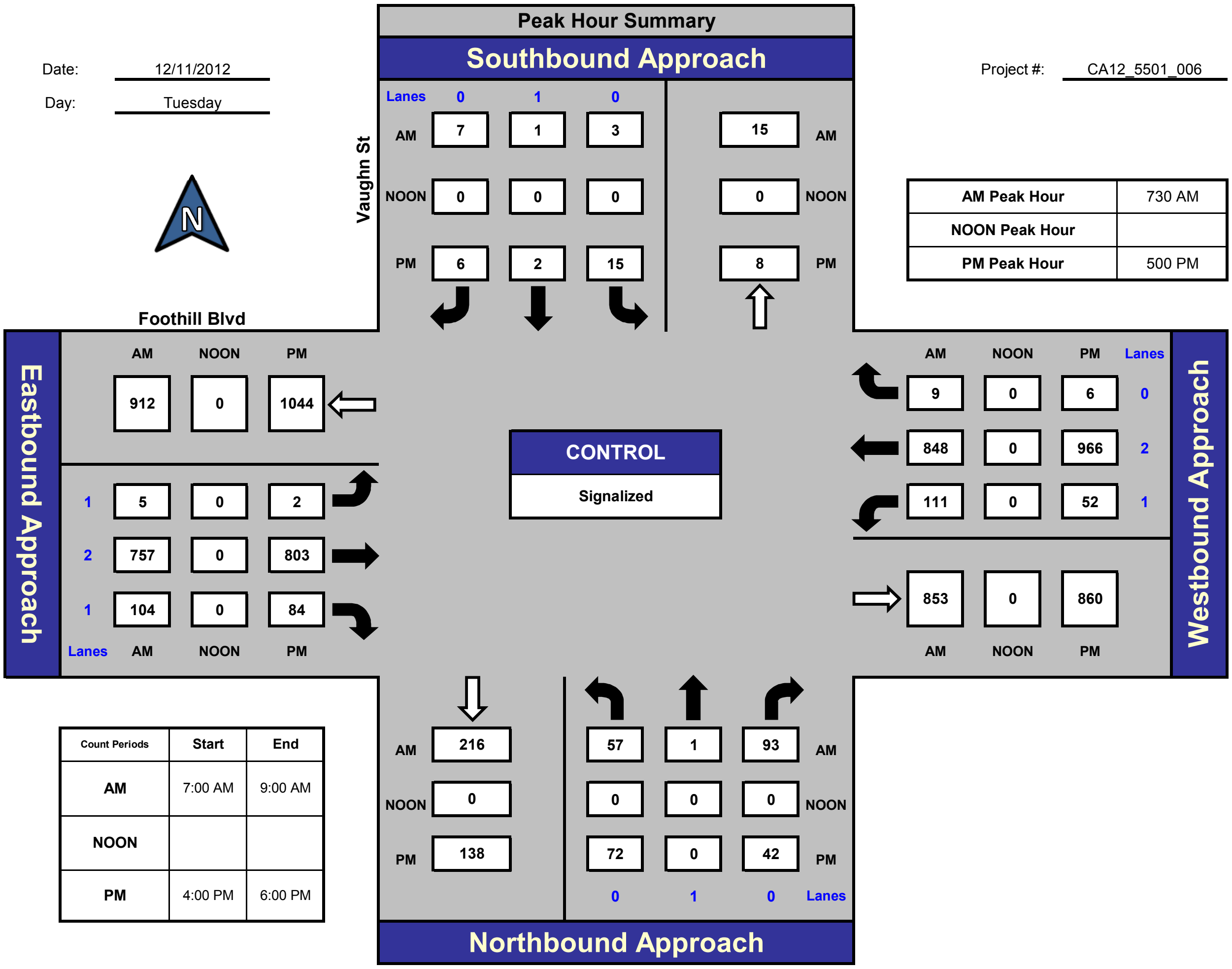
Vaughn St and Foothill Blvd , City of Sylmar

Date: 12/11/2012

Day: Tuesday

Project #: CA12_5501_006

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM



Southbound Approach

Lanes	0	1	0	
AM	7	1	3	15
NOON	0	0	0	0
PM	6	2	15	8

Eastbound Approach

Lanes	AM	NOON	PM
	912	0	1044
1	5	0	2
2	757	0	803
1	104	0	84

Westbound Approach

AM	NOON	PM	Lanes
9	0	6	0
848	0	966	2
111	0	52	1
853	0	860	

Northbound Approach

AM	216	57	1	93
NOON	0	0	0	0
PM	138	72	0	42
Lanes		0	1	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

AM	11	15
NOON	0	0
PM	23	8

West Leg

AM	NOON	PM
912	0	1044
866	0	889

East Leg

AM	NOON	PM
968	0	1024
853	0	860

South Leg

AM	216	151
NOON	0	0
PM	138	114

Total Volume Per Leg

North Leg

AM	26
NOON	0
PM	31

West Leg

AM	NOON	PM
1778	0	1933

East Leg

AM	NOON	PM
1821	0	1884

South Leg

AM	367
NOON	0
PM	252

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_006 **Day:** TUESDAY

City: City of Sylmar **Date:** 12/11/2012

AM

NS/EW Streets:	Vaughn St			Vaughn St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	1	1	2	0	
7:00 AM	15	0	3	4	1	1	2	113	9	5	126	1	280
7:15 AM	13	0	21	1	2	0	0	153	10	17	171	1	389
7:30 AM	14	0	25	1	0	1	2	210	22	36	204	2	517
7:45 AM	21	1	37	1	0	0	2	215	51	39	240	0	607
8:00 AM	10	0	17	1	1	2	1	187	15	26	206	5	471
8:15 AM	12	0	14	0	0	4	0	145	16	10	198	2	401
8:30 AM	8	0	7	3	0	0	0	122	8	2	175	1	326
8:45 AM	12	0	9	0	0	0	2	99	13	10	148	1	294

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	105	1	133	11	4	8	9	1244	144	145	1468	13	3285
APPROACH %'s :	43.93%	0.42%	55.65%	47.83%	17.39%	34.78%	0.64%	89.05%	10.31%	8.92%	90.28%	0.80%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	57	1	93	3	1	7	5	757	104	111	848	9	1996
PEAK HR FACTOR :		0.640			0.688			0.808			0.867		0.822

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_006 **Day:** TUESDAY

City: City of Sylmar **Date:** 12/11/2012

PM

NS/EW Streets:	Vaughn St			Vaughn St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	1	1	2	0	
4:00 PM	9	1	7	7	0	1	0	195	12	11	188	1	432
4:15 PM	16	0	5	3	0	0	0	188	22	14	230	0	478
4:30 PM	12	1	15	6	4	2	0	205	14	10	256	5	530
4:45 PM	14	0	9	1	0	1	0	188	19	11	263	1	507
5:00 PM	23	0	10	1	0	1	0	211	23	9	228	0	506
5:15 PM	16	0	9	1	1	3	1	172	23	13	223	2	464
5:30 PM	15	0	11	12	1	1	0	228	17	20	237	3	545
5:45 PM	18	0	12	1	0	1	1	192	21	10	278	1	535

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	123	2	78	32	6	10	2	1579	151	98	1903	13	3997
APPROACH %'s :	60.59%	0.99%	38.42%	66.67%	12.50%	20.83%	0.12%	91.17%	8.72%	4.87%	94.49%	0.65%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	72	0	42	15	2	6	2	803	84	52	966	6	2050
PEAK HR FACTOR :		0.864			0.411			0.907			0.886		0.940

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

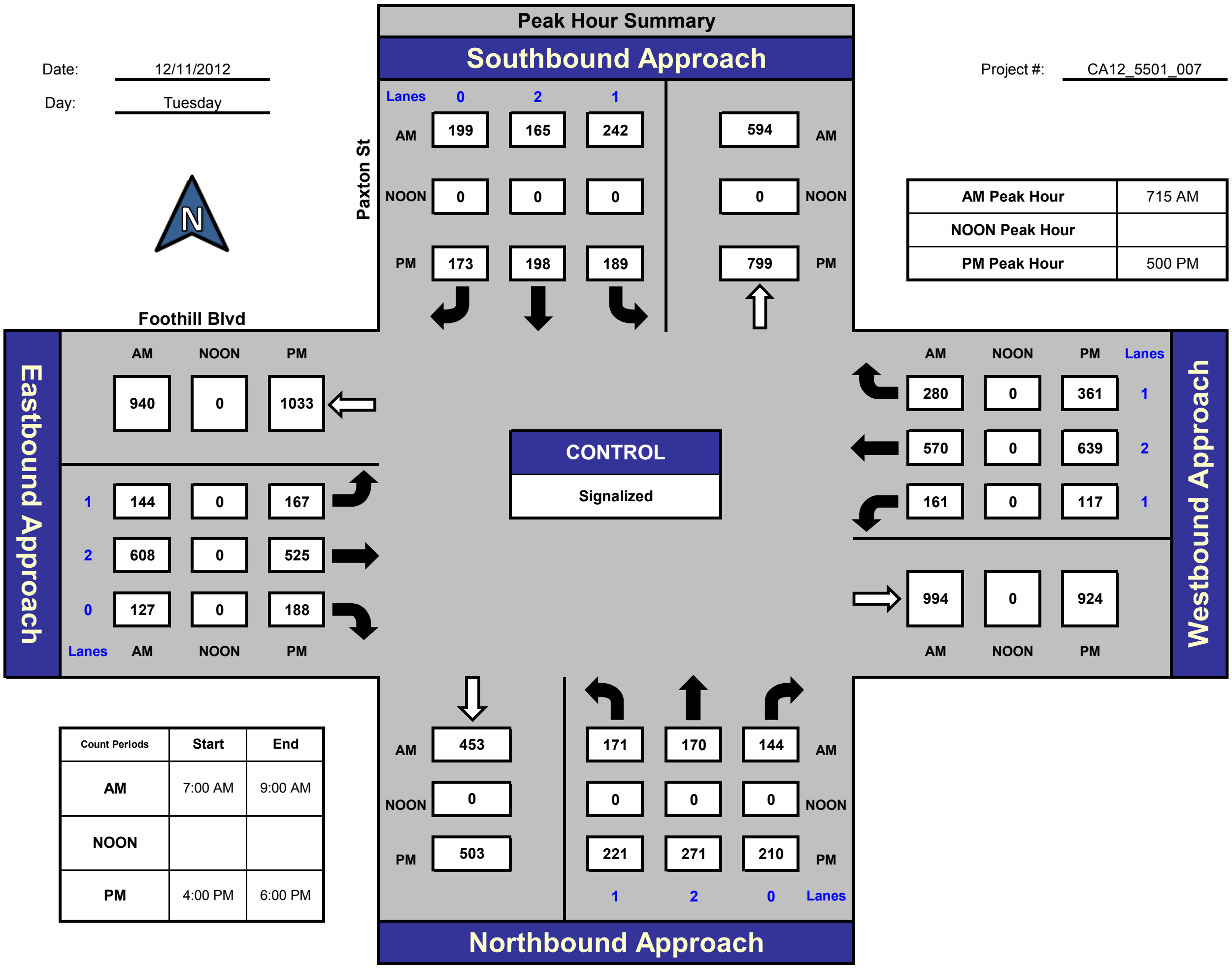
Paxton St and Foothill Blvd , City of Sylmar

Date: 12/11/2012

Day: Tuesday

Project #: CA12_5501_007

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM



Peak Hour Summary

Southbound Approach (Paxton St)

Lanes	0	2	1		
AM	199	165	242	594	AM
NOON	0	0	0	0	NOON
PM	173	198	189	799	PM

Eastbound Approach (Foothill Blvd)

	AM	NOON	PM
	940	0	1033
1	144	0	167
2	608	0	525
0	127	0	188
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
280	0	361	1
570	0	639	2
161	0	117	1
994	0	924	
AM	NOON	PM	

Northbound Approach

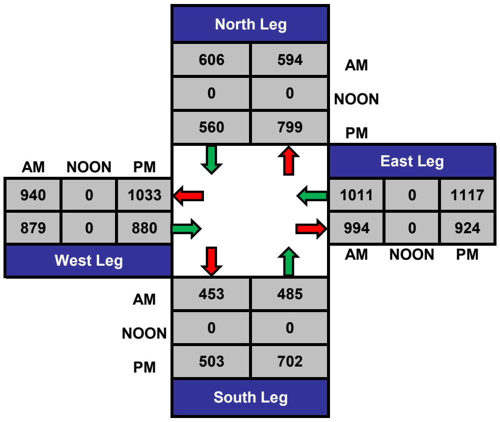
AM	453	171	170	144	AM
NOON	0	0	0	0	NOON
PM	503	221	271	210	PM
		1	2	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



North Leg

606	594	AM
0	0	NOON
560	799	PM

West Leg

AM	NOON	PM
940	0	1033
879	0	880

East Leg

1011	0	1117
994	0	924
AM	NOON	PM

South Leg

AM	453	485
NOON	0	0
PM	503	702

Total Volume Per Leg

North Leg

1200	AM
0	NOON
1359	PM

West Leg

AM	NOON	PM
1819	0	1913

East Leg

2005	0	2041
AM	NOON	PM

South Leg

AM	938
NOON	0
PM	1205

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_007 **Day:** TUESDAY

City: City of Sylmar **Date:** 12/11/2012

AM

NS/EW Streets:	Paxton St			Paxton St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	2	0	1	2	1	
7:00 AM	29	44	36	57	39	31	21	82	21	39	75	56	530
7:15 AM	44	46	37	52	43	41	27	129	19	49	105	66	658
7:30 AM	37	33	33	61	47	46	40	164	33	33	168	77	772
7:45 AM	48	54	38	61	38	48	42	184	32	38	175	81	839
8:00 AM	42	37	36	68	37	64	35	131	43	41	122	56	712
8:15 AM	39	30	33	60	39	49	29	105	26	22	120	37	589
8:30 AM	39	27	23	58	36	62	33	80	22	22	83	33	518
8:45 AM	39	22	20	40	20	40	21	64	21	34	70	29	420

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	317	293	256	457	299	381	248	939	217	278	918	435	5038
APPROACH %'s :	36.61%	33.83%	29.56%	40.19%	26.30%	33.51%	17.66%	66.88%	15.46%	17.04%	56.28%	26.67%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	171	170	144	242	165	199	144	608	127	161	570	280	2981
PEAK HR FACTOR :		0.866			0.896			0.852			0.860		0.888

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_007

Day: TUESDAY

City: City of Sylmar

Date: 12/11/2012

PM

NS/EW Streets:	Paxton St			Paxton St			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	2	0	1	2	1	
4:00 PM	37	72	43	44	51	43	45	136	38	36	123	80	748
4:15 PM	44	50	40	41	43	35	39	102	44	44	165	79	726
4:30 PM	47	61	41	43	39	58	42	144	51	39	156	105	826
4:45 PM	51	56	56	46	50	48	37	127	31	32	180	80	794
5:00 PM	48	69	53	46	49	33	56	125	50	27	153	102	811
5:15 PM	57	75	54	41	52	47	32	113	42	28	142	97	780
5:30 PM	47	59	54	44	48	41	37	159	51	29	163	91	823
5:45 PM	69	68	49	58	49	52	42	128	45	33	181	71	845

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	400	510	390	363	381	357	330	1034	352	268	1263	705	6353
APPROACH %'s :	30.77%	39.23%	30.00%	32.97%	34.60%	32.43%	19.23%	60.26%	20.51%	11.99%	56.48%	31.53%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	221	271	210	189	198	173	167	525	188	117	639	361	3259
PEAK HR FACTOR :		0.944			0.881			0.891			0.980		0.964

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

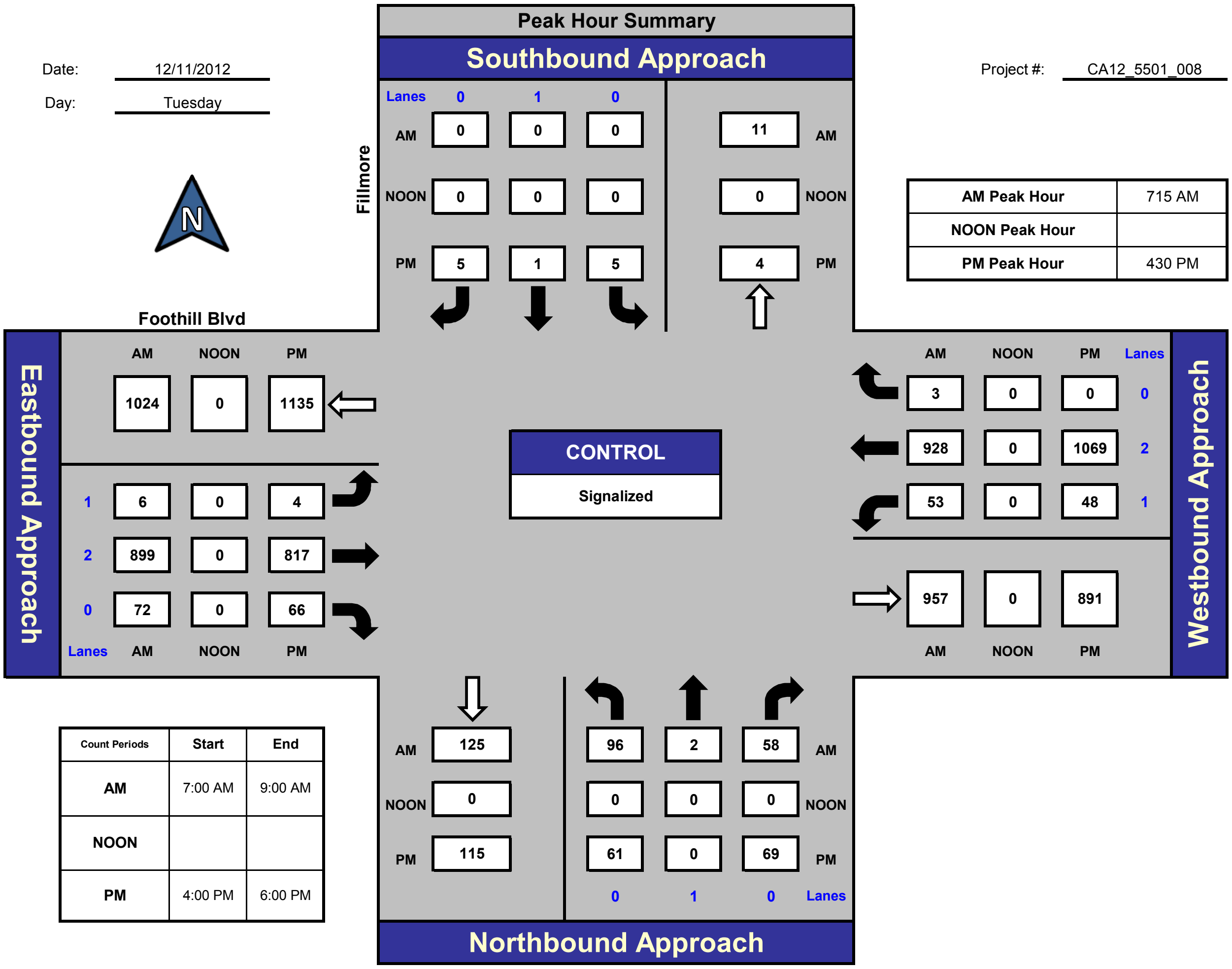
Fillmore and Foothill Blvd , City of Pacoima

Date: 12/11/2012

Day: Tuesday

Project #: CA12_5501_008

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	430 PM



Southbound Approach

Lanes	0	1	0		
AM	0	0	0	11	AM
NOON	0	0	0	0	NOON
PM	5	1	5	4	PM

Eastbound Approach

	AM	NOON	PM
	1024	0	1135

Lanes	AM	NOON	PM
1	6	0	4
2	899	0	817
0	72	0	66

CONTROL

Signalized

Westbound Approach

AM	NOON	PM	Lanes
3	0	0	0
928	0	1069	2
53	0	48	1

AM	NOON	PM
957	0	891

Northbound Approach

AM	125	96	2	58	AM
NOON	0	0	0	0	NOON
PM	115	61	0	69	PM
		0	1	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

0	11	AM
0	0	NOON
11	4	PM

West Leg

AM	NOON	PM
1024	0	1135
977	0	887

East Leg

AM	NOON	PM
984	0	1117
957	0	891

South Leg

AM	125	156
NOON	0	0
PM	115	130

Total Volume Per Leg

North Leg

11	AM
0	NOON
15	PM

West Leg

AM	NOON	PM
2001	0	2022

East Leg

AM	NOON	PM
1941	0	2008

South Leg

AM	281
NOON	0
PM	245

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_008 **Day:** TUESDAY

City: City of Pacoima **Date:** 12/11/2012

AM

NS/EW Streets:	Fillmore			Fillmore			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	0	1	2	0	
7:00 AM	11	0	18	0	0	0	0	134	12	4	173	0	352
7:15 AM	18	0	14	0	0	0	1	204	12	12	205	2	468
7:30 AM	37	0	22	0	0	0	0	227	17	22	248	0	573
7:45 AM	30	2	16	0	0	0	3	246	25	13	268	0	603
8:00 AM	11	0	6	0	0	0	2	222	18	6	207	1	473
8:15 AM	5	1	9	0	1	1	4	185	8	8	178	0	400
8:30 AM	9	1	9	1	0	0	0	153	6	5	124	0	308
8:45 AM	6	0	6	0	0	2	0	121	3	6	129	0	273
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	127	4	100	1	1	3	10	1492	101	76	1532	3	3450
APPROACH %'s :	54.98%	1.73%	43.29%	20.00%	20.00%	60.00%	0.62%	93.08%	6.30%	4.72%	95.10%	0.19%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	96	2	58	0	0	0	6	899	72	53	928	3	2117
PEAK HR FACTOR :		0.661			0.000			0.891			0.875		0.878

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_008 **Day:** TUESDAY

City: City of Pacoima **Date:** 12/11/2012

PM

NS/EW Streets:	Fillmore			Fillmore			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	0	1	2	0	
4:00 PM	16	0	18	0	0	1	0	213	12	11	214	0	485
4:15 PM	11	0	13	1	0	2	2	187	17	6	278	0	517
4:30 PM	18	0	18	3	0	0	1	203	20	13	276	0	552
4:45 PM	9	0	12	0	0	2	1	207	21	11	265	0	528
5:00 PM	19	0	20	2	0	2	1	204	16	11	257	0	532
5:15 PM	15	0	19	0	1	1	1	203	9	13	271	0	533
5:30 PM	7	0	12	0	0	1	0	231	21	11	265	0	548
5:45 PM	10	1	10	0	0	1	0	215	23	5	258	2	525

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	105	1	122	6	1	10	6	1663	139	81	2084	2	4220
APPROACH %'s :	46.05%	0.44%	53.51%	35.29%	5.88%	58.82%	0.33%	91.98%	7.69%	3.74%	96.17%	0.09%	

PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	61	0	69	5	1	5	4	817	66	48	1069	0	2145
PEAK HR FACTOR :		0.833			0.688			0.968			0.966		0.971

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

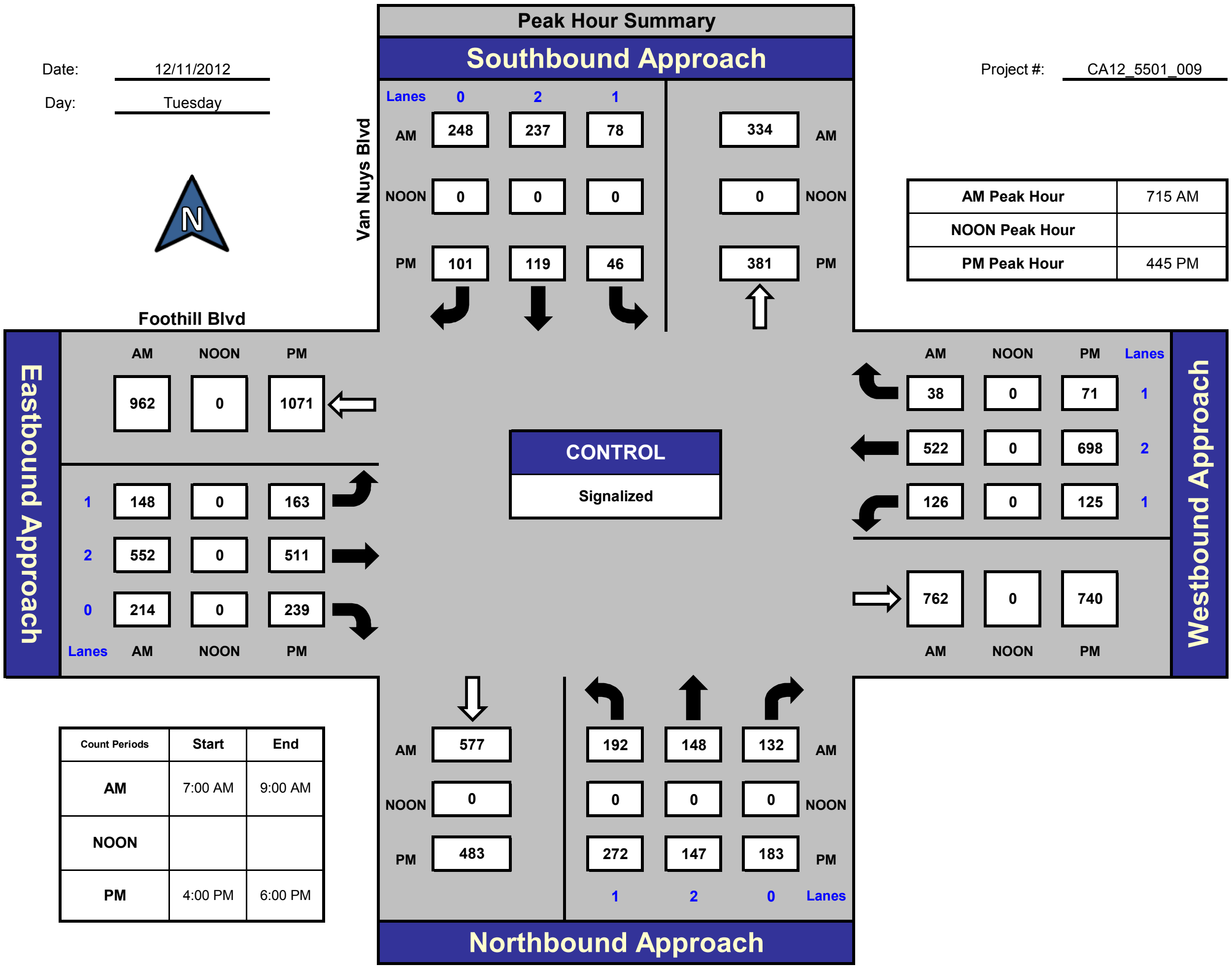
Van Nuys Blvd and Foothill Blvd , City of Pacoima

Date: 12/11/2012

Day: Tuesday

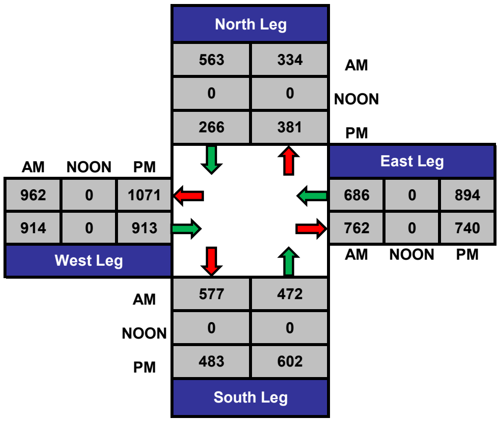
Project #: CA12_5501_009

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

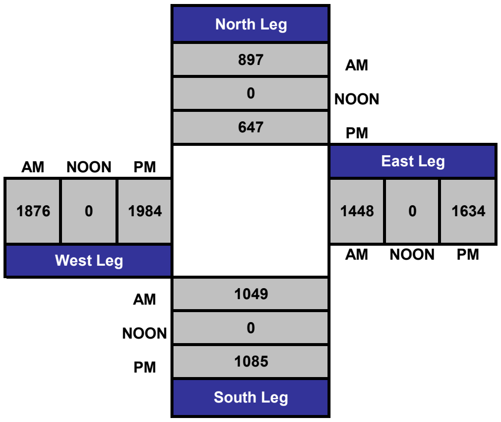


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_009
Day: TUESDAY

City: City of Pacoima
Date: 12/11/2012

AM

NS/EW Streets:	Van Nuys Blvd			Van Nuys Blvd			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	2	0	1	2	1	
7:00 AM	46	20	27	7	25	33	21	98	30	28	98	3	436
7:15 AM	30	27	31	22	45	65	27	131	46	31	115	7	577
7:30 AM	58	49	34	22	69	74	49	154	53	30	134	14	740
7:45 AM	62	43	32	19	86	69	41	126	60	39	140	7	724
8:00 AM	42	29	35	15	37	40	31	141	55	26	133	10	594
8:15 AM	42	21	12	6	18	25	22	122	43	23	118	6	458
8:30 AM	24	26	20	7	20	18	16	97	36	13	92	13	382
8:45 AM	32	14	18	11	24	32	13	74	27	18	74	3	340

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	336	229	209	109	324	356	220	943	350	208	904	63	4251
APPROACH %'s :	43.41%	29.59%	27.00%	13.81%	41.06%	45.12%	14.54%	62.33%	23.13%	17.70%	76.94%	5.36%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	192	148	132	78	237	248	148	552	214	126	522	38	2635
PEAK HR FACTOR :		0.837			0.809			0.893			0.922		0.890

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_009 **Day:** TUESDAY

City: City of Pacoima **Date:** 12/11/2012

PM

NS/EW Streets:	Van Nuys Blvd			Van Nuys Blvd			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	2	0	1	2	1	
4:00 PM	57	32	32	7	29	23	40	143	50	23	141	13	590
4:15 PM	67	34	50	6	33	29	33	112	63	37	167	15	646
4:30 PM	69	31	40	12	26	33	37	122	66	31	170	20	657
4:45 PM	58	37	48	9	25	34	44	124	50	27	176	18	650
5:00 PM	61	32	34	15	38	26	39	127	52	34	176	20	654
5:15 PM	76	46	53	12	33	20	34	123	61	22	179	16	675
5:30 PM	77	32	48	10	23	21	46	137	76	42	167	17	696
5:45 PM	72	48	41	9	29	35	44	123	55	29	142	22	649

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	537	292	346	80	236	221	317	1011	473	245	1318	141	5217
APPROACH %'s :	45.70%	24.85%	29.45%	14.90%	43.95%	41.15%	17.60%	56.14%	26.26%	14.38%	77.35%	8.27%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	272	147	183	46	119	101	163	511	239	125	698	71	2675
PEAK HR FACTOR :		0.860			0.842			0.881			0.972		0.961

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Terra Bella and Foothill Blvd , City of Pacoima

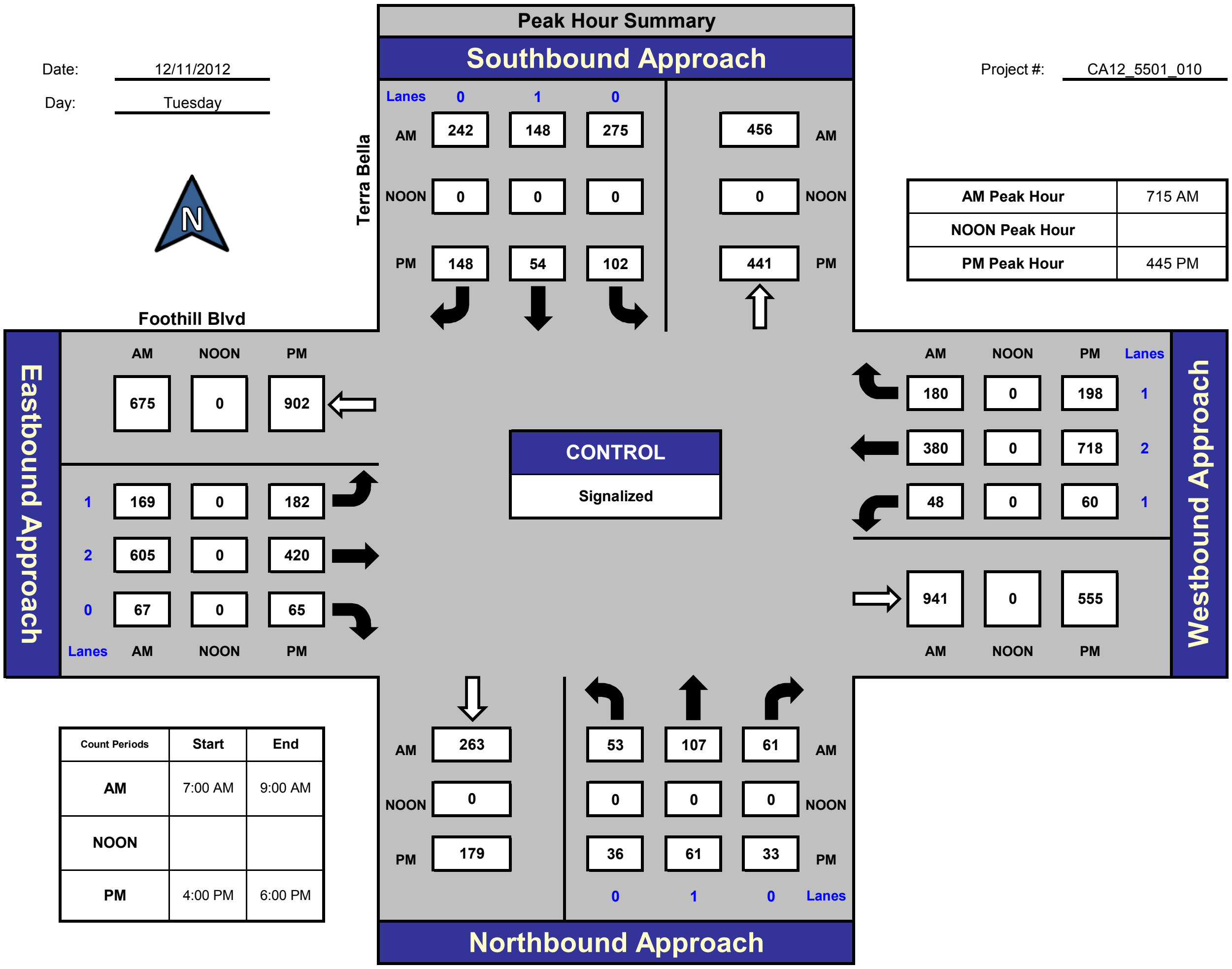
Date: 12/11/2012

Day: Tuesday

Project #: CA12_5501_010

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM



Peak Hour Summary

Southbound Approach

Terra Bella

Lanes	0	1	0		
AM	242	148	275	456	AM
NOON	0	0	0	0	NOON
PM	148	54	102	441	PM

Foothill Blvd

Eastbound Approach

	AM	NOON	PM
	675	0	902
1	169	0	182
2	605	0	420
0	67	0	65
Lanes	AM	NOON	PM

CONTROL

Signalized

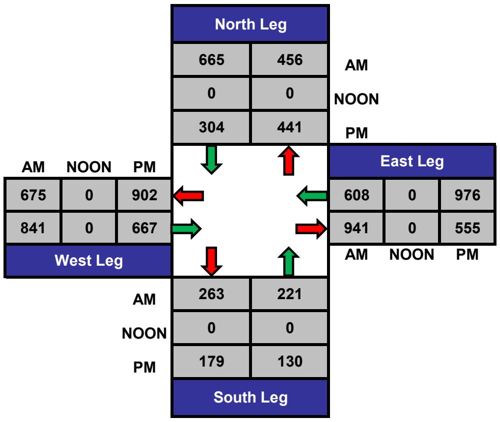
Westbound Approach

AM	NOON	PM	Lanes
180	0	198	1
380	0	718	2
48	0	60	1
941	0	555	
AM	NOON	PM	

AM	263	53	107	61	AM
NOON	0	0	0	0	NOON
PM	179	36	61	33	PM
		0	1	0	Lanes

Northbound Approach

Total Ins & Outs



North Leg

665	456	AM
0	0	NOON
304	441	PM

West Leg

AM	NOON	PM
675	0	902
841	0	667

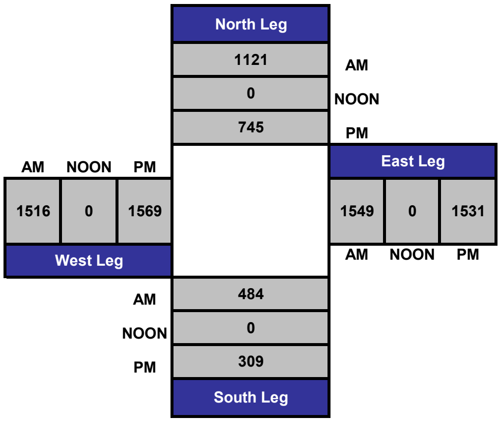
East Leg

608	0	976
941	0	555
AM	NOON	PM

South Leg

AM	263	221
NOON	0	0
PM	179	130

Total Volume Per Leg



North Leg

1121	AM
0	NOON
745	PM

West Leg

AM	NOON	PM
1516	0	1569

East Leg

1549	0	1531
AM	NOON	PM

South Leg

AM	484
NOON	0
PM	309

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_010

Day: TUESDAY

City: City of Pacoima

Date: 12/11/2012

AM

NS/EW Streets:	Terra Bella			Terra Bella			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	0	1	2	1	
7:00 AM	5	13	13	52	14	34	36	125	5	8	59	30	394
7:15 AM	11	24	12	79	15	57	44	172	12	11	71	50	558
7:30 AM	14	41	25	83	54	60	53	167	21	13	109	60	700
7:45 AM	17	28	15	68	54	70	39	131	20	10	111	47	610
8:00 AM	11	14	9	45	25	55	33	135	14	14	89	23	467
8:15 AM	2	3	9	39	8	34	22	129	9	8	108	14	385
8:30 AM	4	4	3	26	10	19	15	102	5	3	78	12	281
8:45 AM	2	6	4	28	7	12	21	82	3	3	73	14	255

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	66	133	90	420	187	341	263	1043	89	70	698	250	3650
APPROACH %'s :	22.84%	46.02%	31.14%	44.30%	19.73%	35.97%	18.85%	74.77%	6.38%	6.88%	68.57%	24.56%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	53	107	61	275	148	242	169	605	67	48	380	180	2335
PEAK HR FACTOR :		0.691			0.844			0.872			0.835		0.834

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_5501_010 **Day:** TUESDAY

City: City of Pacoima **Date:** 12/11/2012

PM

NS/EW Streets:	Terra Bella			Terra Bella			Foothill Blvd			Foothill Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	0	1	2	1	
4:00 PM	12	6	6	24	6	30	34	114	11	17	153	38	451
4:15 PM	17	13	10	20	6	35	38	95	8	12	156	41	451
4:30 PM	7	13	9	31	17	31	41	100	6	11	186	35	487
4:45 PM	12	14	13	23	17	21	44	101	21	18	192	56	532
5:00 PM	7	17	5	26	17	54	48	107	18	11	185	48	543
5:15 PM	10	15	8	30	4	31	46	101	16	13	166	44	484
5:30 PM	7	15	7	23	16	42	44	111	10	18	175	50	518
5:45 PM	8	22	8	20	15	41	44	91	16	15	166	57	503

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	80	115	66	197	98	285	339	820	106	115	1379	369	3969
APPROACH %'s :	30.65%	44.06%	25.29%	33.97%	16.90%	49.14%	26.80%	64.82%	8.38%	6.17%	74.02%	19.81%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	36	61	33	102	54	148	182	420	65	60	718	198	2077
PEAK HR FACTOR :		0.833			0.784			0.964			0.917		0.956

CONTROL : Signalized

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd e/o Hubbard St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_001e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	32	5	0	2	0	0	0	0	0	0	0	0	**39**
01:00	0	29	6	0	1	0	0	0	0	0	0	0	0	**36**
02:00	0	13	3	0	0	0	0	0	0	0	0	0	0	**16**
03:00	0	26	3	0	2	0	0	0	0	0	0	0	0	**31**
04:00	0	47	9	0	1	0	0	0	0	0	0	0	0	**57**
05:00	0	138	33	3	10	0	0	0	0	0	0	0	0	**184**
06:00	2	211	61	8	27	0	0	0	0	0	0	0	0	**309**
07:00	3	621	137	2	52	0	0	0	0	0	0	0	0	**815**
08:00	1	467	93	2	31	3	0	0	0	0	0	0	0	**597**
09:00	1	370	93	0	24	1	0	0	0	0	0	0	0	**489**
10:00	1	379	81	5	25	0	0	0	1	0	0	0	0	**492**
11:00	2	432	86	1	28	2	0	0	0	0	0	0	0	**551**
12:00 PM	2	473	96	2	36	0	0	0	0	0	0	0	0	**609**
13:00	4	503	100	2	25	1	0	1	2	0	0	0	0	**638**
14:00	1	494	75	2	24	0	0	0	0	0	0	0	0	**596**
15:00	1	475	83	3	34	0	0	0	0	0	0	0	0	**596**
16:00	1	518	109	1	33	0	0	1	2	0	0	0	0	**665**
17:00	0	539	89	1	27	0	0	0	1	0	0	0	0	**657**
18:00	1	443	75	2	15	0	0	0	0	0	0	0	0	**536**
19:00	1	350	54	2	21	0	0	0	1	0	0	0	0	**429**
20:00	0	290	46	4	16	0	0	0	0	0	0	0	0	**356**
21:00	0	231	30	0	9	0	0	0	0	0	0	0	0	**270**
22:00	0	127	17	0	7	0	0	0	0	0	0	0	0	**151**
23:00	0	79	12	0	4	0	0	0	0	0	0	0	0	**95**
Totals	**21**	**7287**	**1396**	**40**	**454**	**7**		**2**	**7**					**9214**
% of Totals	0%	79%	15%	0%	5%	0%		0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	10	2765	610	21	203	6	0	0	1	0	0	0	0	3616
% AM	0%	30%	7%	0%	2%	0%			0%					39%
AM Peak Hour	07:00	07:00	07:00	06:00	07:00	08:00			10:00					07:00
Volume	3	621	137	8	52	3			1					815
PM Volumes	11	4522	786	19	251	1	0	2	6	0	0	0	0	5598
% PM	0%	49%	9%	0%	3%	0%		0%	0%					61%
PM Peak Hour	13:00	17:00	16:00	20:00	12:00	13:00		13:00	13:00					16:00
Volume	4	539	109	4	36	1		1	2					665

Directional Peak Periods **All Classes**	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
	Volume	%	Volume	%	Volume	%	Volume	%
	1412 ⟷	15%	1247 ⟷	14%	1322 ⟷	14%	5233 ⟷	57%

Classification Definitions

1	Motorcycles	**4**	Buses	**7**	> =4-Axle Single Units	**10**	>=6-Axle Single Trailers	**13**	>=7-Axle Multi-Trailers
2	Passenger Cars	**5**	2-Axle, 6-Tire Single Units	**8**	<=4-Axle Single Trailers	**11**	<=5-Axle Multi-Trailers		
3	2-Axle, 4-Tire Single Units	**6**	3-Axle Single Units	**9**	5-Axle Single Trailers	**12**	6-Axle Multi-Trailers		

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd e/o Hubbard St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_001w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	30	3	0	2	0	0	0	0	0	0	0	0	**35**
01:00	0	32	4	0	2	0	0	0	0	0	0	0	0	**38**
02:00	0	21	3	0	1	0	0	0	1	0	0	0	0	**26**
03:00	0	20	4	0	5	0	0	0	0	0	0	0	0	**29**
04:00	0	34	2	1	1	0	0	0	0	0	0	0	0	**38**
05:00	0	102	16	1	7	0	0	0	0	0	0	0	0	**126**
06:00	1	180	31	2	10	0	0	0	0	0	0	0	0	**224**
07:00	2	369	64	3	26	0	0	0	2	0	0	0	0	**466**
08:00	2	314	62	2	18	1	0	0	1	0	0	0	0	**400**
09:00	4	319	61	1	18	0	0	0	1	0	0	0	0	**404**
10:00	2	315	67	1	24	0	0	1	0	0	0	0	0	**410**
11:00	3	371	65	2	20	1	0	1	2	0	0	0	0	**465**
12:00 PM	2	422	72	1	23	1	0	0	2	0	0	0	0	**523**
13:00	1	451	76	2	29	0	0	0	1	0	0	0	0	**560**
14:00	1	430	82	3	31	1	0	0	2	0	0	0	0	**550**
15:00	3	492	86	2	34	0	0	1	1	0	0	0	0	**619**
16:00	3	625	108	3	42	3	0	0	2	0	0	0	0	**786**
17:00	1	618	112	0	43	1	0	1	3	0	0	0	0	**779**
18:00	1	538	84	2	30	0	0	0	1	0	0	0	0	**656**
19:00	1	430	63	2	26	0	0	0	1	0	0	0	0	**523**
20:00	1	246	42	3	18	0	0	0	0	0	0	0	0	**310**
21:00	0	196	36	1	9	0	0	0	0	0	0	0	0	**242**
22:00	0	135	15	0	9	0	0	0	0	0	0	0	0	**159**
23:00	0	94	15	0	5	0	0	0	0	0	0	0	0	**114**
Totals	**28**	**6784**	**1173**	**32**	**433**	**8**		**4**	**20**					**8482**
% of Totals	0%	80%	14%	0%	5%	0%		0%	0%					100%
AM Volumes	14	2107	382	13	134	2	0	2	7	0	0	0	0	2661
% AM	0%	25%	5%	0%	2%	0%		0%	0%					31%
AM Peak Hour	09:00	11:00	10:00	07:00	07:00	08:00		10:00	07:00					07:00
Volume	4	371	67	3	26	1		1	2					466
PM Volumes	14	4677	791	19	299	6	0	2	13	0	0	0	0	5821
% PM	0%	55%	9%	0%	4%	0%		0%	0%					69%
PM Peak Hour	15:00	16:00	17:00	14:00	17:00	16:00		15:00	17:00					16:00
Volume	3	625	112	3	43	3		1	3					786

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	866	⟷	10%	1083	⟷	13%	1565	⟷	18%	4968	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

CLASSIFICATION

Foothill Blvd e/o Hubbard St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	62	8	0	4	0	0	0	0	0	0	0	0	**74**
01:00	0	61	10	0	3	0	0	0	0	0	0	0	0	**74**
02:00	0	34	6	0	1	0	0	0	1	0	0	0	0	**42**
03:00	0	46	7	0	7	0	0	0	0	0	0	0	0	**60**
04:00	0	81	11	1	2	0	0	0	0	0	0	0	0	**95**
05:00	0	240	49	4	17	0	0	0	0	0	0	0	0	**310**
06:00	3	391	92	10	37	0	0	0	0	0	0	0	0	**533**
07:00	5	990	201	5	78	0	0	0	2	0	0	0	0	**1281**
08:00	3	781	155	4	49	4	0	0	1	0	0	0	0	**997**
09:00	5	689	154	1	42	1	0	0	1	0	0	0	0	**893**
10:00	3	694	148	6	49	0	0	1	1	0	0	0	0	**902**
11:00	5	803	151	3	48	3	0	1	2	0	0	0	0	**1016**
12:00 PM	4	895	168	3	59	1	0	0	2	0	0	0	0	**1132**
13:00	5	954	176	4	54	1	0	1	3	0	0	0	0	**1198**
14:00	2	924	157	5	55	1	0	0	2	0	0	0	0	**1146**
15:00	4	967	169	5	68	0	0	1	1	0	0	0	0	**1215**
16:00	4	1143	217	4	75	3	0	1	4	0	0	0	0	**1451**
17:00	1	1157	201	1	70	1	0	1	4	0	0	0	0	**1436**
18:00	2	981	159	4	45	0	0	0	1	0	0	0	0	**1192**
19:00	2	780	117	4	47	0	0	0	2	0	0	0	0	**952**
20:00	1	536	88	7	34	0	0	0	0	0	0	0	0	**666**
21:00	0	427	66	1	18	0	0	0	0	0	0	0	0	**512**
22:00	0	262	32	0	16	0	0	0	0	0	0	0	0	**310**
23:00	0	173	27	0	9	0	0	0	0	0	0	0	0	**209**
Totals	**49**	**14071**	**2569**	**72**	**887**	**15**		**6**	**27**					**17696**
% of Totals	0%	80%	15%	0%	5%	0%		0%	0%					100%

AM Volumes	24	4872	992	34	337	8	0	2	8	0	0	0	0	6277
% AM	0%	28%	6%	0%	2%	0%		0%	0%					35%
AM Peak Hour	07:00	07:00	07:00	06:00	07:00	08:00		10:00	07:00					07:00
Volume	5	990	201	10	78	4		1	2					1281
PM Volumes	25	9199	1577	38	550	7	0	4	19	0	0	0	0	11419
% PM	0%	52%	9%	0%	3%	0%		0%	0%					65%
PM Peak Hour	13:00	17:00	16:00	20:00	16:00	16:00		13:00	16:00					16:00
Volume	5	1157	217	7	75	3		1	4					1451

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2278	⟷	13%	2330	⟷	13%	2887	⟷	16%	10201	⟷	58%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd w/o Maclay St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_002e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	26	3	0	4	0	0	0	0	0	0	0	0	**33**
01:00	0	19	5	0	1	0	0	0	0	0	0	0	0	**25**
02:00	0	9	2	0	2	0	0	0	0	0	0	0	0	**13**
03:00	0	32	7	0	3	0	0	0	0	0	0	0	0	**42**
04:00	0	64	15	0	8	0	0	0	0	0	0	0	0	**87**
05:00	1	177	54	3	29	1	0	0	0	0	0	0	0	**265**
06:00	1	289	91	7	60	0	0	0	0	0	0	0	0	**448**
07:00	3	674	194	3	110	4	0	1	2	0	0	0	0	**991**
08:00	2	425	130	2	80	2	0	0	1	0	0	0	0	**642**
09:00	3	372	102	1	63	1	0	0	0	0	0	0	0	**542**
10:00	4	358	100	4	58	1	0	0	2	0	0	0	0	**527**
11:00	2	378	117	1	63	0	0	0	1	0	0	0	0	**562**
12:00 PM	2	452	118	1	68	1	0	0	0	0	0	0	0	**642**
13:00	3	462	115	3	62	3	0	1	2	0	0	0	0	**651**
14:00	0	428	130	3	49	1	0	0	0	0	0	0	0	**611**
15:00	1	404	118	2	65	2	0	0	0	0	0	0	0	**592**
16:00	2	457	116	0	68	0	0	1	1	0	0	0	0	**645**
17:00	3	490	128	1	64	0	0	0	1	0	0	0	0	**687**
18:00	1	379	95	2	48	0	0	0	0	0	0	0	0	**525**
19:00	1	312	69	3	35	0	0	0	1	0	0	0	0	**421**
20:00	0	240	54	3	36	0	0	0	0	0	0	0	0	**333**
21:00	0	190	45	0	21	0	0	0	0	0	0	0	0	**256**
22:00	0	103	26	0	13	0	0	0	0	0	0	0	0	**142**
23:00	0	62	16	0	8	0	0	0	0	0	0	0	0	**86**
Totals	**29**	**6802**	**1850**	**39**	**1018**	**16**		**3**	**11**					**9768**
% of Totals	0%	70%	19%	0%	10%	0%		0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	16	2823	820	21	481	9	0	1	6	0	0	0	0	4177
% AM	0%	29%	8%	0%	5%	0%		0%	0%					43%
AM Peak Hour	10:00	07:00	07:00	06:00	07:00	07:00		07:00	07:00					07:00
Volume	4	674	194	7	110	4		1	2					991
PM Volumes	13	3979	1030	18	537	7	0	2	5	0	0	0	0	5591
% PM	0%	41%	11%	0%	5%	0%		0%	0%					57%
PM Peak Hour	13:00	17:00	14:00	13:00	12:00	13:00		13:00	13:00					17:00
Volume	3	490	130	3	68	3		1	2					687

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	1633	⟷	17%	1293	⟷	13%	1332	⟷	14%	5510	⟷	56%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd w/o Maclay St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_002w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	35	5	0	1	0	0	0	0	0	0	0	0	**41**
01:00	0	26	3	0	3	0	0	0	0	0	0	0	0	**32**
02:00	0	26	3	0	2	0	0	0	0	0	0	0	0	**31**
03:00	0	17	6	0	3	0	0	0	0	0	0	0	0	**26**
04:00	0	28	4	1	1	0	0	0	1	0	0	0	0	**35**
05:00	0	73	12	1	6	0	0	0	0	0	0	0	0	**92**
06:00	0	146	32	2	11	1	0	0	0	0	0	0	0	**192**
07:00	1	358	65	2	25	1	0	1	0	0	0	0	0	**453**
08:00	1	335	59	2	18	1	0	0	2	0	0	0	0	**418**
09:00	2	317	54	2	15	0	0	0	1	0	0	0	0	**391**
10:00	1	336	65	1	19	0	0	0	1	0	0	0	0	**423**
11:00	4	397	69	3	22	2	0	1	1	0	0	0	0	**499**
12:00 PM	1	459	76	1	27	1	0	1	0	0	0	0	0	**566**
13:00	1	473	82	2	30	2	0	0	2	0	0	0	0	**592**
14:00	2	459	84	4	33	1	0	1	1	0	0	0	0	**585**
15:00	3	561	105	2	31	0	0	0	0	0	0	0	0	**702**
16:00	2	764	115	3	42	2	0	0	0	0	0	0	0	**928**
17:00	2	767	141	1	40	0	0	0	1	0	0	0	0	**952**
18:00	1	632	100	2	30	1	0	0	0	0	0	0	0	**766**
19:00	1	511	75	2	27	1	0	0	0	0	0	0	0	**617**
20:00	1	331	52	3	19	0	0	0	0	0	0	0	0	**406**
21:00	0	249	42	1	14	0	0	0	0	0	0	0	0	**306**
22:00	0	190	22	0	9	0	0	0	0	0	0	0	0	**221**
23:00	0	113	18	0	4	0	0	0	0	0	0	0	0	**135**
Totals	**23**	**7603**	**1289**	**35**	**432**	**13**		**4**	**10**					**9409**
% of Totals	0%	81%	14%	0%	5%	0%		0%	0%					100%

AM Volumes	9	2094	377	14	126	5	0	2	6	0	0	0	0	2633
% AM	0%	22%	4%	0%	1%	0%		0%	0%					28%
AM Peak Hour	11:00	11:00	11:00	11:00	07:00	11:00		07:00	08:00					11:00
Volume	4	397	69	3	25	2		1	2					499
PM Volumes	14	5509	912	21	306	8	0	2	4	0	0	0	0	6776
% PM	0%	59%	10%	0%	3%	0%		0%	0%					72%
PM Peak Hour	15:00	17:00	17:00	14:00	16:00	13:00		12:00	13:00					17:00
Volume	3	767	141	4	42	2		1	2					952

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	871	⟷	9%	1158	⟷	12%	1880	⟷	20%	5500	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd w/o Maclay St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	61	8	0	5	0	0	0	0	0	0	0	0	**74**
01:00	0	45	8	0	4	0	0	0	0	0	0	0	0	**57**
02:00	0	35	5	0	4	0	0	0	0	0	0	0	0	**44**
03:00	0	49	13	0	6	0	0	0	0	0	0	0	0	**68**
04:00	0	92	19	1	9	0	0	0	1	0	0	0	0	**122**
05:00	1	250	66	4	35	1	0	0	0	0	0	0	0	**357**
06:00	1	435	123	9	71	1	0	0	0	0	0	0	0	**640**
07:00	4	1032	259	5	135	5	0	2	2	0	0	0	0	**1444**
08:00	3	760	189	4	98	3	0	0	3	0	0	0	0	**1060**
09:00	5	689	156	3	78	1	0	0	1	0	0	0	0	**933**
10:00	5	694	165	5	77	1	0	0	3	0	0	0	0	**950**
11:00	6	775	186	4	85	2	0	1	2	0	0	0	0	**1061**
12:00 PM	3	911	194	2	95	2	0	1	0	0	0	0	0	**1208**
13:00	4	935	197	5	92	5	0	1	4	0	0	0	0	**1243**
14:00	2	887	214	7	82	2	0	1	1	0	0	0	0	**1196**
15:00	4	965	223	4	96	2	0	0	0	0	0	0	0	**1294**
16:00	4	1221	231	3	110	2	0	1	1	0	0	0	0	**1573**
17:00	5	1257	269	2	104	0	0	0	2	0	0	0	0	**1639**
18:00	2	1011	195	4	78	1	0	0	0	0	0	0	0	**1291**
19:00	2	823	144	5	62	1	0	0	1	0	0	0	0	**1038**
20:00	1	571	106	6	55	0	0	0	0	0	0	0	0	**739**
21:00	0	439	87	1	35	0	0	0	0	0	0	0	0	**562**
22:00	0	293	48	0	22	0	0	0	0	0	0	0	0	**363**
23:00	0	175	34	0	12	0	0	0	0	0	0	0	0	**221**
Totals	**52**	**14405**	**3139**	**74**	**1450**	**29**		**7**	**21**					**19177**
% of Totals	0%	75%	16%	0%	8%	0%		0%	0%					100%

AM Volumes	25	4917	1197	35	607	14	0	3	12	0	0	0	0	6810
% AM	0%	26%	6%	0%	3%	0%		0%	0%					36%
AM Peak Hour	11:00	07:00	07:00	06:00	07:00	07:00		07:00	08:00					07:00
Volume	6	1032	259	9	135	5		2	3					1444
PM Volumes	27	9488	1942	39	843	15	0	4	9	0	0	0	0	12367
% PM	0%	49%	10%	0%	4%	0%		0%	0%					64%
PM Peak Hour	17:00	17:00	17:00	14:00	16:00	13:00		12:00	13:00					17:00
Volume	5	1257	269	7	110	5		1	4					1639

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2504	⟷	13%	2451	⟷	13%	3212	⟷	17%	11010	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd e/o Maclay St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_003e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	86	20	0	12	0	0	0	2	0	0	0	0	**120**
01:00	0	88	23	0	13	0	0	0	4	0	0	0	0	**128**
02:00	0	56	13	0	7	0	0	1	3	0	0	0	0	**80**
03:00	1	88	22	0	12	0	0	0	0	0	0	0	0	**123**
04:00	0	121	29	0	18	0	0	0	1	0	0	0	0	**169**
05:00	1	250	78	1	48	1	0	0	2	0	0	0	0	**381**
06:00	0	358	121	5	79	0	0	1	0	0	0	0	0	**564**
07:00	2	784	230	4	134	3	0	1	1	0	0	0	0	**1159**
08:00	3	607	181	3	110	4	0	1	1	0	0	0	0	**910**
09:00	2	475	145	5	81	4	0	0	0	0	0	0	0	**712**
10:00	1	442	131	4	74	2	0	1	2	0	0	0	0	**657**
11:00	2	529	151	1	74	4	0	1	4	0	0	0	0	**766**
12:00 PM	2	620	159	3	101	0	0	1	1	0	0	0	0	**887**
13:00	3	575	166	2	87	3	0	3	4	0	0	0	0	**843**
14:00	0	558	147	4	64	3	0	2	1	0	0	0	0	**779**
15:00	2	530	155	2	69	1	0	3	3	0	0	0	0	**765**
16:00	0	553	150	3	88	2	0	1	2	0	0	0	0	**799**
17:00	1	567	145	2	64	1	0	0	0	0	0	0	0	**780**
18:00	1	461	122	2	61	0	0	0	1	0	0	0	0	**648**
19:00	0	375	91	1	43	1	0	1	0	0	0	0	0	**512**
20:00	0	300	66	0	38	0	0	0	4	0	0	0	0	**408**
21:00	1	289	61	1	25	0	0	0	1	0	0	0	0	**378**
22:00	1	299	67	0	33	0	0	1	3	0	0	0	0	**404**
23:00	0	148	31	0	17	0	0	0	1	0	0	0	0	**197**
Totals	**23**	**9159**	**2504**	**43**	**1352**	**29**		**18**	**41**					**13169**
% of Totals	0%	70%	19%	0%	10%	0%		0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	12	3884	1144	23	662	18	0	6	20	0	0	0	0	5769
% AM	0%	29%	9%	0%	5%	0%		0%	0%					44%
AM Peak Hour	08:00	07:00	07:00	06:00	07:00	08:00		02:00	01:00					07:00
Volume	3	784	230	5	134	4		1	4					1159
PM Volumes	11	5275	1360	20	690	11	0	12	21	0	0	0	0	7400
% PM	0%	40%	10%	0%	5%	0%		0%	0%					56%
PM Peak Hour	13:00	12:00	13:00	14:00	12:00	13:00		13:00	13:00					12:00
Volume	3	620	166	4	101	3		3	4					887

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	2069	⟷	16%	1730	⟷	13%	1579	⟷	12%	7791	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd e/o Maclay St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_003w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	76	13	0	7	0	0	0	1	0	0	0	0	97
01:00	0	51	16	0	3	0	0	0	0	0	0	0	0	70
02:00	0	86	15	0	3	0	0	0	1	0	0	0	0	105
03:00	0	99	14	0	5	0	0	0	1	0	0	0	0	119
04:00	0	111	13	0	8	0	0	0	0	0	0	0	0	132
05:00	0	157	42	1	22	0	0	0	1	0	0	0	0	223
06:00	1	234	54	3	31	1	0	1	2	0	0	0	0	327
07:00	1	453	119	3	39	2	0	1	2	0	0	0	0	620
08:00	2	429	107	2	36	2	0	0	5	0	0	0	0	583
09:00	1	485	103	5	49	1	0	0	4	0	0	0	0	648
10:00	3	442	125	3	40	4	0	1	2	0	0	0	0	620
11:00	2	471	115	3	38	3	0	0	1	0	0	0	0	633
12:00 PM	1	570	124	1	43	2	0	0	3	0	0	0	0	744
13:00	2	561	129	4	34	4	0	1	2	0	0	0	0	737
14:00	1	623	107	4	35	3	0	1	2	0	0	0	0	776
15:00	3	713	105	2	33	1	0	2	1	0	0	0	0	860
16:00	3	927	120	1	40	2	0	1	1	0	0	0	0	1095
17:00	2	965	127	2	42	2	0	0	3	0	0	0	0	1143
18:00	1	778	89	1	31	1	0	0	1	0	0	0	0	902
19:00	0	597	72	0	22	1	0	0	1	0	0	0	0	693
20:00	1	394	48	0	15	0	0	0	0	0	0	0	0	458
21:00	0	272	28	0	9	0	0	0	1	0	0	0	0	310
22:00	0	214	23	0	8	0	0	0	0	0	0	0	0	245
23:00	0	133	14	0	4	0	0	0	0	0	0	0	0	151
Totals	**24**	**9841**	**1722**	**35**	**597**	**29**		**8**	**35**					**12291**
% of Totals	0%	80%	14%	0%	5%	0%		0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	10	3094	736	20	281	13	0	3	20	0	0	0	0	4177
% AM	0%	25%	6%	0%	2%	0%		0%	0%					34%
AM Peak Hour	10:00	09:00	10:00	09:00	09:00	10:00		06:00	08:00					09:00
Volume	3	485	125	5	49	4		1	5					648
PM Volumes	14	6747	986	15	316	16	0	5	15	0	0	0	0	8114
% PM	0%	55%	8%	0%	3%	0%		0%	0%					66%
PM Peak Hour	15:00	17:00	13:00	13:00	12:00	13:00		15:00	12:00					17:00
Volume	3	965	129	4	43	4		2	3					1143

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1203	⟷	10%	1481	⟷	12%	2238	⟷	18%	7369	⟷	60%

Classification Definitions

1 Motorcycles
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6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd e/o Maclay St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	162	33	0	19	0	0	0	3	0	0	0	0	**217**
01:00	0	139	39	0	16	0	0	0	4	0	0	0	0	**198**
02:00	0	142	28	0	10	0	0	1	4	0	0	0	0	**185**
03:00	1	187	36	0	17	0	0	0	1	0	0	0	0	**242**
04:00	0	232	42	0	26	0	0	0	1	0	0	0	0	**301**
05:00	1	407	120	2	70	1	0	0	3	0	0	0	0	**604**
06:00	1	592	175	8	110	1	0	2	2	0	0	0	0	**891**
07:00	3	1237	349	7	173	5	0	2	3	0	0	0	0	**1779**
08:00	5	1036	288	5	146	6	0	1	6	0	0	0	0	**1493**
09:00	3	960	248	10	130	5	0	0	4	0	0	0	0	**1360**
10:00	4	884	256	7	114	6	0	2	4	0	0	0	0	**1277**
11:00	4	1000	266	4	112	7	0	1	5	0	0	0	0	**1399**
12:00 PM	3	1190	283	4	144	2	0	1	4	0	0	0	0	**1631**
13:00	5	1136	295	6	121	7	0	4	6	0	0	0	0	**1580**
14:00	1	1181	254	8	99	6	0	3	3	0	0	0	0	**1555**
15:00	5	1243	260	4	102	2	0	5	4	0	0	0	0	**1625**
16:00	3	1480	270	4	128	4	0	2	3	0	0	0	0	**1894**
17:00	3	1532	272	4	106	3	0	0	3	0	0	0	0	**1923**
18:00	2	1239	211	3	92	1	0	0	2	0	0	0	0	**1550**
19:00	0	972	163	1	65	2	0	1	1	0	0	0	0	**1205**
20:00	1	694	114	0	53	0	0	0	4	0	0	0	0	**866**
21:00	1	561	89	1	34	0	0	0	2	0	0	0	0	**688**
22:00	1	513	90	0	41	0	0	1	3	0	0	0	0	**649**
23:00	0	281	45	0	21	0	0	0	1	0	0	0	0	**348**
Totals	**47**	**19000**	**4226**	**78**	**1949**	**58**		**26**	**76**					**25460**
% of Totals	0%	75%	17%	0%	8%	0%		0%	0%					100%

AM Volumes	22	6978	1880	43	943	31	0	9	40	0	0	0	0	9946
% AM	0%	27%	7%	0%	4%	0%		0%	0%					39%
AM Peak Hour	08:00	07:00	07:00	09:00	07:00	11:00		06:00	08:00					07:00
Volume	5	1237	349	10	173	7		2	6					1779
PM Volumes	25	12022	2346	35	1006	27	0	17	36	0	0	0	0	15514
% PM	0%	47%	9%	0%	4%	0%		0%	0%					61%
PM Peak Hour	13:00	17:00	13:00	14:00	12:00	13:00		15:00	13:00					17:00
Volume	5	1532	295	8	144	7		5	6					1923

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	3272	⟷	13%	3211	⟷	13%	3817	⟷	15%	15160	⟷	60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd btwn Arroyo St & Vaughn St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_004e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	92	16	0	9	0	0	0	1	0	0	0	0	**118**
01:00	0	71	16	0	11	0	0	0	1	0	0	0	0	**99**
02:00	0	52	9	0	4	0	0	0	0	0	0	0	0	**65**
03:00	0	50	9	0	10	0	0	0	0	0	0	0	0	**69**
04:00	0	93	17	1	10	0	0	0	1	0	0	0	0	**122**
05:00	0	129	34	3	22	2	0	1	1	0	0	0	0	**192**
06:00	0	246	73	2	58	0	0	1	0	0	0	0	0	**380**
07:00	2	563	150	1	74	1	0	0	1	0	0	0	0	**792**
08:00	1	456	117	3	50	0	0	0	4	0	0	0	0	**631**
09:00	2	444	108	2	69	2	0	0	1	0	0	0	0	**628**
10:00	1	391	98	3	56	1	0	1	0	0	0	0	0	**551**
11:00	3	519	111	2	59	0	0	1	6	0	0	0	0	**701**
12:00 PM	2	552	127	1	68	0	0	0	1	0	0	0	0	**751**
13:00	0	512	125	2	62	2	0	1	2	0	0	0	0	**706**
14:00	1	559	123	3	54	0	0	0	4	0	0	0	0	**744**
15:00	3	626	132	3	64	0	0	0	1	0	0	0	0	**829**
16:00	3	634	136	2	60	1	0	0	0	0	0	0	0	**836**
17:00	1	657	147	2	56	0	0	1	2	0	0	0	0	**866**
18:00	1	554	121	1	52	0	0	0	0	0	0	0	0	**729**
19:00	1	450	95	0	32	0	0	0	1	0	0	0	0	**579**
20:00	0	386	71	0	33	0	0	0	0	0	0	0	0	**490**
21:00	0	347	47	0	23	0	0	0	1	0	0	0	0	**418**
22:00	0	312	56	0	25	0	0	0	1	0	0	0	0	**394**
23:00	0	157	33	0	13	0	0	0	2	0	0	0	0	**205**
Totals	**21**	**8852**	**1971**	**31**	**974**	**9**		**6**	**31**					**11895**
% of Totals	0%	74%	17%	0%	8%	0%		0%	0%					100%

AM Volumes	9	3106	758	17	432	6	0	4	16	0	0	0	0	4348
% AM	0%	26%	6%	0%	4%	0%		0%	0%					37%
AM Peak Hour	11:00	07:00	07:00	05:00	07:00	05:00		05:00	11:00					07:00
Volume	3	563	150	3	74	2		1	6					792
PM Volumes	12	5746	1213	14	542	3	0	2	15	0	0	0	0	7547
% PM	0%	48%	10%	0%	5%	0%		0%	0%					63%
PM Peak Hour	15:00	17:00	17:00	14:00	12:00	13:00		13:00	14:00					17:00
Volume	3	657	147	3	68	2		1	4					866

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	1423	⟷	12%	1457	⟷	12%	1702	⟷	14%	7313	⟷	61%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

CLASSIFICATION

Foothill Blvd btwn Arroyo St & Vaughn St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_004w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	46	8	0	7	0	0	0	1	0	0	0	0	**62**
01:00	0	27	9	0	8	0	0	0	0	0	0	0	0	**44**
02:00	0	40	8	0	9	0	0	0	1	0	0	0	0	**58**
03:00	0	75	9	0	8	0	0	0	0	0	0	0	0	**92**
04:00	0	96	19	0	9	0	0	0	1	0	0	0	0	**125**
05:00	0	268	55	0	22	1	0	1	2	0	0	0	0	**349**
06:00	1	353	80	1	42	1	0	0	1	0	0	0	0	**479**
07:00	3	600	123	2	56	0	0	0	2	0	0	0	0	**786**
08:00	0	587	126	2	56	0	0	2	2	0	0	0	0	**775**
09:00	3	490	92	3	45	0	0	1	4	0	0	0	0	**638**
10:00	4	418	104	2	50	1	0	2	3	0	0	0	0	**584**
11:00	1	460	108	1	52	1	0	3	4	0	0	0	0	**630**
12:00 PM	1	493	117	2	56	0	0	1	1	0	0	0	0	**671**
13:00	1	577	108	2	56	1	0	3	2	0	0	0	0	**750**
14:00	1	538	104	3	62	0	0	3	1	0	0	0	0	**712**
15:00	3	584	120	4	74	0	0	0	2	0	0	0	0	**787**
16:00	4	749	146	1	71	1	0	0	1	0	0	0	0	**973**
17:00	2	804	151	1	86	1	0	0	0	0	0	0	0	**1045**
18:00	0	673	123	2	106	0	0	2	2	0	0	0	0	**908**
19:00	1	481	88	1	70	0	0	1	1	0	0	0	0	**643**
20:00	0	296	63	0	53	0	0	0	0	0	0	0	0	**412**
21:00	0	205	39	0	19	0	0	0	2	0	0	0	0	**265**
22:00	0	175	25	0	17	0	0	0	1	0	0	0	0	**218**
23:00	0	88	15	0	10	0	0	0	0	0	0	0	0	**113**
Totals	**25**	**9123**	**1840**	**27**	**1044**	**7**		**19**	**34**					**12119**
% of Totals	0%	75%	15%	0%	9%	0%		0%	0%					100%

AM Volumes	12	3460	741	11	364	4	0	9	21	0	0	0	0	4622
% AM	0%	29%	6%	0%	3%	0%		0%	0%					38%
AM Peak Hour	10:00	07:00	08:00	09:00	07:00	05:00		11:00	09:00					07:00
Volume	4	600	126	3	56	1		3	4					786
PM Volumes	13	5663	1099	16	680	3	0	10	13	0	0	0	0	7497
% PM	0%	47%	9%	0%	6%	0%		0%	0%					62%
PM Peak Hour	16:00	17:00	17:00	15:00	18:00	13:00		13:00	13:00					17:00
Volume	4	804	151	4	106	1		3	2					1045

Directional Peak Periods All Classes	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
	Volume	%	Volume	%	Volume	%	Volume	%
	1561 ⟷	13%	1421 ⟷	12%	2018 ⟷	17%	7119 ⟷	59%

Classification Definitions

1	Motorcycles	**4**	Buses	**7**	> =4-Axle Single Units	**10**	>=6-Axle Single Trailers	**13**	>=7-Axle Multi-Trailers
2	Passenger Cars	**5**	2-Axle, 6-Tire Single Units	**8**	<=4-Axle Single Trailers	**11**	<=5-Axle Multi-Trailers		
3	2-Axle, 4-Tire Single Units	**6**	3-Axle Single Units	**9**	5-Axle Single Trailers	**12**	6-Axle Multi-Trailers		

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd btwn Arroyo St & Vaughn St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	138	24	0	16	0	0	0	2	0	0	0	0	**180**
01:00	0	98	25	0	19	0	0	0	1	0	0	0	0	**143**
02:00	0	92	17	0	13	0	0	0	1	0	0	0	0	**123**
03:00	0	125	18	0	18	0	0	0	0	0	0	0	0	**161**
04:00	0	189	36	1	19	0	0	0	2	0	0	0	0	**247**
05:00	0	397	89	3	44	3	0	2	3	0	0	0	0	**541**
06:00	1	599	153	3	100	1	0	1	1	0	0	0	0	**859**
07:00	5	1163	273	3	130	1	0	0	3	0	0	0	0	**1578**
08:00	1	1043	243	5	106	0	0	2	6	0	0	0	0	**1406**
09:00	5	934	200	5	114	2	0	1	5	0	0	0	0	**1266**
10:00	5	809	202	5	106	2	0	3	3	0	0	0	0	**1135**
11:00	4	979	219	3	111	1	0	4	10	0	0	0	0	**1331**
12:00 PM	3	1045	244	3	124	0	0	1	2	0	0	0	0	**1422**
13:00	1	1089	233	4	118	3	0	4	4	0	0	0	0	**1456**
14:00	2	1097	227	6	116	0	0	3	5	0	0	0	0	**1456**
15:00	6	1210	252	7	138	0	0	0	3	0	0	0	0	**1616**
16:00	7	1383	282	3	131	2	0	0	1	0	0	0	0	**1809**
17:00	3	1461	298	3	142	1	0	1	2	0	0	0	0	**1911**
18:00	1	1227	244	3	158	0	0	2	2	0	0	0	0	**1637**
19:00	2	931	183	1	102	0	0	1	2	0	0	0	0	**1222**
20:00	0	682	134	0	86	0	0	0	0	0	0	0	0	**902**
21:00	0	552	86	0	42	0	0	0	3	0	0	0	0	**683**
22:00	0	487	81	0	42	0	0	0	2	0	0	0	0	**612**
23:00	0	245	48	0	23	0	0	0	2	0	0	0	0	**318**
Totals	**46**	**17975**	**3811**	**58**	**2018**	**16**		**25**	**65**					**24014**
% of Totals	0%	75%	16%	0%	8%	0%		0%	0%					100%

AM Volumes	21	6566	1499	28	796	10	0	13	37	0	0	0	0	8970
% AM	0%	27%	6%	0%	3%	0%		0%	0%					37%
AM Peak Hour	07:00	07:00	07:00	08:00	07:00	05:00		11:00	11:00					07:00
Volume	5	1163	273	5	130	3		4	10					1578
PM Volumes	25	11409	2312	30	1222	6	0	12	28	0	0	0	0	15044
% PM	0%	48%	10%	0%	5%	0%		0%	0%					63%
PM Peak Hour	16:00	17:00	17:00	15:00	18:00	13:00		13:00	14:00					17:00
Volume	7	1461	298	7	158	3		4	5					1911

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2984	⟷	12%	2878	⟷	12%	3720	⟷	15%	14432	⟷	60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd w/o Fillmore St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_005e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	78	19	0	8	0	0	0	1	0	0	0	0	**106**
01:00	0	50	13	0	6	0	0	0	2	0	0	0	0	**71**
02:00	0	39	10	0	4	0	0	0	0	0	0	0	0	**53**
03:00	0	47	8	0	7	0	0	0	0	0	0	0	0	**62**
04:00	1	109	20	0	18	0	0	1	1	0	0	0	0	**150**
05:00	0	190	47	1	43	1	0	1	0	0	0	0	0	**283**
06:00	0	337	86	3	77	0	0	1	1	0	0	0	0	**505**
07:00	0	608	154	1	82	1	0	2	5	0	0	0	0	**853**
08:00	2	515	115	4	70	1	0	2	7	0	0	0	0	**716**
09:00	3	370	88	4	65	3	0	0	4	0	0	0	0	**537**
10:00	0	374	91	3	57	2	0	0	4	0	0	0	0	**531**
11:00	2	451	110	2	66	2	0	1	9	0	0	0	0	**643**
12:00 PM	2	510	115	2	68	1	0	3	5	0	0	0	0	**706**
13:00	1	477	126	3	78	1	0	2	4	0	0	0	0	**692**
14:00	1	507	129	2	74	2	0	2	7	0	0	0	0	**724**
15:00	5	543	129	2	65	0	0	1	4	0	0	0	0	**749**
16:00	2	621	158	4	81	1	0	0	3	0	0	0	0	**870**
17:00	0	661	163	1	66	1	0	1	7	0	0	0	0	**900**
18:00	1	539	120	2	65	1	0	1	6	0	0	0	0	**735**
19:00	0	425	103	1	52	0	0	0	4	0	0	0	0	**585**
20:00	0	314	70	1	33	0	0	0	4	0	0	0	0	**422**
21:00	0	305	64	0	31	0	0	1	3	0	0	0	0	**404**
22:00	0	269	61	0	20	0	0	0	1	0	0	0	0	**351**
23:00	0	133	27	0	14	0	0	0	0	0	0	0	0	**174**
Totals	**20**	**8472**	**2026**	**36**	**1150**	**17**		**19**	**82**					**11822**
% of Totals	0%	72%	17%	0%	10%	0%		0%	1%					100%

AM Volumes	8	3168	761	18	503	10	0	8	34	0	0	0	0	4510
% AM	0%	27%	6%	0%	4%	0%		0%	0%					38%
AM Peak Hour	09:00	07:00	07:00	08:00	07:00	09:00		07:00	11:00					07:00
Volume	3	608	154	4	82	3		2	9					853
PM Volumes	12	5304	1265	18	647	7	0	11	48	0	0	0	0	7312
% PM	0%	45%	11%	0%	5%	0%		0%	0%					62%
PM Peak Hour	15:00	17:00	17:00	16:00	16:00	14:00		12:00	14:00					17:00
Volume	5	661	163	4	81	2		3	7					900

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	1569 ⟷	13%	1398 ⟷	12%	1770 ⟷	15%	7085 ⟷	60%

Classification Definitions

1	Motorcycles	**4**	Buses	**7**	> =4-Axle Single Units	**10**	>=6-Axle Single Trailers	**13**	>=7-Axle Multi-Trailers
2	Passenger Cars	**5**	2-Axle, 6-Tire Single Units	**8**	<=4-Axle Single Trailers	**11**	<=5-Axle Multi-Trailers		
3	2-Axle, 4-Tire Single Units	**6**	3-Axle Single Units	**9**	5-Axle Single Trailers	**12**	6-Axle Multi-Trailers		

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd w/o Fillmore St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_005w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	39	7	0	2	0	0	0	0	0	0	0	0	**48**
01:00	0	25	5	0	3	0	0	0	0	0	0	0	0	**33**
02:00	0	25	3	0	1	0	0	0	0	0	0	0	0	**29**
03:00	0	41	8	0	2	0	0	0	0	0	0	0	0	**51**
04:00	0	91	13	0	8	0	0	0	0	0	0	0	0	**112**
05:00	1	261	55	1	28	0	0	1	4	0	0	0	0	**351**
06:00	0	382	71	2	40	0	0	0	3	0	0	0	0	**498**
07:00	1	720	139	2	63	1	0	1	2	0	0	0	0	**929**
08:00	1	500	96	1	56	1	0	1	5	0	0	0	0	**661**
09:00	0	413	70	3	40	0	0	0	7	0	0	0	0	**533**
10:00	1	396	84	3	48	0	0	1	6	0	0	0	0	**539**
11:00	3	414	84	5	47	1	0	1	3	0	0	0	0	**558**
12:00 PM	2	506	92	2	43	0	0	0	2	0	0	0	0	**647**
13:00	2	532	112	3	55	0	0	0	4	0	0	0	0	**708**
14:00	1	529	104	2	61	0	0	1	2	0	0	0	0	**700**
15:00	1	677	125	4	81	3	0	2	3	0	0	0	0	**896**
16:00	1	822	144	2	84	1	0	1	2	0	0	0	0	**1057**
17:00	2	874	143	2	58	1	0	0	3	0	0	0	0	**1083**
18:00	1	702	123	1	64	2	0	0	4	0	0	0	0	**897**
19:00	2	499	77	1	40	1	0	0	2	0	0	0	0	**622**
20:00	1	303	48	2	22	0	0	0	0	0	0	0	0	**376**
21:00	2	269	42	0	15	1	0	1	1	0	0	0	0	**331**
22:00	0	157	25	0	10	0	0	0	0	0	0	0	0	**192**
23:00	0	91	12	0	3	0	0	0	0	0	0	0	0	**106**
Totals	**22**	**9268**	**1682**	**36**	**874**	**12**		**10**	**53**					**11957**
% of Totals	0%	78%	14%	0%	7%	0%		0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	7	3307	635	17	338	3	0	5	30	0	0	0	0	4342
% AM	0%	28%	5%	0%	3%	0%		0%	0%					36%
AM Peak Hour	11:00	07:00	07:00	11:00	07:00	07:00		05:00	09:00					07:00
Volume	3	720	139	5	63	1		1	7					929
PM Volumes	15	5961	1047	19	536	9	0	5	23	0	0	0	0	7615
% PM	0%	50%	9%	0%	4%	0%		0%	0%					64%
PM Peak Hour	12:00	17:00	16:00	15:00	16:00	15:00		15:00	13:00					17:00
Volume	2	874	144	4	84	3		2	4					1083

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	1590	⟷	13%	1355	⟷	11%	2140	⟷	18%	6872	⟷	57%

Classification Definitions

1	Motorcycles	**4**	Buses	**7**	> =4-Axle Single Units	**10**	>=6-Axle Single Trailers	**13**	>=7-Axle Multi-Trailers
2	Passenger Cars	**5**	2-Axle, 6-Tire Single Units	**8**	<=4-Axle Single Trailers	**11**	<=5-Axle Multi-Trailers		
3	2-Axle, 4-Tire Single Units	**6**	3-Axle Single Units	**9**	5-Axle Single Trailers	**12**	6-Axle Multi-Trailers		

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd w/o Fillmore St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	117	26	0	10	0	0	0	1	0	0	0	0	**154**
01:00	0	75	18	0	9	0	0	0	2	0	0	0	0	**104**
02:00	0	64	13	0	5	0	0	0	0	0	0	0	0	**82**
03:00	0	88	16	0	9	0	0	0	0	0	0	0	0	**113**
04:00	1	200	33	0	26	0	0	1	1	0	0	0	0	**262**
05:00	1	451	102	2	71	1	0	2	4	0	0	0	0	**634**
06:00	0	719	157	5	117	0	0	1	4	0	0	0	0	**1003**
07:00	1	1328	293	3	145	2	0	3	7	0	0	0	0	**1782**
08:00	3	1015	211	5	126	2	0	3	12	0	0	0	0	**1377**
09:00	3	783	158	7	105	3	0	0	11	0	0	0	0	**1070**
10:00	1	770	175	6	105	2	0	1	10	0	0	0	0	**1070**
11:00	5	865	194	7	113	3	0	2	12	0	0	0	0	**1201**
12:00 PM	4	1016	207	4	111	1	0	3	7	0	0	0	0	**1353**
13:00	3	1009	238	6	133	1	0	2	8	0	0	0	0	**1400**
14:00	2	1036	233	4	135	2	0	3	9	0	0	0	0	**1424**
15:00	6	1220	254	6	146	3	0	3	7	0	0	0	0	**1645**
16:00	3	1443	302	6	165	2	0	1	5	0	0	0	0	**1927**
17:00	2	1535	306	3	124	2	0	1	10	0	0	0	0	**1983**
18:00	2	1241	243	3	129	3	0	1	10	0	0	0	0	**1632**
19:00	2	924	180	2	92	1	0	0	6	0	0	0	0	**1207**
20:00	1	617	118	3	55	0	0	0	4	0	0	0	0	**798**
21:00	2	574	106	0	46	1	0	2	4	0	0	0	0	**735**
22:00	0	426	86	0	30	0	0	0	1	0	0	0	0	**543**
23:00	0	224	39	0	17	0	0	0	0	0	0	0	0	**280**
Totals	**42**	**17740**	**3708**	**72**	**2024**	**29**		**29**	**135**					**23779**
% of Totals	0%	75%	16%	0%	9%	0%		0%	1%					100%

AM Volumes	15	6475	1396	35	841	13	0	13	64	0	0	0	0	8852
% AM	0%	27%	6%	0%	4%	0%		0%	0%					37%
AM Peak Hour	11:00	07:00	07:00	09:00	07:00	09:00		07:00	08:00					07:00
Volume	5	1328	293	7	145	3		3	12					1782
PM Volumes	27	11265	2312	37	1183	16	0	16	71	0	0	0	0	14927
% PM	0%	47%	10%	0%	5%	0%		0%	0%					63%
PM Peak Hour	15:00	17:00	17:00	13:00	16:00	15:00		12:00	17:00					17:00
Volume	6	1535	306	6	165	3		3	10					1983

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	3159	⟷	13%	2753	⟷	12%	3910	⟷	16%	13957	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

CLASSIFICATION

Foothill Blvd w/o Van Nuys Blvd

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_006e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	73	12	1	6	0	0	0	1	0	0	0	0	**93**
01:00	0	40	4	0	3	0	0	0	0	0	0	0	0	**47**
02:00	0	47	6	0	4	0	0	0	0	0	0	0	0	**57**
03:00	1	55	12	0	6	0	0	0	0	0	0	0	0	**74**
04:00	0	107	20	0	13	0	0	0	1	0	0	0	0	**141**
05:00	0	190	36	2	37	1	0	2	1	0	0	0	0	**269**
06:00	1	339	66	7	70	5	0	2	0	0	0	0	0	**490**
07:00	0	574	118	3	82	3	0	0	7	1	0	0	0	**788**
08:00	0	473	109	2	67	2	0	1	8	0	0	0	0	**662**
09:00	0	415	97	5	70	3	0	3	5	0	0	0	0	**598**
10:00	1	435	83	5	51	3	0	1	4	0	0	0	0	**583**
11:00	0	442	101	1	53	2	0	1	5	0	0	0	0	**605**
12:00 PM	2	474	100	1	59	2	0	2	3	0	0	0	0	**643**
13:00	1	498	112	2	66	4	0	2	4	0	0	0	0	**689**
14:00	0	506	112	2	62	1	0	1	6	1	0	0	0	**691**
15:00	1	620	118	4	79	6	0	1	4	0	0	0	0	**833**
16:00	1	625	140	3	83	3	0	1	2	0	0	0	0	**858**
17:00	2	684	135	3	72	2	0	2	6	0	0	0	0	**906**
18:00	0	570	111	4	56	2	0	0	5	0	0	0	0	**748**
19:00	0	397	69	5	42	0	0	0	4	0	0	0	0	**517**
20:00	1	320	59	1	25	0	0	0	3	0	0	0	0	**409**
21:00	0	235	48	3	23	2	0	0	2	0	0	0	0	**313**
22:00	0	207	31	2	15	1	0	0	1	0	0	0	0	**257**
23:00	0	144	23	1	13	0	0	0	0	0	0	0	0	**181**
Totals	**11**	**8470**	**1722**	**57**	**1057**	**42**		**19**	**72**	**2**				**11452**
% of Totals	0%	74%	15%	0%	9%	0%		0%	1%	0%				100%

AM Volumes	3	3190	664	26	462	19	0	10	32	1	0	0	0	4407
% AM	0%	28%	6%	0%	4%	0%		0%	0%	0%				38%
AM Peak Hour	06:00	07:00	07:00	06:00	07:00	06:00		09:00	08:00	07:00				07:00
Volume	1	574	118	7	82	5		3	8	1				788
PM Volumes	8	5280	1058	31	595	23	0	9	40	1	0	0	0	7045
% PM	0%	46%	9%	0%	5%	0%		0%	0%	0%				62%
PM Peak Hour	12:00	17:00	16:00	19:00	16:00	15:00		12:00	14:00	14:00				17:00
Volume	2	684	140	5	83	6		2	6	1				906

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	1450	↔	13%	1332	↔	12%	1764	↔	15%	6906	↔	60%

Classification Definitions

1	Motorcycles
2	Passenger Cars
3	2-Axle, 4-Tire Single Units
4	Buses
5	2-Axle, 6-Tire Single Units
6	3-Axle Single Units
7	> =4-Axle Single Units
8	<=4-Axle Single Trailers
9	5-Axle Single Trailers
10	>=6-Axle Single Trailers
11	<=5-Axle Multi-Trailers
12	6-Axle Multi-Trailers
13	>=7-Axle Multi-Trailers

CLASSIFICATION

Foothill Blvd w/o Van Nuys Blvd

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_006w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	34	8	0	3	0	0	0	0	0	0	0	0	**45**
01:00	0	24	7	0	2	0	0	0	0	0	0	0	0	**33**
02:00	0	21	4	0	2	0	0	0	0	0	0	0	0	**27**
03:00	0	33	7	0	5	0	0	0	0	0	0	0	0	**45**
04:00	0	81	16	0	9	0	0	0	0	0	0	0	0	**106**
05:00	0	234	63	2	35	2	0	2	2	0	0	0	0	**340**
06:00	0	354	77	2	44	3	0	0	0	0	0	0	0	**480**
07:00	1	667	150	3	72	1	0	0	1	0	0	0	0	**895**
08:00	2	479	111	4	65	1	0	2	3	0	0	0	0	**667**
09:00	0	378	86	3	48	1	0	2	3	0	0	0	0	**521**
10:00	1	373	93	3	56	4	0	2	1	0	2	0	0	**535**
11:00	1	380	92	7	54	3	0	0	0	0	0	0	0	**537**
12:00 PM	2	449	107	1	55	1	0	1	1	0	0	0	0	**617**
13:00	0	504	126	3	71	3	0	2	1	0	0	0	0	**710**
14:00	1	499	123	3	62	7	0	1	2	0	1	0	0	**699**
15:00	0	638	141	4	93	8	0	2	4	0	0	0	0	**890**
16:00	1	779	159	1	90	3	0	0	3	0	0	0	0	**1036**
17:00	2	801	157	2	78	2	0	1	2	0	1	0	0	**1046**
18:00	1	642	144	2	75	1	0	2	2	0	0	0	0	**869**
19:00	0	445	96	3	46	0	0	1	0	0	0	0	0	**591**
20:00	0	268	54	6	33	0	0	0	0	0	0	0	0	**361**
21:00	0	234	47	0	21	1	0	0	0	0	0	0	0	**303**
22:00	0	138	38	0	14	0	0	0	0	0	0	0	0	**190**
23:00	0	87	20	0	7	0	0	0	0	0	0	0	0	**114**
Totals	**12**	**8542**	**1926**	**49**	**1040**	**41**		**18**	**25**		**4**			**11657**
% of Totals	0%	73%	17%	0%	9%	0%		0%	0%		0%			100%

AM Volumes	5	3058	714	24	395	15	0	8	10	0	2	0	0	4231
% AM	0%	26%	6%	0%	3%	0%		0%	0%		0%			36%
AM Peak Hour	08:00	07:00	07:00	11:00	07:00	10:00		05:00	08:00		10:00			07:00
Volume	2	667	150	7	72	4		2	3		2			895
PM Volumes	7	5484	1212	25	645	26	0	10	15	0	2	0	0	7426
% PM	0%	47%	10%	0%	6%	0%		0%	0%		0%			64%
PM Peak Hour	12:00	17:00	16:00	20:00	15:00	15:00		13:00	15:00		14:00			17:00
Volume	2	801	159	6	93	8		2	4		1			1046

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	1562	⟷	13%	1327	⟷	11%	2082	⟷	18%	6686	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
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5 2-Axle, 6-Tire Single Units
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8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd w/o Van Nuys Blvd

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_006

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	107	20	1	9	0	0	0	1	0	0	0	0	**138**
01:00	0	64	11	0	5	0	0	0	0	0	0	0	0	**80**
02:00	0	68	10	0	6	0	0	0	0	0	0	0	0	**84**
03:00	1	88	19	0	11	0	0	0	0	0	0	0	0	**119**
04:00	0	188	36	0	22	0	0	0	1	0	0	0	0	**247**
05:00	0	424	99	4	72	3	0	4	3	0	0	0	0	**609**
06:00	1	693	143	9	114	8	0	2	0	0	0	0	0	**970**
07:00	1	1241	268	6	154	4	0	0	8	1	0	0	0	**1683**
08:00	2	952	220	6	132	3	0	3	11	0	0	0	0	**1329**
09:00	0	793	183	8	118	4	0	5	8	0	0	0	0	**1119**
10:00	2	808	176	8	107	7	0	3	5	0	2	0	0	**1118**
11:00	1	822	193	8	107	5	0	1	5	0	0	0	0	**1142**
12:00 PM	4	923	207	2	114	3	0	3	4	0	0	0	0	**1260**
13:00	1	1002	238	5	137	7	0	4	5	0	0	0	0	**1399**
14:00	1	1005	235	5	124	8	0	2	8	1	1	0	0	**1390**
15:00	1	1258	259	8	172	14	0	3	8	0	0	0	0	**1723**
16:00	2	1404	299	4	173	6	0	1	5	0	0	0	0	**1894**
17:00	4	1485	292	5	150	4	0	3	8	0	1	0	0	**1952**
18:00	1	1212	255	6	131	3	0	2	7	0	0	0	0	**1617**
19:00	0	842	165	8	88	0	0	1	4	0	0	0	0	**1108**
20:00	1	588	113	7	58	0	0	0	3	0	0	0	0	**770**
21:00	0	469	95	3	44	3	0	0	2	0	0	0	0	**616**
22:00	0	345	69	2	29	1	0	0	1	0	0	0	0	**447**
23:00	0	231	43	1	20	0	0	0	0	0	0	0	0	**295**
Totals	**23**	**17012**	**3648**	**106**	**2097**	**83**		**37**	**97**	**2**	**4**			**23109**
% of Totals	0%	74%	16%	0%	9%	0%		0%	0%	0%	0%			100%
AM Volumes	8	6248	1378	50	857	34	0	18	42	1	2	0	0	8638
% AM	0%	27%	6%	0%	4%	0%		0%	0%	0%	0%			37%
AM Peak Hour	08:00	07:00	07:00	06:00	07:00	06:00		09:00	08:00	07:00	10:00			07:00
Volume	2	1241	268	9	154	8		5	11	1	2			1683
PM Volumes	15	10764	2270	56	1240	49	0	19	55	1	2	0	0	14471
% PM	0%	47%	10%	0%	5%	0%		0%	0%	0%	0%			63%
PM Peak Hour	12:00	17:00	16:00	15:00	16:00	15:00		13:00	14:00	14:00	14:00			17:00
Volume	4	1485	299	8	173	14		4	8	1	1			1952

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	3012	⟷	13%	2659	⟷	12%	3846	⟷	17%	13592	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

CLASSIFICATION

Foothill Blvd w/o Terra Bella St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_007e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	46	8	0	5	0	0	0	0	0	0	0	0	**59**
01:00	0	38	5	0	5	0	0	0	2	0	0	0	0	**50**
02:00	0	25	3	0	1	0	0	0	0	0	0	0	0	**29**
03:00	1	27	7	0	3	0	0	0	0	0	0	0	0	**38**
04:00	0	81	13	0	11	0	0	1	1	0	0	0	0	**107**
05:00	0	202	41	1	32	5	0	0	2	0	0	0	0	**283**
06:00	1	340	66	4	50	1	0	0	1	0	0	0	0	**463**
07:00	1	595	107	2	80	1	0	0	3	0	0	0	0	**789**
08:00	0	442	80	4	44	2	0	3	2	0	0	0	0	**577**
09:00	0	291	62	5	42	1	0	1	3	0	0	0	0	**405**
10:00	0	280	64	3	32	4	0	2	1	0	0	0	0	**386**
11:00	3	347	65	4	41	4	0	3	2	0	0	0	0	**469**
12:00 PM	3	360	65	1	42	0	0	1	2	0	0	0	0	**474**
13:00	2	372	71	4	48	2	0	0	3	0	0	0	0	**502**
14:00	0	412	80	2	41	5	0	1	4	0	0	0	0	**545**
15:00	3	437	64	2	37	3	0	0	1	0	0	0	0	**547**
16:00	1	470	70	3	48	1	0	0	1	0	0	0	0	**594**
17:00	1	504	84	1	37	1	0	1	3	0	0	0	0	**632**
18:00	3	360	70	1	32	1	0	0	1	0	0	0	0	**468**
19:00	1	318	50	1	31	0	0	2	1	0	0	0	0	**404**
20:00	0	245	32	2	16	1	0	0	2	0	0	0	0	**298**
21:00	0	208	30	0	13	0	0	0	1	0	0	0	0	**252**
22:00	0	164	17	0	9	0	0	0	1	0	0	0	0	**191**
23:00	0	84	12	0	4	0	0	0	1	0	0	0	0	**101**
Totals	**20**	**6648**	**1166**	**40**	**704**	**32**		**15**	**38**					**8663**
% of Totals	0%	77%	13%	0%	8%	0%		0%	0%					100%

AM Volumes	6	2714	521	23	346	18	0	10	17	0	0	0	0	3655
% AM	0%	31%	6%	0%	4%	0%		0%	0%					42%
AM Peak Hour	11:00	07:00	07:00	09:00	07:00	05:00		08:00	07:00					07:00
Volume	3	595	107	5	80	5		3	3					789
PM Volumes	14	3934	645	17	358	14	0	5	21	0	0	0	0	5008
% PM	0%	45%	7%	0%	4%	0%		0%	0%					58%
PM Peak Hour	12:00	17:00	17:00	13:00	13:00	14:00		19:00	14:00					17:00
Volume	3	504	84	4	48	5		2	4					632

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	1366	↔	16%	976	↔	11%	1226	↔	14%	5095	↔	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
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4 Buses
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7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
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12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd w/o Terra Bella St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_007w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	34	8	0	2	0	0	0	0	0	0	0	0	**44**
01:00	0	28	3	0	5	0	0	0	0	0	0	0	0	**36**
02:00	0	19	2	0	2	0	0	1	0	0	0	0	0	**24**
03:00	0	25	5	0	3	0	0	0	1	0	0	0	0	**34**
04:00	0	50	7	0	7	0	0	0	1	0	0	0	0	**65**
05:00	0	141	23	1	17	2	0	3	4	0	0	0	0	**191**
06:00	1	210	42	1	29	2	0	0	5	0	0	0	0	**290**
07:00	2	449	92	2	43	1	0	1	3	0	0	0	0	**593**
08:00	1	376	73	3	39	1	0	0	1	0	0	0	0	**494**
09:00	3	308	47	4	35	0	0	3	2	0	0	0	0	**402**
10:00	2	291	64	3	41	2	0	0	3	0	0	0	0	**406**
11:00	3	283	49	2	33	2	0	0	0	0	0	0	0	**372**
12:00 PM	2	330	58	1	37	2	0	0	1	0	0	0	0	**431**
13:00	1	369	64	2	38	4	0	2	2	0	0	0	0	**482**
14:00	1	453	83	2	42	3	0	3	4	0	0	0	0	**591**
15:00	1	553	89	1	56	3	0	3	4	0	0	0	0	**710**
16:00	0	639	118	0	67	1	0	2	0	0	0	0	0	**827**
17:00	2	701	111	3	62	0	0	1	3	0	0	0	0	**883**
18:00	2	521	79	2	55	1	0	2	2	0	0	0	0	**664**
19:00	1	370	55	2	33	0	0	0	1	0	0	0	0	**462**
20:00	0	227	35	1	18	0	0	0	2	0	0	0	0	**283**
21:00	0	189	24	0	13	0	0	0	2	0	0	0	0	**228**
22:00	0	127	14	0	10	0	0	0	1	0	0	0	0	**152**
23:00	0	55	6	0	4	0	0	0	0	0	0	0	0	**65**
Totals	**22**	**6748**	**1151**	**30**	**691**	**24**		**21**	**42**					**8729**
% of Totals	0%	77%	13%	0%	8%	0%		0%	0%					100%

AM Volumes	12	2214	415	16	256	10	0	8	20	0	0	0	0	2951
% AM	0%	25%	5%	0%	3%	0%		0%	0%					34%
AM Peak Hour	09:00	07:00	07:00	09:00	07:00	05:00		05:00	06:00					07:00
Volume	3	449	92	4	43	2		3	5					593
PM Volumes	10	4534	736	14	435	14	0	13	22	0	0	0	0	5778
% PM	0%	52%	8%	0%	5%	0%		0%	0%					66%
PM Peak Hour	12:00	17:00	16:00	17:00	16:00	13:00		14:00	14:00					17:00
Volume	2	701	118	3	67	4		3	4					883

Directional Peak Periods All Classes	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	1087	⟷	12%	913	⟷	10%	1710	⟷	20%	5019	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Foothill Blvd w/o Terra Bella St

Day: Tuesday
Date: 12/11/2012

City: Sylmar
Project #: CA12_5502_007

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	80	16	0	7	0	0	0	0	0	0	0	0	**103**
01:00	0	66	8	0	10	0	0	0	2	0	0	0	0	**86**
02:00	0	44	5	0	3	0	0	1	0	0	0	0	0	**53**
03:00	1	52	12	0	6	0	0	0	1	0	0	0	0	**72**
04:00	0	131	20	0	18	0	0	1	2	0	0	0	0	**172**
05:00	0	343	64	2	49	7	0	3	6	0	0	0	0	**474**
06:00	2	550	108	5	79	3	0	0	6	0	0	0	0	**753**
07:00	3	1044	199	4	123	2	0	1	6	0	0	0	0	**1382**
08:00	1	818	153	7	83	3	0	3	3	0	0	0	0	**1071**
09:00	3	599	109	9	77	1	0	4	5	0	0	0	0	**807**
10:00	2	571	128	6	73	6	0	2	4	0	0	0	0	**792**
11:00	6	630	114	6	74	6	0	3	2	0	0	0	0	**841**
12:00 PM	5	690	123	2	79	2	0	1	3	0	0	0	0	**905**
13:00	3	741	135	6	86	6	0	2	5	0	0	0	0	**984**
14:00	1	865	163	4	83	8	0	4	8	0	0	0	0	**1136**
15:00	4	990	153	3	93	6	0	3	5	0	0	0	0	**1257**
16:00	1	1109	188	3	115	2	0	2	1	0	0	0	0	**1421**
17:00	3	1205	195	4	99	1	0	2	6	0	0	0	0	**1515**
18:00	5	881	149	3	87	2	0	2	3	0	0	0	0	**1132**
19:00	2	688	105	3	64	0	0	2	2	0	0	0	0	**866**
20:00	0	472	67	3	34	1	0	0	4	0	0	0	0	**581**
21:00	0	397	54	0	26	0	0	0	3	0	0	0	0	**480**
22:00	0	291	31	0	19	0	0	0	2	0	0	0	0	**343**
23:00	0	139	18	0	8	0	0	0	1	0	0	0	0	**166**
Totals	**42**	**13396**	**2317**	**70**	**1395**	**56**		**36**	**80**					**17392**
% of Totals	0%	77%	13%	0%	8%	0%		0%	0%					100%

AM Volumes	18	4928	936	39	602	28	0	18	37	0	0	0	0	6606
% AM	0%	28%	5%	0%	3%	0%		0%	0%					38%
AM Peak Hour	11:00	07:00	07:00	09:00	07:00	05:00		09:00	05:00					07:00
Volume	6	1044	199	9	123	7		4	6					1382
PM Volumes	24	8468	1381	31	793	28	0	18	43	0	0	0	0	10786
% PM	0%	49%	8%	0%	5%	0%		0%	0%					62%
PM Peak Hour	12:00	17:00	17:00	13:00	16:00	14:00		14:00	14:00					17:00
Volume	5	1205	195	6	115	8		4	8					1515

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2453	⟷	14%	1889	⟷	11%	2936	⟷	17%	10114	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

APPENDIX B
LOS Operations Worksheets – Existing Conditions

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Hubbard Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.717
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        81                Level Of Service:                  C
********************************************************************************
Street Name:                                          Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Prot+Permit       Protected       Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     100  674    76   203  560   203   183  670   172    73  327   154
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  100  674    76   203  560   203   183  670   172    73  327   154
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   100  674    76   203  560   203   183  670   172    73  327   154
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  100  674    76   203  560   203   183  670   172    73  327   154
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  100  674    76   203  560   203   183  670   172    73  327   154
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.80  0.20  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 2471   279  1375 2750  1375  1375 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.27  0.27  0.15 0.20  0.15  0.13 0.24  0.13  0.05 0.12  0.11
Crit Volume:        375         203                       335          73
Crit Moves:        ****        ****                      ****        ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #2 Gridley Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.491
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        28                Level Of Service:                  A
********************************************************************************
Street Name:          Gridley Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  1  1  0    0  1  1  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      66    0   108     0    0     0     0  896    97    66  426     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   66    0   108     0    0     0     0  896    97    66  426     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    66    0   108     0    0     0     0  896    97    66  426     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   66    0   108     0    0     0     0  896    97    66  426     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  4.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   66    0   108     0    0     0     0  896    97   264  426     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.38 0.00  0.62  0.00 0.00  0.00  0.00 1.80  0.20  1.00 1.00  0.00
Final Sat.:   569    0   931     0    0     0     0 2707   293  1500 1500     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.00  0.12  0.00 0.00  0.00  0.00 0.33  0.33  0.04 0.28  0.00
Crit Volume:              174     0                      497          66
Crit Moves:              ****                           ****        ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
          Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Home Depot-Sam's Club Entrance & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.561
Loss Time (sec):       0              Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        33              Level Of Service:                  A
********************************************************************************
Street Name:  Home Depot-Sam's Club Entrance         Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  0  0  1   0  0  1! 0  0   1  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     160    0   96    1    0    3    7 1244  225   56  603    3
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  160    0   96    1    0    3    7 1244  225   56  603    3
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   160    0   96    1    0    3    7 1244  225   56  603    3
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  160    0   96    1    0    3    7 1244  225   56  603    3
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  160    0   96    1    0    3    7 1244  225   56  603    3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500 1500 1500 1500 1500 1500 1500 1500 1500 1500 1500
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       1.00 0.00 1.00 0.25 0.00 0.75 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1500    0 1500  375    0 1125 1500 3000 1500 1500 3000 1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.00 0.06 0.00 0.00 0.00 0.00 0.41 0.15 0.04 0.20 0.00
Crit Volume:  160                        4       622        56
Crit Moves:  ****                     ****      ****      ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #4 Home Depot-Sam's Driveway & Foothill Boulevard
********************************************************************************
Average Delay (sec/veh):      0.9       Worst Case Level Of Service: C[ 19.4]
********************************************************************************
Street Name:    Home Depot-Sam's Driveway             Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        1  0  0  0  1    0  0  0  0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18    0    36     0    0     0     0 1313    29    65  628     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   18    0    36     0    0     0     0 1313    29    65  628     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    18    0    36     0    0     0     0 1313    29    65  628     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   18    0    36     0    0     0     0 1313    29    65  628     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1757 xxxx   657  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1342 xxxx xxxxx
Potent Cap.:   78 xxxx   413  xxxx xxxx xxxxx  xxxx xxxx xxxxx   520 xxxx xxxxx
Move Cap.:     70 xxxx   413  xxxx xxxx xxxxx  xxxx xxxx xxxxx   520 xxxx xxxxx
Total Cap:    168  149 xxxxx   185  118 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.11 xxxx  0.09  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.12 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.4 xxxx   0.3  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.4 xxxx xxxxx
Control Del: 29.0 xxxx  14.6 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.9 xxxx xxxxx
LOS by Move:    D    *     B     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      19.4           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         C                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #5 Arroyo Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.689
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        46                Level Of Service:                  B
********************************************************************************
Street Name:          Arroyo Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:      0    0     0     0    0     0     0    0     0     0    0     0
Y+R:           4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  1  1  0    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156   27    70    48   11    65   204  770   471   112  565   202
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  156   27    70    48   11    65   204  770   471   112  565   202
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   156   27    70    48   11    65   204  770   471   112  565   202
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  156   27    70    48   11    65   204  770   471   112  565   202
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  156   27    70    48   11    65   204  770   471   112  565   202
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.61 0.11  0.28  0.81 0.19  1.00  1.00 1.24  0.76  1.00 2.00  1.00
Final Sat.:   925  160   415  1220  280  1500  1500 1861  1139  1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.17  0.17  0.04 0.04  0.04  0.14 0.41  0.41  0.07 0.19  0.13
Crit Volume:       253          48                         621   112
Crit Moves:       ****        ****                        ****  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #6 Vaughn Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.429
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        25                Level Of Service:                  A
********************************************************************************
Street Name:          Vaughn Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L - T - R        L - T - R        L - T - R        L - T - R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      57    1    93     3    1     7     5  757   104   111  848     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   57    1    93     3    1     7     5  757   104   111  848     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    57    1    93     3    1     7     5  757   104   111  848     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   57    1    93     3    1     7     5  757   104   111  848     9
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   57    1    93     3    1     7     5  757   104   111  848     9
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.38 0.01  0.61  0.27 0.09  0.64  1.00 2.00  1.00  1.00 1.98  0.02
Final Sat.:   566   10   924   409  136   955  1500 3000  1500  1500 2968    32
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.10  0.01 0.01  0.01  0.00 0.25  0.07  0.07 0.29  0.29
Crit Volume:       151           3                   379         111
Crit Moves:       ****        ****                  ****        ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #7 Paxton Street & Foothill Boulevard
********************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):         0.606
Loss Time (sec):        0               Average Delay (sec/veh):      xxxxxx
Optimal Cycle:         47               Level Of Service:                  B
********************************************************************************
Street Name:          Paxton Street                    Foothill Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Protected        Protected         Permitted        Permitted
Rights:           Include          Include          Include            Ovl
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  1  1  0   1  0  2  0  1   1  0  2  0  1   1  0  2  0  1
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:     171  170   144  242  165   199  144  608   127  161  570   280
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  171  170   144  242  165   199  144  608   127  161  570   280
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   171  170   144  242  165   199  144  608   127  161  570   280
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  171  170   144  242  165   199  144  608   127  161  570   280
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  171  170   144  242  165   199  144  608   127  161  570   280
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425 1425 1425  1425 1425 1425  1425 1425 1425  1425
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 1.08  0.92 1.00 2.00  1.00 1.00 2.00  1.00 1.00 2.00  1.00
Final Sat.:  1425 1543  1307 1425 2850  1425 1425 2850  1425 1425 2850  1425
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.11  0.11 0.17 0.06  0.14 0.10 0.21  0.09 0.11 0.20  0.20
Crit Volume:       157        242                    304        161
Crit Moves:       ****       ****                   ****       ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
             Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #8 Filmore Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.439
Loss Time (sec):       0              Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        26              Level Of Service:                  A
********************************************************************************
Street Name:           Filmore Street                 Foothill Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        0  0  1! 0  0   0  0  1! 0  0   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      96    2    58    0    0     0    6  899    72   53  928     3
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   96    2    58    0    0     0    6  899    72   53  928     3
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    96    2    58    0    0     0    6  899    72   53  928     3
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   96    2    58    0    0     0    6  899    72   53  928     3
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   96    2    58    0    0     0    6  899    72   53  928     3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500 1500 1500  1500 1500 1500  1500 1500 1500  1500
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.62 0.01  0.37 0.00 1.00  0.00 1.00 2.00  1.00 1.00 1.99  0.01
Final Sat.:   923   19   558    0 1500     0 1500 3000  1500 1500 2990    10
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10  0.10 0.00 0.00  0.00 0.00 0.30  0.05 0.04 0.31  0.31
Crit Volume:             156    0                    450         53
Crit Moves:             ****                    ****        ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #9 Van Nuys Boulevard & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.596
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        46                Level Of Service:                  A
********************************************************************************
Street Name:        Van Nuys Boulevard                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected         Permitted      Prot+Permit       Protected
Rights:           Include           Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     192  148   132    78  237   248   148  552   214   126  522    38
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  192  148   132    78  237   248   148  552   214   126  522    38
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   192  148   132    78  237   248   148  552   214   126  522    38
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  192  148   132    78  237   248   148  552   214   126  522    38
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  192  148   132    78  237   248   148  552   214   126  522    38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425  1425 1425  1425  1425 1425  1425  1425 1425  1425
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1425 2850  1425  1425 2850  1425  1425 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.05  0.09  0.05 0.08  0.17  0.10 0.19  0.15  0.09 0.18  0.03
Crit Volume:  192                         248   148                   261
Crit Moves:  ****                        ****  ****                  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #10 Terrra Bella Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.735
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        54                Level Of Service:                  C
********************************************************************************
Street Name:       Terrra Bella Street                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53  107    61   275  148   242   169  605    67    48  380   180
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   53  107    61   275  148   242   169  605    67    48  380   180
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    53  107    61   275  148   242   169  605    67    48  380   180
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   53  107    61   275  148   242   169  605    67    48  380   180
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   53  107    61   275  148   242   169  605    67    48  380   180
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.24 0.48  0.28  0.42 0.22  0.36  1.00 1.80  0.20  1.00 2.00  1.00
Final Sat.:   360  726   414   620  334   546  1500 2701   299  1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.15 0.15  0.15  0.44 0.44  0.44  0.11 0.22  0.22  0.03 0.13  0.12
Crit Volume:   53                         665              336    48
Crit Moves:  ****                        ****             ****  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Hubbard Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.731
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        85                Level Of Service:                  C
********************************************************************************
Street Name:                                          Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Prot+Permit       Protected       Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  1  1  0   1  0  2  0  1   1  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     143  593    85  113  582   331  267  493   207  100  527   163
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  143  593    85  113  582   331  267  493   207  100  527   163
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   143  593    85  113  582   331  267  493   207  100  527   163
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  143  593    85  113  582   331  267  493   207  100  527   163
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  143  593    85  113  582   331  267  493   207  100  527   163
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375 1375 1375  1375 1375 1375  1375 1375 1375  1375
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 1.75  0.25 1.00 2.00  1.00 1.00 2.00  1.00 1.00 2.00  1.00
Final Sat.:  1375 2405   345 1375 2750  1375 1375 2750  1375 1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.25  0.25 0.08 0.21  0.24 0.19 0.18  0.15 0.07 0.19  0.12
Crit Volume:  143                        331  267                   263
Crit Moves:  ****                       **** ****                  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #2 Gridley Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.593
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        35                Level Of Service:                  A
********************************************************************************
Street Name:          Gridley Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  1  1  0    0  1  1  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      39    0    59     0    0     0     0  616    44    94  792     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   39    0    59     0    0     0     0  616    44    94  792     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    39    0    59     0    0     0     0  616    44    94  792     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   39    0    59     0    0     0     0  616    44    94  792     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  4.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   39    0    59     0    0     0     0  616    44   376  792     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.40 0.00  0.60  0.00 0.00  0.00  0.00 1.87  0.13  1.00 1.00  0.00
Final Sat.:   597    0   903     0    0     0     0 2800   200  1500 1500     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.00  0.07  0.00 0.00  0.00  0.00 0.22  0.22  0.06 0.53  0.00
Crit Volume:               98     0                 0                      792
Crit Moves:              ****                    ****                     ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Home Depot-Sam's Club Entrance & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.578
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        34                Level Of Service:                  A
********************************************************************************
Street Name:  Home Depot-Sam's Club Entrance          Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  0  0  1    0  0  1! 0  0    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     334    0   101     2    0     8     3  693   309    78 1041     2
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  334    0   101     2    0     8     3  693   309    78 1041     2
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   334    0   101     2    0     8     3  693   309    78 1041     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  334    0   101     2    0     8     3  693   309    78 1041     2
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  334    0   101     2    0     8     3  693   309    78 1041     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.00  1.00  0.20 0.00  0.80  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1500    0  1500   300    0  1200  1500 3000  1500  1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22 0.00  0.07  0.01 0.00  0.01  0.00 0.23  0.21  0.05 0.35  0.00
Crit Volume:  334                          10     3                   521
Crit Moves:  ****                        ****  ****                  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #4 Home Depot-Sam's Driveway & Foothill Boulevard
********************************************************************************
Average Delay (sec/veh):      1.8       Worst Case Level Of Service: C[ 16.4]
********************************************************************************
Street Name:    Home Depot-Sam's Driveway            Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        1  0  0  0  1    0  0  0  0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      55    0   112     0    0     0     0  715    69   119 1093     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   55    0   112     0    0     0     0  715    69   119 1093     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    55    0   112     0    0     0     0  715    69   119 1093     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   55    0   112     0    0     0     0  715    69   119 1093     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1500 xxxx   358  xxxx xxxx xxxxx  xxxx xxxx xxxxx   784 xxxx xxxxx
Potent Cap.:  115 xxxx   645  xxxx xxxx xxxxx  xxxx xxxx xxxxx   843 xxxx xxxxx
Move Cap.:    103 xxxx   645  xxxx xxxx xxxxx  xxxx xxxx xxxxx   843 xxxx xxxxx
Total Cap:    228  141 xxxxx   111  125 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.24 xxxx  0.17  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.14 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.9 xxxx   0.6  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx
Control Del: 25.8 xxxx  11.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.0 xxxx xxxxx
LOS by Move:    D    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      16.4            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:        C                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #5 Arroyo Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.663
Loss Time (sec):       0              Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        43              Level Of Service:                  B
********************************************************************************
Street Name:         Arroyo Street                    Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Permitted         Permitted         Permitted         Permitted
Rights:          Include           Include           Include           Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        0  0  1! 0  0   0  1  0  0  1   1  0  1  1  0   1  0  2  0  1
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:     203   55    61   157  119   243   104  657   128    46  824   164
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  203   55    61   157  119   243   104  657   128    46  824   164
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   203   55    61   157  119   243   104  657   128    46  824   164
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  203   55    61   157  119   243   104  657   128    46  824   164
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  203   55    61   157  119   243   104  657   128    46  824   164
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.64 0.17  0.19  0.57 0.43  1.00  1.00 1.67  0.33  1.00 2.00  1.00
Final Sat.:   955  259   287   853  647  1500  1500 2511   489  1500 3000  1500
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.21 0.21  0.21  0.18 0.18  0.16  0.07 0.26  0.26  0.03 0.27  0.11
Crit Volume:  203                   276         104                     412
Crit Moves:  ****                  ****        ****                    ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #6 Vaughn Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.411
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        24                Level Of Service:                  A
********************************************************************************
Street Name:          Vaughn Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      72    0    42   15    2     6    2  803    84   52  966     6
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   72    0    42   15    2     6    2  803    84   52  966     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    72    0    42   15    2     6    2  803    84   52  966     6
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   72    0    42   15    2     6    2  803    84   52  966     6
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   72    0    42   15    2     6    2  803    84   52  966     6
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.63 0.00  0.37  0.65 0.09  0.26  1.00 2.00  1.00  1.00 1.99  0.01
Final Sat.:   947    0   553   978  130   391  1500 3000  1500  1500 2981    19
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.00  0.08  0.02 0.02  0.02  0.00 0.27  0.06  0.03 0.32  0.32
Crit Volume:             114   15                 2                     486
Crit Moves:             ****  ****             ****                    ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #7 Paxton Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.643
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        52                Level Of Service:                  B
********************************************************************************
Street Name:          Paxton Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected         Permitted        Permitted
Rights:           Include          Include          Include           Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     221  271   210   189  198   173   167  525   188   117  639   361
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  221  271   210   189  198   173   167  525   188   117  639   361
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   221  271   210   189  198   173   167  525   188   117  639   361
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  221  271   210   189  198   173   167  525   188   117  639   361
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  221  271   210   189  198   173   167  525   188   117  639   361
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425  1425 1425  1425  1425 1425  1425  1425 1425  1425
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.13  0.87  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1425 1606  1244  1425 2850  1425  1425 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.17  0.17  0.13 0.07  0.12  0.12 0.18  0.13  0.08 0.22  0.25
Crit Volume:             241   189              167                    320
Crit Moves:              ****  ****             ****                  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #8 Filmore Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.449
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        26                Level Of Service:                  A
********************************************************************************
Street Name:          Filmore Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61    0    69     5    1     5     4  817    66    48 1069     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   61    0    69     5    1     5     4  817    66    48 1069     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    61    0    69     5    1     5     4  817    66    48 1069     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   61    0    69     5    1     5     4  817    66    48 1069     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   61    0    69     5    1     5     4  817    66    48 1069     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.47 0.00  0.53  0.46 0.09  0.45  1.00 2.00  1.00  1.00 2.00  0.00
Final Sat.:   704    0   796   682  136   682  1500 3000  1500  1500 3000     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.00  0.09  0.01 0.01  0.01  0.00 0.27  0.04  0.03 0.36  0.00
Crit Volume:             130     5                4                      535
Crit Moves:             ****  ****             ****                     ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #9 Van Nuys Boulevard & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.621
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        49                Level Of Service:                  B
********************************************************************************
Street Name:        Van Nuys Boulevard                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Permitted       Prot+Permit       Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     272  147   183    46  119   101   163  511   239   125  698    71
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  272  147   183    46  119   101   163  511   239   125  698    71
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   272  147   183    46  119   101   163  511   239   125  698    71
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  272  147   183    46  119   101   163  511   239   125  698    71
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  272  147   183    46  119   101   163  511   239   125  698    71
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425  1425 1425  1425  1425 1425  1425  1425 1425  1425
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1425 2850  1425  1425 2850  1425  1425 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.05  0.13  0.03 0.04  0.07  0.11 0.18  0.17  0.09 0.24  0.05
Crit Volume:  272                         101   163                    349
Crit Moves:  ****                        ****  ****                  ****
********************************************************************************
```

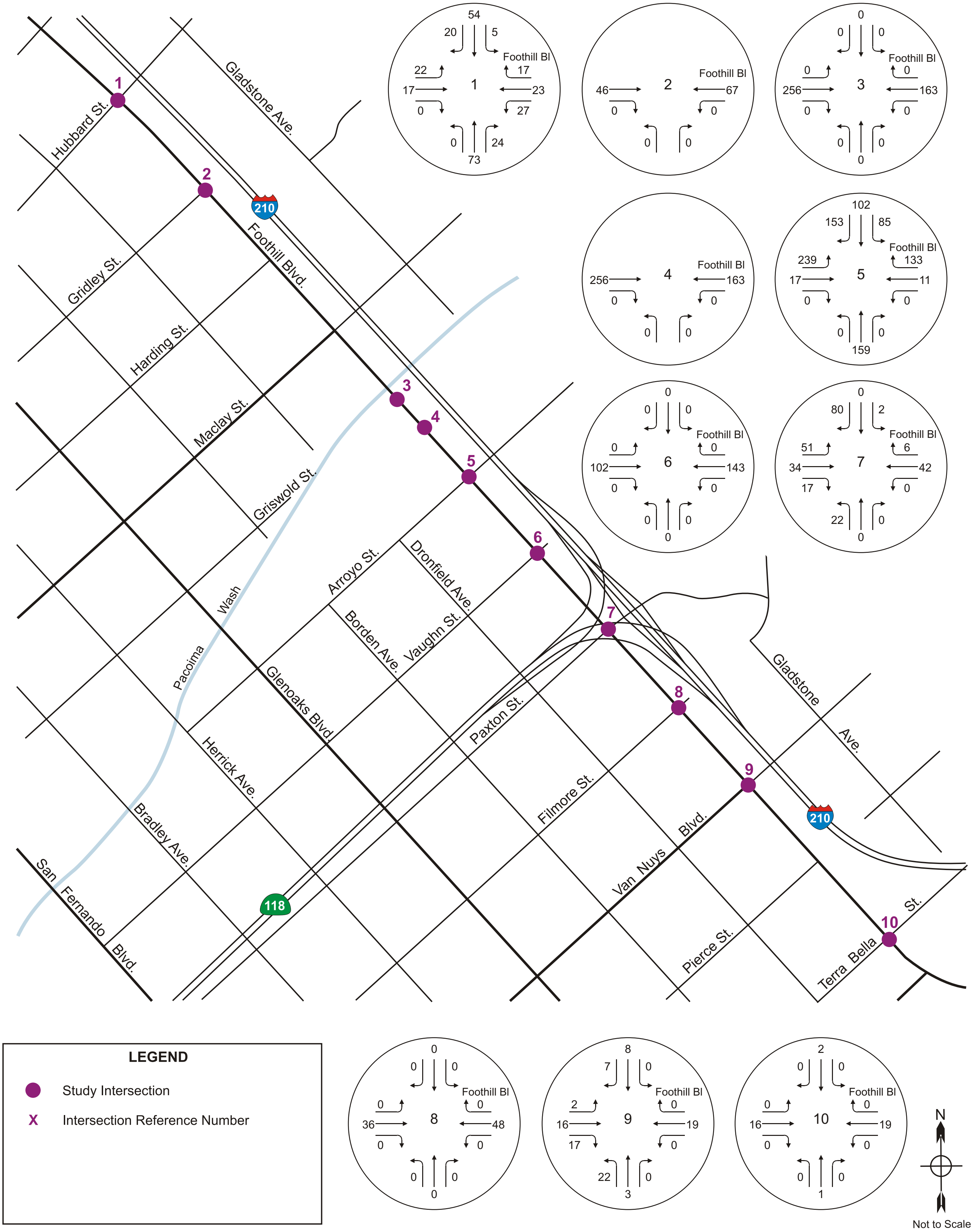
```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                          Existing (2012) Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #10 Terrra Bella Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         0.587
Loss Time (sec):       0               Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        35               Level Of Service:                  A
********************************************************************************
Street Name:       Terrra Bella Street               Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        0  0  1! 0  0   0  0  1! 0  0   1  0  1  1  0   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36   61    33   102   54   148   182  420    65    60  718   198
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36   61    33   102   54   148   182  420    65    60  718   198
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36   61    33   102   54   148   182  420    65    60  718   198
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   36   61    33   102   54   148   182  420    65    60  718   198
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   36   61    33   102   54   148   182  420    65    60  718   198
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.28 0.47  0.25  0.33 0.18  0.49  1.00 1.73  0.27  1.00 2.00  1.00
Final Sat.:   415  704   381   503  266   730  1500 2598   402  1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.09  0.09  0.20 0.20  0.20  0.12 0.16  0.16  0.04 0.24  0.13
Crit Volume:   36                         304   182                     359
Crit Moves:  ****                        ****  ****                    ****
********************************************************************************
```

APPENDIX C
Related Projects List and Trip Assignment

LADWP Foothill Trunk Line Unit 3

Related Projects - Trip Generation

Project Name		Location	Land use	Size	Units	Daily	AM Peak			PM Peak		
						Total	In	Out	Total	In	Out	Total
1	First Lutheran School	13361 Glenoaks Bl	School	350	students	868	169	108	277	63	84	147
2	Tract 62816 Condos	13401 Foothill Bl	Condominiums	250	Total Units	1,465	19	91	110	87	43	130
3	Foothill Charter School	12804 Arroyo St	School	1,125	students	2,790	530	339	869	80	107	187
4	Maclay Street Apartment and Retail	13260 W Maclay St	Apartments	141	Total Units	1,372	25	74	99	79	52	131
			Retail	10,115	S.F. Gross Area							
5	Condominium Project	11887 Terra Vista Way	Condominiums	78	Total Units	610	13	39	52	35	26	61
6	Sylmar Village	12385 San Fernando Rd	Condominiums	246	Total Units	1,482	25	81	106	82	53	135
			Retail	9,000	S.F. Gross Area							
			Office	9,000	S.F. Gross Area							
7	Sylmar Square-Mixed-Use Project	13730 Foothill Bl	Apartments	48	Total Units	2,206	36	39	75	71	75	146
			Retail	42,496	S.F. Gross Area							
8	Olive View Medical Center Expansion	14445 Olive View Dr	Hospital	85	Beds	361	20	5	25	10	27	37
9	Senior Housing/Mixed-Use Project	12415 San Fernando Rd	Senior Housing	150	Total Units	1,335	49	19	68	32	68	100
			Medical Office	25,000	S.F. Gross Area							
10	College-Ready Academy High School #13	13245 Hubbard St	School	500	students	855	155	115	270	0	0	0
11	Sylmar Center	13640 Foothill Bl	Health Club	26,951	S.F. Gross Area	887	17	20	37	54	41	95
12	Sylmar Leadership Academy Valley Region Span K-8 #1 (built and occupied)	14550 Bledsoe St.	Proposed Enrollment	1,047	students	1,696	302	271	573	0	0	0
			Current Enrollment	780	students	1,264	225	202	427	0	0	0
			Future Enrollment	267	students	432	77	69	146	0	0	0
					Total	14663	1135	999		593	576	



LEGEND

● Study Intersection

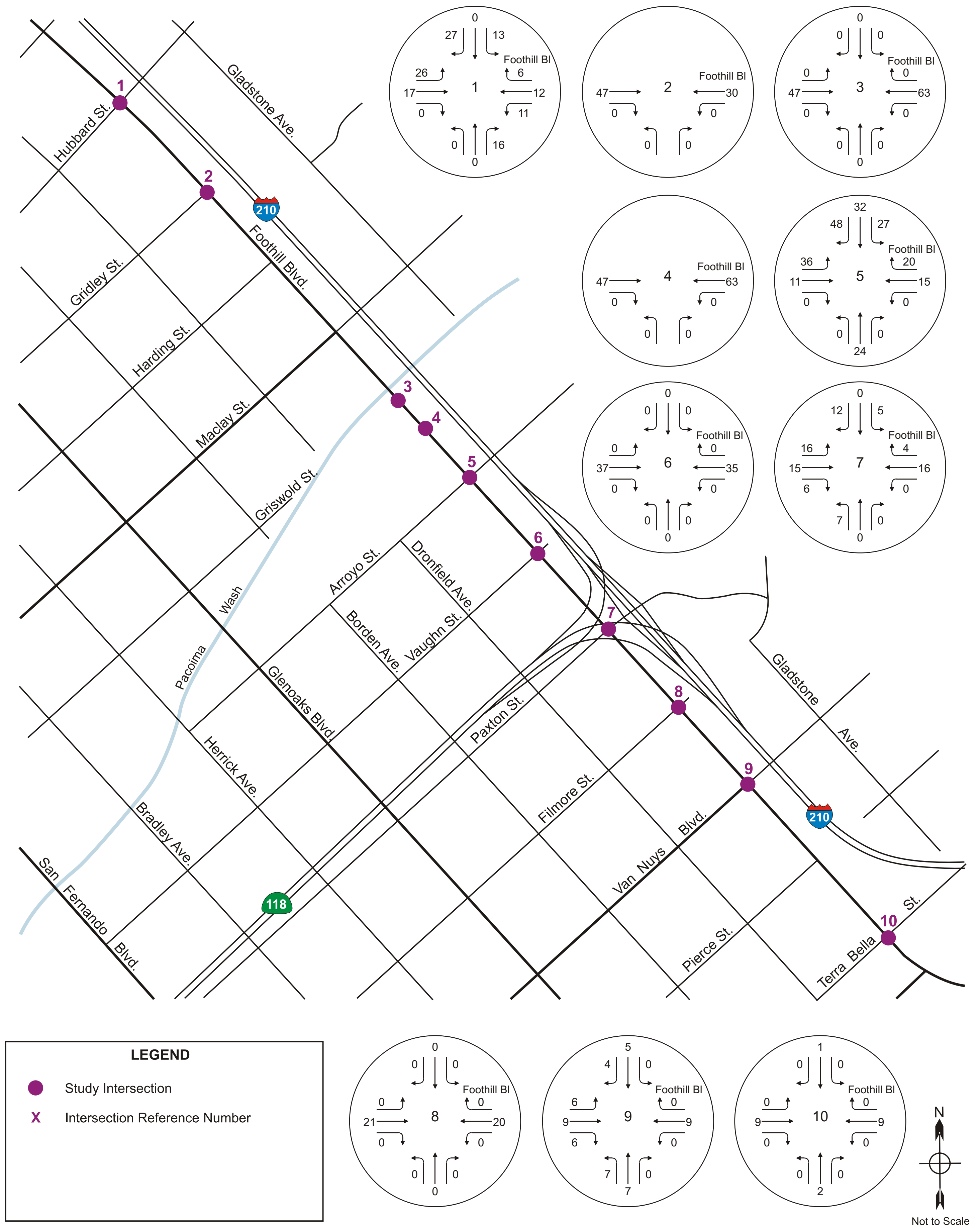
X Intersection Reference Number

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Foothill Corridor

Appendix C-1

Area Projects Only Trip Assignment - PM Peak Hour Intersection Volumes



LEGEND

● Study Intersection

X Intersection Reference Number

KOA CORPORATION
PLANNING & ENGINEERING

LADWP Foothill Corridor

Appendix C-2

Area Projects Only Trip Assignment - AM Peak Hour Intersection Volumes

APPENDIX D
LOS Operations Worksheets – Future Without-Project Conditions

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Hubbard Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.833
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       137                Level Of Service:                  D
********************************************************************************
Street Name:                                          Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Prot+Permit       Protected       Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     100  674    76   203  560   203   183  670   172    73  327   154
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  107  723    81   218  600   218   196  718   184    78  351   165
Added Vol:      0   73    24     5   54    20    22   17     0    27   23    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  107  796   105   223  654   238   218  735   184   105  374   182
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   107  796   105   223  654   238   218  735   184   105  374   182
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  107  796   105   223  654   238   218  735   184   105  374   182
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  107  796   105   223  654   238   218  735   184   105  374   182
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.77  0.23  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 2428   322  1375 2750  1375  1375 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.33  0.33  0.16 0.24  0.17  0.16 0.27  0.13  0.08 0.14  0.13
Crit Volume:        451         223                368         105
Crit Moves:        ****        ****               ****        ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Gridley Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.542
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        31                Level Of Service:                  A
********************************************************************************
Street Name:          Gridley Street                  Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  1  1  0    0  1  1  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      66    0   108     0    0     0     0  896    97    66  426     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   71    0   116     0    0     0     0  961   104    71  457     0
Added Vol:      0    0     0     0    0     0     0   46     0     0   67     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   71    0   116     0    0     0     0 1007   104    71  524     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    71    0   116     0    0     0     0 1007   104    71  524     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   71    0   116     0    0     0     0 1007   104    71  524     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  4.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   71    0   116     0    0     0     0 1007   104   283  524     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.38 0.00  0.62  0.00 0.00  0.00  0.00 1.81  0.19  1.00 1.00  0.00
Final Sat.:   569    0   931     0    0     0     0 2719   281  1500 1500     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.00  0.12  0.00 0.00  0.00  0.00 0.37  0.37  0.05 0.35  0.00
Crit Volume:             187     0                         555    71
Crit Moves:             ****                              ****  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Home Depot-Sam's Club Entrance & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.687
Loss Time (sec):       0              Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        46              Level Of Service:                  B
********************************************************************************
Street Name:  Home Depot-Sam's Club Entrance        Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  0  0  1   0  0  1! 0  0   1  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     160    0    96    1    0     3    7 1244   225   56  603     3
Growth Adj:  1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07
Initial Bse:  172    0   103    1    0     3    8 1334   241   60  646     3
Added Vol:      0    0     0    0    0     0    0  256     0    0  163     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  172    0   103    1    0     3    8 1590   241   60  809     3
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   172    0   103    1    0     3    8 1590   241   60  809     3
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  172    0   103    1    0     3    8 1590   241   60  809     3
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  172    0   103    1    0     3    8 1590   241   60  809     3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500 1500 1500  1500 1500 1500  1500 1500 1500  1500
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 0.00  1.00 0.25 0.00  0.75 1.00 2.00  1.00 1.00 2.00  1.00
Final Sat.:  1500    0  1500  375    0  1125 1500 3000  1500 1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.00  0.07 0.00 0.00  0.00 0.01 0.53  0.16 0.04 0.27  0.00
Crit Volume:  172                           4       795          60
Crit Moves:  ****                        ****      ****        ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Home Depot-Sam's Driveway & Foothill Boulevard
********************************************************************************
Average Delay (sec/veh):      1.0       Worst Case Level Of Service: D[ 27.0]
********************************************************************************
Street Name:    Home Depot-Sam's Driveway             Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled      Uncontrolled
Rights:           Include          Include          Include           Include
Lanes:        1  0  0  0  1    0  0  0  0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18    0    36     0    0     0     0 1313    29    65  628     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   19    0    39     0    0     0     0 1408    31    70  673     0
Added Vol:      0    0     0     0    0     0     0  256     0     0  163     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   19    0    39     0    0     0     0 1664    31    70  836     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    19    0    39     0    0     0     0 1664    31    70  836     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   19    0    39     0    0     0     0 1664    31    70  836     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2221 xxxx   832  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1695 xxxx xxxxx
Potent Cap.:   38 xxxx   317  xxxx xxxx xxxxx  xxxx xxxx xxxxx   381 xxxx xxxxx
Move Cap.:     33 xxxx   317  xxxx xxxx xxxxx  xxxx xxxx xxxxx   381 xxxx xxxxx
Total Cap:    109   98 xxxxx   119   62 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.18 xxxx  0.12  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6 xxxx   0.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.7 xxxx xxxxx
Control Del: 45.1 xxxx  17.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  16.5 xxxx xxxxx
LOS by Move:    E    *     C     *    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:        27.0           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:           D                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Arroyo Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.916
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       171                Level Of Service:                  E
********************************************************************************
Street Name:          Arroyo Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  1  1  0    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156   27    70    48   11    65   204  770   471   112  565   202
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  167   29    75    51   12    70   219  825   505   120  606   217
Added Vol:      0  159     0    85  102   153   239   17     0     0   11   133
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  167  188    75   136  114   223   458  842   505   120  617   350
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   167  188    75   136  114   223   458  842   505   120  617   350
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  167  188    75   136  114   223   458  842   505   120  617   350
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  167  188    75   136  114   223   458  842   505   120  617   350
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.39 0.44  0.17  0.55 0.45  1.00  1.00 1.25  0.75  1.00 2.00  1.00
Final Sat.:   583  655   262   818  682  1500  1500 1876  1124  1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.29 0.29  0.29  0.17 0.17  0.15  0.31 0.45  0.45  0.08 0.21  0.23
Crit Volume:       430         136                458                        350
Crit Moves:       ****        ****               ****                       ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Vaughn Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.494
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        28                Level Of Service:                  A
********************************************************************************
Street Name:          Vaughn Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      57    1    93     3    1     7     5  757   104   111  848     9
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   61    1   100     3    1     8     5  812   111   119  909    10
Added Vol:      0    0     0     0    0     0     0  102     0     0  143     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   61    1   100     3    1     8     5  914   111   119 1052    10
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    61    1   100     3    1     8     5  914   111   119 1052    10
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   61    1   100     3    1     8     5  914   111   119 1052    10
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   61    1   100     3    1     8     5  914   111   119 1052    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.38 0.01  0.61  0.27 0.09  0.64  1.00 2.00  1.00  1.00 1.98  0.02
Final Sat.:   566   10   924   409  136   955  1500 3000  1500  1500 2973    27
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.11  0.01 0.01  0.01  0.00 0.30  0.07  0.08 0.35  0.35
Crit Volume:       162           3                     457         119
Crit Moves:        ****        ****                   ****        ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #7 Paxton Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.723
Loss Time (sec):       0              Average Delay (sec/veh):     xxxxxx
Optimal Cycle:        67              Level Of Service:                 C
********************************************************************************
Street Name:           Paxton Street                   Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected         Permitted         Permitted
Rights:           Include          Include           Include             Ovl
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     171  170   144   242  165   199   144  608   127   161  570   280
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  183  182   154   259  177   213   154  652   136   173  611   300
Added Vol:     22    0     0     2    0    80    51   34    17     0   42     6
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  205  182   154   261  177   293   205  686   153   173  653   306
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   205  182   154   261  177   293   205  686   153   173  653   306
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  205  182   154   261  177   293   205  686   153   173  653   306
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  205  182   154   261  177   293   205  686   153   173  653   306
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425  1425 1425  1425  1425 1425  1425  1425 1425  1425
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.08  0.92  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1425 1543  1307  1425 2850  1425  1425 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.12  0.12  0.18 0.06  0.21  0.14 0.24  0.11  0.12 0.23  0.21
Crit Volume:  205                           293   205                     327
Crit Moves:  ****                          ****  ****                    ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #8 Filmore Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):          0.483
Loss Time (sec):       0                Average Delay (sec/veh):       xxxxxx
Optimal Cycle:        28                Level Of Service:                   A
********************************************************************************
Street Name:          Filmore Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      96    2    58     0    0     0     6  899    72    53  928     3
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  103    2    62     0    0     0     6  964    77    57  995     3
Added Vol:      0    0     0     0    0     0     0   36     0     0   48     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  103    2    62     0    0     0     6 1000    77    57 1043     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   103    2    62     0    0     0     6 1000    77    57 1043     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  103    2    62     0    0     0     6 1000    77    57 1043     3
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  103    2    62     0    0     0     6 1000    77    57 1043     3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.62 0.01  0.37  0.00 1.00  0.00  1.00 2.00  1.00  1.00 1.99  0.01
Final Sat.:   923   19   558     0 1500     0  1500 3000  1500  1500 2991     9
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.11  0.00 0.00  0.00  0.00 0.33  0.05  0.04 0.35  0.35
Crit Volume:             167     0                   500          57
Crit Moves:             ****                        ****        ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #9 Van Nuys Boulevard & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.667
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        56                Level Of Service:                  B
********************************************************************************
Street Name:        Van Nuys Boulevard                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected         Permitted      Prot+Permit       Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      192  148   132    78  237   248   148  552   214   126  522    38
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  206  159   142    84  254   266   159  592   229   135  560    41
Added Vol:     22    3     0     0    8     7     2   16    17     0   19     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  228  162   142    84  262   273   161  608   246   135  579    41
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   228  162   142    84  262   273   161  608   246   135  579    41
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  228  162   142    84  262   273   161  608   246   135  579    41
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  228  162   142    84  262   273   161  608   246   135  579    41
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425  1425 1425  1425  1425 1425  1425  1425 1425  1425
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1425 2850  1425  1425 2850  1425  1425 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.06  0.10  0.06 0.09  0.19  0.11 0.21  0.17  0.09 0.20  0.03
Crit Volume:  228                         273   161                   289
Crit Moves:  ****                        ****  ****                  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #10 Terrra Bella Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.794
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        70                Level Of Service:                  C
********************************************************************************
Street Name:       Terrra Bella Street                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53  107    61   275  148   242   169  605    67    48  380   180
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   57  115    65   295  159   259   181  649    72    51  407   193
Added Vol:      0    1     0     0    2     0     0   16     0     0   19     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   57  116    65   295  161   259   181  665    72    51  426   193
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    57  116    65   295  161   259   181  665    72    51  426   193
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   57  116    65   295  161   259   181  665    72    51  426   193
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   57  116    65   295  161   259   181  665    72    51  426   193
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.24 0.49  0.27  0.42 0.22  0.36  1.00 1.80  0.20  1.00 2.00  1.00
Final Sat.:   358  729   412   619  337   544  1500 2707   293  1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.16  0.16  0.48 0.48  0.48  0.12 0.25  0.25  0.03 0.14  0.13
Crit Volume:   57                         715                368    51
Crit Moves:  ****                        ****             ****  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Hubbard Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.826
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       131                Level Of Service:                  D
********************************************************************************
Street Name:                                          Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Prot+Permit       Protected       Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Y+R:         4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     143  593    85   113  582   331   267  493   207   100  527   163
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  153  636    91   121  624   355   286  528   222   107  565   175
Added Vol:      0    0    16    13    0    27    26   17     0    11   12     6
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  153  636   107   134  624   382   312  545   222   118  577   181
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   153  636   107   134  624   382   312  545   222   118  577   181
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  153  636   107   134  624   382   312  545   222   118  577   181
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  153  636   107   134  624   382   312  545   222   118  577   181
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.71  0.29  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 2353   397  1375 2750  1375  1375 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.27  0.27  0.10 0.23  0.28  0.23 0.20  0.16  0.09 0.21  0.13
Crit Volume:  153                         382   312                     288
Crit Moves:  ****                        ****  ****                    ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Gridley Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.656
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        42                Level Of Service:                  B
********************************************************************************
Street Name:          Gridley Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Y+R:         4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  1  1  0    0  1  1  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     39    0    59     0    0     0     0  616    44    94  792     0
Growth Adj: 1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  42    0    63     0    0     0     0  660    47   101  849     0
Added Vol:     0    0     0     0    0     0     0   47     0     0   30     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  42    0    63     0    0     0     0  707    47   101  879     0
User Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   42    0    63     0    0     0     0  707    47   101  879     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  42    0    63     0    0     0     0  707    47   101  879     0
PCE Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  4.00 1.00  1.00
MLF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  42    0    63     0    0     0     0  707    47   403  879     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:      0.40 0.00  0.60  0.00 0.00  0.00  0.00 1.87  0.13  1.00 1.00  0.00
Final Sat.:  597    0   903     0    0     0     0 2812   188  1500 1500     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.07 0.00  0.07  0.00 0.00  0.00  0.00 0.25  0.25  0.07 0.59  0.00
Crit Volume:             105     0                0                   879
Crit Moves:             ****                   ****                  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Home Depot-Sam's Club Entrance & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.641
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        40                Level Of Service:                  B
********************************************************************************
Street Name:  Home Depot-Sam's Club Entrance          Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  0  0  1    0  0  1! 0  0    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     334    0   101     2    0     8     3  693   309    78 1041     2
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  358    0   108     2    0     9     3  743   331    84 1116     2
Added Vol:      0    0     0     0    0     0     0   47     0     0   63     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  358    0   108     2    0     9     3  790   331    84 1179     2
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   358    0   108     2    0     9     3  790   331    84 1179     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  358    0   108     2    0     9     3  790   331    84 1179     2
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  358    0   108     2    0     9     3  790   331    84 1179     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.00  1.00  0.20 0.00  0.80  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1500    0  1500   300    0  1200  1500 3000  1500  1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.00  0.07  0.01 0.00  0.01  0.00 0.26  0.22  0.06 0.39  0.00
Crit Volume:  358                          11     3                   589
Crit Moves:  ****                        ****  ****                  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Home Depot-Sam's Driveway & Foothill Boulevard
********************************************************************************
Average Delay (sec/veh):      1.9       Worst Case Level Of Service: C[ 18.7]
********************************************************************************
Street Name:    Home Depot-Sam's Driveway           Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        1  0  0  0  1    0  0  0  0  0    1  0  2  0  1    1  0  1  1  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:      55    0   112     0    0     0     0  715    69   119 1093     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   59    0   120     0    0     0     0  766    74   128 1172     0
Added Vol:      0    0     0     0    0     0     0   47     0     0   63     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   59    0   120     0    0     0     0  813    74   128 1235     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    59    0   120     0    0     0     0  813    74   128 1235     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   59    0   120     0    0     0     0  813    74   128 1235     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: 1686 xxxx   407  xxxx xxxx xxxxx  xxxx xxxx xxxxx   887 xxxx xxxxx
Potent Cap.:   87 xxxx   599  xxxx xxxx xxxxx  xxxx xxxx xxxxx   772 xxxx xxxxx
Move Cap.:     76 xxxx   599  xxxx xxxx xxxxx  xxxx xxxx xxxxx   772 xxxx xxxxx
Total Cap:    194  115 xxxxx    86   99 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.30 xxxx  0.20  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.17 xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:    1.2 xxxx   0.7  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx
Control Del: 31.4 xxxx  12.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.6 xxxx xxxxx
LOS by Move:    D    *     B     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      18.7            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:        C                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Arroyo Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):          0.779
Loss Time (sec):       0                Average Delay (sec/veh):       xxxxxx
Optimal Cycle:        65                Level Of Service:                   C
********************************************************************************
Street Name:          Arroyo Street                     Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Y+R:         4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  1  1  0    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    203   55    61   157  119   243   104  657   128    46  824   164
Growth Adj: 1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse: 218   59    65   168  128   260   111  704   137    49  883   176
Added Vol:     0   24     0    27   32    48    36   11     0     0   15    20
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut: 218   83    65   195  160   308   147  715   137    49  898   196
User Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  218   83    65   195  160   308   147  715   137    49  898   196
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 218   83    65   195  160   308   147  715   137    49  898   196
PCE Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 218   83    65   195  160   308   147  715   137    49  898   196
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:      0.59 0.23  0.18  0.55 0.45  1.00  1.00 1.68  0.32  1.00 2.00  1.00
Final Sat.:  892  340   268   826  674  1500  1500 2517   483  1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.24 0.24  0.24  0.24 0.24  0.21  0.10 0.28  0.28  0.03 0.30  0.13
Crit Volume: 218                   355         147                   449
Crit Moves: ****                  ****        ****                  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Vaughn Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.453
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        26                Level Of Service:                  A
********************************************************************************
Street Name:          Vaughn Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      72    0    42    15    2     6     2  803    84    52  966     6
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   77    0    45    16    2     6     2  861    90    56 1036     6
Added Vol:      0    0     0     0    0     0     0   37     0     0   35     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   77    0    45    16    2     6     2  898    90    56 1071     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    77    0    45    16    2     6     2  898    90    56 1071     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   77    0    45    16    2     6     2  898    90    56 1071     6
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   77    0    45    16    2     6     2  898    90    56 1071     6
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.63 0.00  0.37  0.65 0.09  0.26  1.00 2.00  1.00  1.00 1.99  0.01
Final Sat.:   947    0   553   978  130   391  1500 3000  1500  1500 2982    18
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.00  0.08  0.02 0.02  0.02  0.00 0.30  0.06  0.04 0.36  0.36
Crit Volume:              122    16                2                         538
Crit Moves:              ****  ****             ****                        ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
          Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #7 Paxton Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.709
Loss Time (sec):       0              Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        64              Level Of Service:                  C
********************************************************************************
Street Name:          Paxton Street                   Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected         Permitted        Permitted
Rights:           Include          Include           Include           Ovl
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  1  1  0   1  0  2  0  1   1  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     221  271   210  189  198   173  167  525   188  117  639   361
Growth Adj:  1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07
Initial Bse:  237  291   225  203  212   185  179  563   202  125  685   387
Added Vol:      7    0     0    5    0    12   16   15     6    0   16     4
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  244  291   225  208  212   197  195  578   208  125  701   391
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   244  291   225  208  212   197  195  578   208  125  701   391
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  244  291   225  208  212   197  195  578   208  125  701   391
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  244  291   225  208  212   197  195  578   208  125  701   391
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425 1425 1425  1425 1425 1425  1425 1425 1425  1425
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 1.13  0.87 1.00 2.00  1.00 1.00 2.00  1.00 1.00 2.00  1.00
Final Sat.:  1425 1606  1244 1425 2850  1425 1425 2850  1425 1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.18  0.18 0.15 0.07  0.14 0.14 0.20  0.15 0.09 0.25  0.27
Crit Volume:             258  208              195                    351
Crit Moves:             ****  ****             ****                  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #8 Filmore Street & Foothill Boulevard
********************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):         0.488
Loss Time (sec):        0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:         28                Level Of Service:                  A
********************************************************************************
Street Name:          Filmore Street                 Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Y+R:          4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  2  0  1    1  0  1  1  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:      61     0    69     5     1     5     4   817    66    48  1069     0
Growth Adj:  1.07  1.07  1.07  1.07  1.07  1.07  1.07  1.07  1.07  1.07  1.07  1.07
Initial Bse:   65     0    74     5     1     5     4   876    71    51  1146     0
Added Vol:      0     0     0     0     0     0     0    21     0     0    20     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   65     0    74     5     1     5     4   897    71    51  1166     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    65     0    74     5     1     5     4   897    71    51  1166     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   65     0    74     5     1     5     4   897    71    51  1166     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   65     0    74     5     1     5     4   897    71    51  1166     0
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1500  1500  1500  1500  1500  1500  1500  1500  1500  1500  1500  1500
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.47  0.00  0.53  0.46  0.09  0.45  1.00  2.00  1.00  1.00  2.00  0.00
Final Sat.:   704     0   796   682   136   682  1500  3000  1500  1500  3000     0
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.09  0.00  0.09  0.01  0.01  0.01  0.00  0.30  0.05  0.03  0.39  0.00
Crit Volume:              139     5                 4                      583
Crit Moves:              ****  ****              ****                     ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #9 Van Nuys Boulevard & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.681
Loss Time (sec):       0              Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        58              Level Of Service:                  B
********************************************************************************
Street Name:        Van Nuys Boulevard                Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Protected         Permitted        Prot+Permit       Protected
Rights:           Include           Include          Include           Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  2  0  1   1  0  2  0  1   1  0  2  0  1   1  0  2  0  1
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:     272  147   183   46  119   101  163  511   239  125  698    71
Growth Adj:  1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07
Initial Bse:  292  158   196   49  128   108  175  548   256  134  748    76
Added Vol:      7    7     0    0    5     4    6    9     6    0    9     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  299  165   196   49  133   112  181  557   262  134  757    76
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   299  165   196   49  133   112  181  557   262  134  757    76
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  299  165   196   49  133   112  181  557   262  134  757    76
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  299  165   196   49  133   112  181  557   262  134  757    76
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425 1425 1425  1425 1425 1425  1425 1425 1425  1425
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 2.00  1.00 1.00 2.00  1.00 1.00 2.00  1.00 1.00 2.00  1.00
Final Sat.:  1425 2850  1425 1425 2850  1425 1425 2850  1425 1425 2850  1425
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.21 0.06  0.14 0.03 0.05  0.08 0.13 0.20  0.18 0.09 0.27  0.05
Crit Volume:  299                        112  181                   379
Crit Moves:  ****                       **** ****                  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                         Future No Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #10 Terrra Bella Street & Foothill Boulevard
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap.(X):        0.633
Loss Time (sec):      0               Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       39               Level Of Service:                 B
********************************************************************************
Street Name:       Terrra Bella Street               Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted         Permitted         Permitted         Permitted
Rights:           Include           Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36   61    33   102   54   148   182  420    65    60  718   198
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   39   65    35   109   58   159   195  450    70    64  770   212
Added Vol:      0    2     0     0    1     0     0    9     0     0    9     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   39   67    35   109   59   159   195  459    70    64  779   212
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    39   67    35   109   59   159   195  459    70    64  779   212
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   39   67    35   109   59   159   195  459    70    64  779   212
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   39   67    35   109   59   159   195  459    70    64  779   212
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.27 0.48  0.25  0.33 0.18  0.49  1.00 1.74  0.26  1.00 2.00  1.00
Final Sat.:   410  715   375   502  270   728  1500 2605   395  1500 3000  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.09  0.09  0.22 0.22  0.22  0.13 0.18  0.18  0.04 0.26  0.14
Crit Volume:   39                   327         195                   389
Crit Moves:  ****                  ****        ****                  ****
********************************************************************************
```

APPENDIX E
LOS Operations Worksheets – Future With Project Initial Construction Conditions

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Hubbard Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.243
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:                                               Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Protected       Prot+Permit        Protected        Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  0  1  0    1  0  0  1  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:     100  674    76   203  560   203   183  670   172    73  327   154
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  107  723    81   218  600   218   196  718   184    78  351   165
Added Vol:      0   73    24    16   54    20    22   17     0    27   23    35
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  107  796   105   234  654   238   218  735   184   105  374   200
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   107  796   105   234  654   238   218  735   184   105  374   200
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  107  796   105   234  654   238   218  735   184   105  374   200
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  107  796   105   234  654   238   218  735   184   105  374   200
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.77  0.23  1.00 2.00  1.00  1.00 0.80  0.20  1.00 0.65  0.35
Final Sat.:  1375 2428   322  1375 2750  1375  1375 1099   276  1375  895   480
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.33  0.33  0.17 0.24  0.17  0.16 0.67  0.67  0.08 0.42  0.42
Crit Volume:       451         234                            920   105
Crit Moves:        ****        ****                           ****  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Gridley Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.919
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       178                Level Of Service:                  E
********************************************************************************
Street Name:          Gridley Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      66    0   108     0    0     0     0  896    97    66  426     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   71    0   116     0    0     0     0  961   104    71  457     0
Added Vol:      0    0     0     0    0     0     0   57     0     0   85     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   71    0   116     0    0     0     0 1018   104    71  542     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    71    0   116     0    0     0     0 1018   104    71  542     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   71    0   116     0    0     0     0 1018   104    71  542     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   71    0   116     0    0     0     0 1018   104    71  542     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.38 0.00  0.62  0.00 0.00  0.00  0.00 0.91  0.09  0.12 0.88  0.00
Final Sat.:   569    0   931     0    0     0     0 1361   139   173 1327     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.00  0.12  0.00 0.00  0.00  0.00 0.75  0.75  0.41 0.41  0.00
Crit Volume:               187     0                    1121          71
Crit Moves:               ****                          ****        ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Home Depot-Sam's Club Entrance & Foothill Boulevard
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         1.438
Loss Time (sec):       0               Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180               Level Of Service:                  F
********************************************************************************
Street Name:  Home Depot-Sam's Club Entrance         Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  0  0  1   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     160    0    96    1    0     3    7 1244   225   56  603     3
Growth Adj:  1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07
Initial Bse:  172    0   103    1    0     3    8 1334   241   60  646     3
Added Vol:      0    0     0    0    0     0    0  261     0    0  172     0
Constr:        18    0     0   -1    0    -3   -8    7     0   65    3    -3
Initial Fut:  190    0   103    0    0     0    0 1602   241  125  821     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   190    0   103    0    0     0    0 1602   241  125  821     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  190    0   103    0    0     0    0 1602   241  125  821     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  190    0   103    0    0     0    0 1602   241  125  821     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500 1500 1500  1500 1500 1500  1500 1500 1500  1500
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 0.00  1.00 0.25 0.00  0.75 0.00 0.87  0.13 0.13 0.86  0.01
Final Sat.:  1500    0  1500  375    0  1125    0 1304   196  198 1302     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.00  0.07 0.00 0.00  0.00 0.00 1.23  1.23 0.63 0.63  0.63
Crit Volume:  190                          0      1843        125
Crit Moves:  ****                       ****      ****       ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Home Depot-Sam's Driveway & Foothill Boulevard
********************************************************************************
Average Delay (sec/veh):     35.3       Worst Case Level Of Service: F[457.4]
********************************************************************************
Street Name:    Home Depot-Sam's Driveway             Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18    0    36     0    0     0     0 1313    29    65  628     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   19    0    39     0    0     0     0 1408    31    70  673     0
Added Vol:      0    0     0     0    0     0     0  261     0     0  172     0
Constr Shif:  160    0     0     0    0     0     0    0     0    56    0     0
Initial Fut:  179    0    39     0    0     0     0 1669    31   126  845     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   179    0    39     0    0     0     0 1669    31   126  845     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  179    0    39     0    0     0     0 1669    31   126  845     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2781 xxxx  1684  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1700 xxxx xxxxx
Potent Cap.:   21 xxxx   118  xxxx xxxx xxxxx  xxxx xxxx xxxxx   380 xxxx xxxxx
Move Cap.:     15 xxxx   118  xxxx xxxx xxxxx  xxxx xxxx xxxxx   380 xxxx xxxxx
Total Cap:     92   82 xxxxx     0   21 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  1.96 xxxx  0.33  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.33 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   15.4 xxxx   1.3  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx
Control Del:545.1 xxxx  49.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  19.1 xxxx xxxxx
LOS by Move:    F    *     E     *    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   1.4 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  19.1 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     C    *     *
ApproachDel:     457.4           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         F                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Arroyo Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.468
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:          Arroyo Street                     Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156   27    70    48   11    65   204  770   471   112  565   202
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  167   29    75    51   12    70   219  825   505   120  606   217
Added Vol:      0  159     0    85  102   153   239   22     0     0   20   133
Const Shift: -167 -188   193  -136 -114    59  -458  456   111  -120  136   470
Initial Fut:    0    0   268     0    0   282     0 1303   616     0  762   820
User Adj:    1.00 0.00  1.00  1.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 0.00  1.00  1.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0   268     0    0   282     0 1303   616     0  762   820
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0   268     0    0   282     0 1303   616     0  762   820
PCE Adj:     1.00 0.00  1.00  1.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 0.00  1.00  1.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0   268     0    0   282     0 1303   616     0  762   820
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.01 0.01  0.99  0.01 0.01  0.99  0.00 0.68  0.32  0.01 0.48  0.51
Final Sat.:     1    0  1499     2    0  1498     0 1019   481     0  723   777
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.00  0.18  0.19 0.00  0.19  0.00 1.28  1.28  1.05 1.05  1.05
Crit Volume:    0                         282             1919     0
Crit Moves:  ****                        ****             ****  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Vaughn Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.955
Loss Time (sec):       0              Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180              Level Of Service:                  E
********************************************************************************
Street Name:          Vaughn Street                  Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      57    1    93    3    1     7    5  757   104  111  848     9
Growth Adj:  1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07
Initial Bse:   61    1   100    3    1     8    5  812   111  119  909    10
Added Vol:      0    0     0    0    0     0    0  107     0    0  152     0
Constr:       -61   -1  -100   -3   -1     4   -5  193  -111 -119  349     0
Initial Fut:    0    0     0    0    0    12    0 1112     0    0 1410    10
User Adj:    1.00 1.00  0.00 1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00 1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00
PHF Volume:     0    0     0    0    0    12    0 1112     0    0 1410    10
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0    0    0    12    0 1112     0    0 1410    10
PCE Adj:     1.00 1.00  0.00 1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00 1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00
FinalVolume:    0    0     0    0    0    12    0 1112     0    0 1410    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500 1500 1500  1500 1500 1500  1500 1500 1500  1500
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.59 0.41  0.00 0.02 0.01  0.97 0.01 0.99  0.01 0.00 0.99  0.01
Final Sat.:   886  614     0   27    9  1463    0 1499     1    0 1490    10
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.01 0.01  0.01 0.74 0.74  0.74 0.00 0.95  0.95
Crit Volume:    0                      12       0                         1420
Crit Moves:  ****                    ****    ****                         ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #7 Paxton Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.374
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:          Paxton Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted         Permitted         Permitted
Rights:           Include          Include           Include             Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     171  170   144   242  165   199   144  608   127   161  570   280
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  183  182   154   259  177   213   154  652   136   173  611   300
Added Vol:     22    0     0    13    0    80    51   34    17     0   42    24
Consrt Traf: -205 -182   546  -272 -177   530  -205  397     0  -173  171    51
Initial Fut:    0    0   700     0    0   823     0 1083   153     0  824   375
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
PHF Volume:     0    0   700     0    0   823     0 1083   153     0  824   375
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0   700     0    0   823     0 1083   153     0  824   375
PCE Adj:     1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
FinalVolume:    0    0   700     0    0   823     0 1083   153     0  824   375
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.01 0.01  0.99  0.01 0.00  0.99  0.01 0.87  0.12  0.00 0.69  0.31
Final Sat.:     1    1  1499     1    0  1499     0 1314   186     0 1031   469
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.47 0.47  0.47  0.55 0.00  0.55  0.82 0.82  0.82  0.00 0.80  0.80
Crit Volume:    0                        824              1236     0
Crit Moves:  ****                        ****             ****  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #8 Filmore Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         0.854
Loss Time (sec):       0               Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        99               Level Of Service:                  D
********************************************************************************
Street Name:          Filmore Street                 Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        0  0  1! 0  0   0  0  0  0  1   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      96    2    58    0    0     0    6  899    72   53  928     3
Growth Adj:  1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07
Initial Bse:  103    2    62    0    0     0    6  964    77   57  995     3
Added Vol:      0    0     0    0    0     0    0   47     0    0   66     0
Constr:      -103   -2    98    0    0     0   -6    6     0  -57   56     0
Initial Fut:    0    0   160    0    0     0    0 1017    77    0 1117     3
User Adj:    0.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00
PHF Adj:     0.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00
PHF Volume:     0    0   160    0    0     0    0 1017    77    0 1117     3
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0   160    0    0     0    0 1017    77    0 1117     3
PCE Adj:     0.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00
MLF Adj:     0.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 0.00 1.00  1.00
FinalVolume:    0    0   160    0    0     0    0 1017    77    0 1117     3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500 1500 1500  1500 1500 1500  1500 1500 1500  1500
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.01  0.99 0.00 0.00  1.00 0.01 0.92  0.07 0.00 0.99  0.01
Final Sat.:     0    1  1499    0    0  1500    1 1394   106    0 1496     4
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.11  0.11 0.00 0.00  0.00 0.73 0.73  0.73 0.00 0.75  0.75
Crit Volume:             160    0                 0                1120
Crit Moves:             ****                   ****                ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #9 Van Nuys Boulevard & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        1.131
Loss Time (sec):       0              Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       180              Level Of Service:                 F
********************************************************************************
Street Name:        Van Nuys Boulevard              Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     192  148   132   78  237   248  148  552   214  126  522    38
Growth Adj:  1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07
Initial Bse:  206  159   142   84  254   266  159  592   229  135  560    41
Added Vol:     22    3     0    0    8     7    2   27    17    0   37     0
Constr:      -228 -162   340  -84 -262   315 -161  159     0 -135  134     0
Initial Fut:    0    0   482    0    0   588    0  778   246    0  731    41
User Adj:    0.00 0.00  1.00 0.00 1.00  1.00 0.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.00 0.00  1.00 0.00 1.00  1.00 0.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0    0   482    0    0   588    0  778   246    0  731    41
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0   482    0    0   588    0  778   246    0  731    41
PCE Adj:     0.00 0.00  1.00 0.00 1.00  1.00 0.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     0.00 0.00  1.00 0.00 1.00  1.00 0.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0    0   482    0    0   588    0  778   246    0  731    41
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425 1425 1425  1425 1425 1425  1425 1425 1425  1425
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.00  1.00 0.00 0.01  0.99 0.00 0.76  0.24 0.01 0.94  0.05
Final Sat.:     0    0  1425    0    0  1425    0 1082   343    0 1350    75
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.34 0.00 0.41  0.41 0.00 0.72  0.72 0.54 0.54  0.54
Crit Volume:    0                   588             1024          0
Crit Moves:  ****                  ****             ****       ****
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #10 Terrra Bella Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):          0.914
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       168                Level Of Service:                  E
********************************************************************************
Street Name:       Terrra Bella Street                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53  107    61   275  148   242   169  605    67    48  380   180
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   57  115    65   295  159   259   181  649    72    51  407   193
Added Vol:      0    1     0     0    2     0     0   27     0     0   37     0
Constructio:  -57 -116   -65  -295 -161   423  -183  179     0   -51   51     0
Initial Fut:    0    0     0     0    0   682    -1  855    72     0  495   193
User Adj:    0.00 0.00  1.00  0.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.00 0.00  1.00  0.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0   682     0  855    72     0  495   193
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0   682     0  855    72     0  495   193
PCE Adj:     0.00 0.00  1.00  0.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     0.00 0.00  1.00  0.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0     0    0   682     0  855    72     0  495   193
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  1.00  0.00 0.00  1.00  0.00 1.84  0.16  0.01 0.71  0.28
Final Sat.:     0    0  1500     0    0  1500     0 2767   233     1 1079   420
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.45  0.00 0.31  0.31  0.46 0.46  0.46
Crit Volume:    0                         682     0                         689
Crit Moves:  ****                        ****  ****                        ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
          Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Hubbard Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         1.175
Loss Time (sec):       0              Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180              Level Of Service:                  F
********************************************************************************
Street Name:                                          Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Protected        Prot+Permit        Protected         Prot+Permit
Rights:           Include          Include           Include           Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  0  1  0    1  0  0  1  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:     143  593    85   113  582   331   267  493   207   100  527   163
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  153  636    91   121  624   355   286  528   222   107  565   175
Added Vol:      0    0    16    31    0    27    26   17     0    11   12    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  153  636   107   152  624   382   312  545   222   118  577   192
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   153  636   107   152  624   382   312  545   222   118  577   192
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  153  636   107   152  624   382   312  545   222   118  577   192
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  153  636   107   152  624   382   312  545   222   118  577   192
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.71  0.29  1.00 2.00  1.00  1.00 0.71  0.29  1.00 0.75  0.25
Final Sat.:  1375 2353   397  1375 2750  1375  1375  977   398  1375 1032   343
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.27  0.27  0.11 0.23  0.28  0.23 0.56  0.56  0.09 0.56  0.56
Crit Volume:  153                         382   312                     769
Crit Moves:  ****                        ****  ****                    ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Gridley Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.731
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        53                Level Of Service:                  C
********************************************************************************
Street Name:          Gridley Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      39    0    59     0    0     0     0  616    44    94  792     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   42    0    63     0    0     0     0  660    47   101  849     0
Added Vol:      0    0     0     0    0     0     0   65     0     0   41     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   42    0    63     0    0     0     0  725    47   101  890     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    42    0    63     0    0     0     0  725    47   101  890     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   42    0    63     0    0     0     0  725    47   101  890     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   42    0    63     0    0     0     0  725    47   101  890     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.40 0.00  0.60  0.00 0.00  0.00  0.00 0.94  0.06  0.10 0.90  0.00
Final Sat.:   597    0   903     0    0     0     0 1408    92   153 1347     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.00  0.07  0.00 0.00  0.00  0.00 0.52  0.52  0.66 0.66  0.00
Crit Volume:               105     0                 0                      991
Crit Moves:             ****                   ****                  ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Home Depot-Sam's Club Entrance & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.201
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:  Home Depot-Sam's Club Entrance         Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted         Permitted         Permitted
Rights:           Include          Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     334    0   101     2    0     8     3  693   309    78 1041     2
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  358    0   108     2    0     9     3  743   331    84 1116     2
Added Vol:      0    0     0     0    0     0     0   56     0     0   68     0
Constructio:   55    0     0    -2    0    -9    -3    3     0   119    2    -2
Initial Fut:  413    0   108     0    0     0     0  802   331   203 1186     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   413    0   108     0    0     0     0  802   331   203 1186     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  413    0   108     0    0     0     0  802   331   203 1186     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  413    0   108     0    0     0     0  802   331   203 1186     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.00  1.00  1.00 0.00  0.00  0.01 0.70  0.29  0.14 0.85  0.01
Final Sat.:  1500    0  1500  1500    0     0     0 1061   438   219 1281     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.28 0.00  0.07  0.00 0.00  0.00  0.76 0.76  0.76  0.93 0.93  0.93
Crit Volume:  413                     0           0                     1389
Crit Moves:  ****                  ****        ****                     ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Home Depot-Sam's Driveway & Foothill Boulevard
********************************************************************************
Average Delay (sec/veh):    214.1       Worst Case Level Of Service: F[1186.7]
********************************************************************************
Street Name:    Home Depot-Sam's Driveway             Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      55    0   112     0    0     0     0  715    69   119 1093     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   59    0   120     0    0     0     0  766    74   128 1172     0
Added Vol:      0    0     0     0    0     0     0   56     0     0   68     0
PasserByVol:  334    0     0     0    0     0     0    0     0    78    0     0
Initial Fut:  393    0   120     0    0     0     0  822    74   206 1240     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   393    0   120     0    0     0     0  822    74   206 1240     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  393    0   120     0    0     0     0  822    74   206 1240     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2510 xxxx   859  xxxx xxxx xxxxx  xxxx xxxx xxxxx   896 xxxx xxxxx
Potent Cap.:   32 xxxx   359  xxxx xxxx xxxxx  xxxx xxxx xxxxx   766 xxxx xxxxx
Move Cap.:     24 xxxx   359  xxxx xxxx xxxxx  xxxx xxxx xxxxx   766 xxxx xxxxx
Total Cap:     93   84 xxxxx    11   67 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  4.22 xxxx  0.33  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.27 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   41.1 xxxx   1.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.1 xxxx xxxxx
Control Del: 1543 xxxx  20.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.4 xxxx xxxxx
LOS by Move:    F    *     C     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   1.1 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.4 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     B    *     *
ApproachDel:    1186.7           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         F                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Arroyo Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):        1.352
Loss Time (sec):       0                Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       180                Level Of Service:                 F
********************************************************************************
Street Name:          Arroyo Street                   Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     203   55    61   157  119   243   104  657   128    46  824   164
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  218   59    65   168  128   260   111  704   137    49  883   176
Added Vol:      0   24     0    27   32    48    36   20     0     0   20    20
Const Shift: -218  -83   258  -195 -160   352  -147  146   190   -49   49   219
Initial Fut:    0    0   323     0    0   660     0  870   327     0  952   415
User Adj:    0.00 0.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.00 0.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0   323     0    0   660     0  870   327     0  952   415
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0   323     0    0   660     0  870   327     0  952   415
PCE Adj:     0.00 0.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     0.00 0.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0   323     0    0   660     0  870   327     0  952   415
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  1.00  0.01 0.00  0.99  0.01 0.72  0.27  0.01 0.69  0.30
Final Sat.:     0    0  1500     1    0  1499     1 1090   410     0 1045   455
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.22  0.44 0.00  0.44  0.80 0.80  0.80  0.91 0.91  0.91
Crit Volume:    0                         661     0                  1367
Crit Moves:  ****                        ****  ****                  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Vaughn Street & Foothill Boulevard
********************************************************************************
Cycle (sec):        100                 Critical Vol./Cap.(X):         0.881
Loss Time (sec):      0                 Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      121                 Level Of Service:                  D
********************************************************************************
Street Name:                Vaughn Street                     Foothill Boulevard
Approach:       North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted         Permitted         Permitted         Permitted
Rights:          Include           Include           Include           Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Y+R:         4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      72     0    42   15     2     6    2   803    84   52   966     6
Growth Adj:  1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07
Initial Bse:   77     0    45   16     2     6    2   861    90   56  1036     6
Added Vol:      0     0     0    0     0     0    0    46     0    0    40     0
Const Shift:  -77     0   -45  -16    -2    18   -2   260   -90  -56   214     0
Initial Fut:    0     0     0    0     0    24    0  1167     0    0  1290     6
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 0.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 0.00  1.00  1.00
PHF Volume:     0     0     0    0     0    24    0  1167     0    0  1290     6
Reduct Vol:     0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:    0     0     0    0     0    24    0  1167     0    0  1290     6
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 0.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 0.00  1.00  1.00
FinalVolume:    0     0     0    0     0    24    0  1167     0    0  1290     6
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500  1500
Adjustment:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Lanes:       0.88  0.00  0.12 0.00  0.01  0.99 0.01  0.99  0.01 0.00  0.99  0.01
Final Sat.:  1327     0   173    5     9  1486    0  1500     0    0  1493     7
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00 0.02  0.02  0.02 0.78  0.78  0.78 0.00  0.86  0.86
Crit Volume:    0                           25    0                     1296
Crit Moves:  ****                         **** ****                     ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #7 Paxton Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.587
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:          Paxton Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L - T - R        L - T - R        L - T - R        L - T - R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include           Ovl
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Y+R:         4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     221  271   210   189  198   173   167  525   188   117  639   361
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  237  291   225   203  212   185   179  563   202   125  685   387
Added Vol:      7    0     0    23    0    12    16   15     6     0   16    15
Constr Shif: -244 -291   709  -226 -212   546  -195  193     0  -125  124   219
Initial Fut:    0    0   934     0    0   743     0  771   208     0  825   621
User Adj:    0.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0   934     0    0   743     0  771   208     0  825   621
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0   934     0    0   743     0  771   208     0  825   621
PCE Adj:     0.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     0.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0   934     0    0   743     0  771   208     0  825   621
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  1.00  0.00 0.01  0.99  0.01 0.78  0.21  0.01 0.57  0.42
Final Sat.:     0    0  1500     0    1  1499     0 1182   318     0  856   644
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.62  0.00 0.50  0.50  0.65 0.65  0.65  0.96 0.96  0.96
Crit Volume:             934     0                 0                        1446
Crit Moves:             ****  ****              ****                        ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #8 Filmore Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         0.912
Loss Time (sec):       0               Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       164               Level Of Service:                  E
********************************************************************************
Street Name:          Filmore Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Y+R:         4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     61    0    69     5    1     5     4  817    66    48 1069     0
Growth Adj: 1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  65    0    74     5    1     5     4  876    71    51 1146     0
Added Vol:     0    0     0     0    0     0     0   39     0     0   31     0
PasserByVol: -65    0    65    -5   -1     6    -4    4     0   -51   51     0
Initial Fut:   0    0   139     0    0    11     0  919    71     0 1228     0
User Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0    0   139     0    0    11     0  919    71     0 1228     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0    0   139     0    0    11     0  919    71     0 1228     0
PCE Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   0    0   139     0    0    11     0  919    71     0 1228     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:      0.01 0.00  0.99  0.03 0.01  0.96  0.01 0.92  0.07  0.01 0.99  0.00
Final Sat.:    4    0  1496    46    9  1445     0 1392   107     1 1499     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.09 0.00  0.09  0.01 0.01  0.01  0.66 0.66  0.66  0.82 0.82  0.00
Crit Volume:             139     0                 0                 1228
Crit Moves:             ****  ****              ****                 ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #9 Van Nuys Boulevard & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.918
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  E
********************************************************************************
Street Name:        Van Nuys Boulevard                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected         Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Y+R:         4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     272  147   183    46  119   101   163  511   239   125  698    71
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  292  158   196    49  128   108   175  548   256   134  748    76
Added Vol:      7    7     0     0    5     4     6   27     6     0   20     0
Constructio: -299 -165   459   -49 -133   180  -181  179     0  -134  133     0
Initial Fut:    0    0   655     0    0   292     0  754   262     0  901    76
User Adj:    0.00 0.00  1.00  1.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.00 0.00  1.00  1.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0   655     0    0   292     0  754   262     0  901    76
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0   655     0    0   292     0  754   262     0  901    76
PCE Adj:     0.00 0.00  1.00  1.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     0.00 0.00  1.00  1.00 0.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0   655     0    0   292     0  754   262     0  901    76
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425  1425 1425  1425  1425 1425  1425  1425 1425  1425
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  1.00  0.01 0.00  0.99  0.00 0.74  0.26  0.00 0.92  0.08
Final Sat.:     0    0  1425     2    0  1423     0 1057   368     0 1314   111
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.46  0.21 0.00  0.21  0.00 0.71  0.71  0.00 0.69  0.69
Crit Volume:    0                         293                 1016     0
Crit Moves:  ****                        ****                 ****  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #10 Terrra Bella Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.931
Loss Time (sec):       0              Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180              Level Of Service:                  E
********************************************************************************
Street Name:       Terrra Bella Street                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36   61    33   102   54   148   182  420    65    60  718   198
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   39   65    35   109   58   159   195  450    70    64  770   212
Added Vol:      0    2     0     0    1     0     0   27     0     0   20     0
PasserByVol:  -38  -67   -35  -108  -58   166  -193  193     0   -64   64     0
Initial Fut:    1    0     0     1    1   325     2  670    70     0  854   212
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     1    0     0     1    1   325     2  670    70     0  854   212
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1    0     0     1    1   325     2  670    70     0  854   212
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  4.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    1    0     0     1    1   325     8  670    70     0  854   212
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.43 0.29  0.28  0.00 0.01  0.99  0.01 1.81  0.18  0.01 0.80  0.19
Final Sat.:   653  432   415     6    4  1490     9 2712   279     0 1201   299
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.22 0.22  0.22  0.25 0.25  0.25  0.71 0.71  0.71
Crit Volume:    1                   327           2                  1066
Crit Moves:  ****                  ****        ****                  ****
********************************************************************************
```

APPENDIX F
LOS Operations Worksheets – Future With Project Revised Construction Conditions

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Hubbard Street & Foothill Boulevard
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap.(X):        1.061
Loss Time (sec):      0                Average Delay (sec/veh):     xxxxxx
Optimal Cycle:      180                Level Of Service:                 F
********************************************************************************
Street Name:                                          Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Prot+Permit       Protected         Permitted
Rights:           Include          Include          Include          Include
Min. Green:      0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  1  0  1    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     100  674    76   203  560   203   183  670   172    73  327   154
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  107  723    81   218  600   218   196  718   184    78  351   165
Added Vol:      0   73    24    16   54    20    22   17     0    27   23    35
Const Shift:    0   71     0     0    0     0     0    0   104     0    0     0
Initial Fut:  107  867   105   234  654   238   218  735   288   105  374   200
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   107  867   105   234  654   238   218  735   288   105  374   200
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  107  867   105   234  654   238   218  735   288   105  374   200
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  107  867   105   234  654   238   218  735   288   105  374   200
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425  1425 1425  1425  1425 1425  1425  1425 1425  1425
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.78  0.22  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.65  0.35
Final Sat.:  1425 2541   309  1425 2850  1425  1425 1425  1425  1425  928   497
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.34  0.34  0.16 0.23  0.17  0.15 0.52  0.20  0.07 0.40  0.40
Crit Volume:             486   234               218                           574
Crit Moves:             ****  ****              ****                          ****
********************************************************************************
```

```
-------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
*******************************************************************************
Intersection #2 Gridley Street & Foothill Boulevard
*******************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.678
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        45                Level Of Service:                  B
*******************************************************************************
Street Name:          Gridley Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L - T - R        L - T - R        L - T - R        L - T - R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      66    0   108     0    0     0     0  896    97    66  426     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   71    0   116     0    0     0     0  961   104    71  457     0
Added Vol:      0    0     0     0    0     0     0   57     0     0   85     0
Const Shift:  -71    0  -116     0    0     0     0    0  -104   -71    0     0
Initial Fut:    0    0     0     0    0     0     0 1018     0     0  542     0
User Adj:    0.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  0.00  0.00 1.00  1.00
PHF Adj:     0.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  0.00  0.00 1.00  1.00
PHF Volume:     0    0     0     0    0     0     0 1018     0     0  542     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0     0     0 1018     0     0  542     0
PCE Adj:     0.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  0.00  0.00 1.00  1.00
MLF Adj:     0.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  0.00  0.00 1.00  1.00
FinalVolume:    0    0     0     0    0     0     0 1018     0     0  542     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  0.00  0.00 0.00  0.00  0.00 1.00  0.00  0.00 1.00  0.00
Final Sat.:     0 1500     0     0    0     0     0 1500     0     0 1500     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.68  0.00  0.00 0.36  0.00
Crit Volume:    0                     0             1018           0
Crit Moves:                                         ****        ****
*******************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Home Depot-Sam's Club Entrance & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.384
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:  Home Depot-Sam's Club Entrance          Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L - T - R        L - T - R        L - T - R        L - T - R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1! 0  0    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     160    0    96     1    0     3     7 1244   225    56  603     3
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  172    0   103     1    0     3     8 1334   241    60  646     3
Added Vol:      0    0     0     0    0     0     0  261     0     0  172     0
Const Shift:    0    0     0    -1    0    -3    -8    8     0     0    3    -3
Initial Fut:  172    0   103     0    0     0     0 1603   241    60  821     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   172    0   103     0    0     0     0 1603   241    60  821     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  172    0   103     0    0     0     0 1603   241    60  821     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  172    0   103     0    0     0     0 1603   241    60  821     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.00  1.00  0.25 0.00  0.75  0.00 0.87  0.13  1.00 0.99  0.01
Final Sat.:  1500    0  1500   375    0  1125     0 1304   196  1500 1500     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.00  0.07  0.00 0.00  0.00  0.00 1.23  1.23  0.04 0.55  0.55
Crit Volume:  172                           0             1844    60
Crit Moves:  ****                        ****             ****  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Home Depot-Sam's Driveway & Foothill Boulevard
********************************************************************************
Average Delay (sec/veh):      1.5       Worst Case Level Of Service: E[ 48.5]
********************************************************************************
Street Name:    Home Depot-Sam's Driveway             Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled      Uncontrolled
Rights:           Include          Include          Include           Include
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    1  0  1  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18    0    36     0    0     0     0 1313    29    65  628     0
Growth Adj: 1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   19    0    39     0    0     0     0 1408    31    70  673     0
Added Vol:      0    0     0     0    0     0     0  261     0     0  172     0
Constr Shif:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   19    0    39     0    0     0     0 1669    31    70  845     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    19    0    39     0    0     0     0 1669    31    70  845     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   19    0    39     0    0     0     0 1669    31    70  845     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2669 xxxx  1684  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1700 xxxx xxxxx
Potent Cap.:   25 xxxx   118  xxxx xxxx xxxxx  xxxx xxxx xxxxx   380 xxxx xxxxx
Move Cap.:     22 xxxx   118  xxxx xxxx xxxxx  xxxx xxxx xxxxx   380 xxxx xxxxx
Total Cap:    107   96 xxxxx     8   62 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.18 xxxx  0.33  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.18 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6 xxxx   1.3  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.7 xxxx xxxxx
Control Del: 46.0 xxxx  49.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  16.6 xxxx xxxxx
LOS by Move:    E    *     E     *    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      48.5           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         E                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
  Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KOA CORP, MONTEREY PK
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Arroyo Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.333
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:          Arroyo Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  1  0  1    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156   27    70    48   11    65   204  770   471   112  565   202
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  167   29    75    51   12    70   219  825   505   120  606   217
Added Vol:      0  159     0    85  102   153   239   22     0     0   20   133
Const Shift:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  167  188    75   136  114   223   458  847   505   120  626   350
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   167  188    75   136  114   223   458  847   505   120  626   350
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  167  188    75   136  114   223   458  847   505   120  626   350
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  167  188    75   136  114   223   458  847   505   120  626   350
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.39 0.44  0.17  0.55 0.45  1.00  1.00 1.00  1.00  1.00 0.64  0.36
Final Sat.:   583  655   262   818  682  1500  1500 1500  1500  1500  962   538
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.29 0.29  0.29  0.17 0.17  0.15  0.31 0.56  0.34  0.08 0.65  0.65
Crit Volume:       430         136              458                         975
Crit Moves:       ****        ****             ****                        ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Vaughn Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.496
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        29                Level Of Service:                  A
********************************************************************************
Street Name:          Vaughn Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      57    1    93     3    1     7     5  757   104   111  848     9
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   61    1   100     3    1     8     5  812   111   119  909    10
Added Vol:      0    0     0     0    0     0     0  107     0     0  152     0
Const Shift:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   61    1   100     3    1     8     5  919   111   119 1061    10
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    61    1   100     3    1     8     5  919   111   119 1061    10
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   61    1   100     3    1     8     5  919   111   119 1061    10
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   61    1   100     3    1     8     5  919   111   119 1061    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.38 0.01  0.61  0.27 0.09  0.64  1.00 2.00  1.00  1.00 1.98  0.02
Final Sat.:   566   10   924   409  136   955  1500 3000  1500  1500 2973    27
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.11  0.01 0.01  0.01  0.00 0.31  0.07  0.08 0.36  0.36
Crit Volume:       162           3                   459          119
Crit Moves:       ****        ****                  ****         ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                  LADWP Foothill Trunk Line Unit 3 Project
                       Future With Project Conditions
                                AM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #7 Paxton Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):        1.190
Loss Time (sec):       0                Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       180                Level Of Service:                 F
********************************************************************************
Street Name:          Paxton Street                  Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  1  1  0   1  0  2  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     171  170   144  242  165   199  144  608   127  161  570   280
Growth Adj:  1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07
Initial Bse:  183  182   154  259  177   213  154  652   136  173  611   300
Added Vol:     22    0     0   13    0    80   51   34    17    0   42    24
Const Shift:  104    0     0    0    0     0    0    0    77    0    0     0
Initial Fut:  309  182   154  272  177   293  205  686   230  173  653   324
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   309  182   154  272  177   293  205  686   230  173  653   324
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  309  182   154  272  177   293  205  686   230  173  653   324
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  309  182   154  272  177   293  205  686   230  173  653   324
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500 1500 1500  1500 1500 1500  1500 1500 1500  1500
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 1.08  0.92 1.00 2.00  1.00 1.00 1.00  1.00 1.00 0.67  0.33
Final Sat.:  1500 1624  1376 1500 3000  1500 1500 1500  1500 1500 1002   498
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21 0.11  0.11 0.18 0.06  0.20 0.14 0.46  0.15 0.12 0.65  0.65
Crit Volume:  309                        293  205                    977
Crit Moves:  ****                       ****  ****                  ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #8 Filmore Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):          0.710
Loss Time (sec):       0                Average Delay (sec/veh):       xxxxxx
Optimal Cycle:        50                Level Of Service:                   C
********************************************************************************
Street Name:          Filmore Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  0  0  1    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      96    2    58     0    0     0     6  899    72    53  928     3
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  103    2    62     0    0     0     6  964    77    57  995     3
Added Vol:      0    0     0     0    0     0     0   47     0     0   66     0
Const Shift: -103   -2   -62     0    0     0    -6    6   -77   -57    0     0
Initial Fut:    0    0     0     0    0     0     0 1017     0     0 1061     3
User Adj:    0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
PHF Adj:     0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
PHF Volume:     0    0     0     0    0     0     0 1017     0     0 1061     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0     0     0 1017     0     0 1061     3
PCE Adj:     0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
MLF Adj:     0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
FinalVolume:    0    0     0     0    0     0     0 1017     0     0 1061     3
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.45  0.55  0.00 0.00  1.00  0.01 0.99  0.01  0.00 0.99  0.01
Final Sat.:     0  675   825     0    0  1500     1 1499     0     0 1495     5
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.00  0.68 0.68  0.68  0.00 0.71  0.71
Crit Volume:               0     0                0                  1064
Crit Moves:             ****                   ****                  ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #9 Van Nuys Boulevard & Foothill Boulevard
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap.(X):        0.920
Loss Time (sec):      0                Average Delay (sec/veh):     xxxxxx
Optimal Cycle:      180                Level Of Service:                 E
********************************************************************************
Street Name:        Van Nuys Boulevard               Foothill Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  2  0  1   1  0  2  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     192  148  132   78  237  248  148  552  214  126  522   38
Growth Adj:  1.07 1.07 1.07 1.07 1.07 1.07 1.07 1.07 1.07 1.07 1.07 1.07
Initial Bse:  206  159  142   84  254  266  159  592  229  135  560   41
Added Vol:     22    3    0    0    8    7    2   27   17    0   37    0
Const Shift:    0    0   63    0    0    0    6    0    0   57    0    0
Initial Fut:  228  162  205   84  262  273  167  619  246  192  597   41
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   228  162  205   84  262  273  167  619  246  192  597   41
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  228  162  205   84  262  273  167  619  246  192  597   41
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  228  162  205   84  262  273  167  619  246  192  597   41
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425 1425 1425 1425 1425 1425 1425 1425 1425 1425 1425
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       1.00 2.00 1.00 1.00 2.00 1.00 1.00 1.00 1.00 1.00 0.94 0.06
Final Sat.:  1425 2850 1425 1425 2850 1425 1425 1425 1425 1425 1334   91
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.06 0.14 0.06 0.09 0.19 0.12 0.43 0.17 0.13 0.45 0.45
Crit Volume:  228                      273       619        192
Crit Moves:  ****                     ****      ****       ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #10 Terrra Bella Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.936
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  E
********************************************************************************
Street Name:       Terrra Bella Street                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      53  107    61   275  148   242   169  605    67    48  380   180
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   57  115    65   295  159   259   181  649    72    51  407   193
Added Vol:      0    1     0     0    2     0     0   27     0     0   37     0
Const Shift:  -57 -116   173  -295 -161   456  -181  181     0   -51   51     0
Initial Fut:    0    0   238     0    0   715     0  857    72     0  495   193
User Adj:    0.00 0.00  1.00  0.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.00 0.00  1.00  0.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0   238     0    0   715     0  857    72     0  495   193
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0   238     0    0   715     0  857    72     0  495   193
PCE Adj:     0.00 0.00  1.00  0.00 0.00  1.00  2.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     0.00 0.00  1.00  0.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0   238     0    0   715     0  857    72     0  495   193
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  1.00  0.00 0.00  1.00  0.01 1.84  0.15  0.01 0.71  0.28
Final Sat.:     0    0  1500     0    0  1500     1 2767   232     1 1079   420
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.16  0.00 0.00  0.48  0.31 0.31  0.31  0.46 0.46  0.46
Crit Volume:    0                         715     0                         689
Crit Moves:  ****                        ****  ****                        ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Hubbard Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.141
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:                                          Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected       Prot+Permit       Protected         Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  1  0  1    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     143  593    85   113  582   331   267  493   207   100  527   163
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  153  636    91   121  624   355   286  528   222   107  565   175
Added Vol:      0    0    16    31    0    27    26   17     0    11   12    17
Const Shift:    0   42     0     0    0     0     0    0    47     0    0     0
Initial Fut:  153  678   107   152  624   382   312  545   269   118  577   192
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   153  678   107   152  624   382   312  545   269   118  577   192
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  153  678   107   152  624   382   312  545   269   118  577   192
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  153  678   107   152  624   382   312  545   269   118  577   192
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425  1425 1425  1425  1425 1425  1425  1425 1425  1425
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.73  0.27  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.75  0.25
Final Sat.:  1425 2461   389  1425 2850  1425  1425 1425  1425  1425 1070   355
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.28  0.28  0.11 0.22  0.27  0.22 0.38  0.19  0.08 0.54  0.54
Crit Volume:        392          152                312                    769
Crit Moves:        ****         ****               ****                   ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Gridley Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.594
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        35                Level Of Service:                  A
********************************************************************************
Street Name:          Gridley Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L - T - R        L - T - R        L - T - R        L - T - R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      39    0    59     0    0     0     0  616    44    94  792     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   42    0    63     0    0     0     0  660    47   101  849     0
Added Vol:      0    0     0     0    0     0     0   65     0     0   41     0
PasserByVol:  -42    0   -63     0    0     0     0    0   -47  -101    0     0
Initial Fut:    0    0     0     0    0     0     0  725     0     0  890     0
User Adj:    0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
PHF Adj:     0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
PHF Volume:     0    0     0     0    0     0     0  725     0     0  890     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0     0     0  725     0     0  890     0
PCE Adj:     0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
MLF Adj:     0.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
FinalVolume:    0    0     0     0    0     0     0  725     0     0  890     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  1.00  0.00 0.00  0.00  0.00 0.99  0.01  0.00 1.00  0.00
Final Sat.:     0    0  1500     0    0     0     0 1500     0     0 1500     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.00  0.00 0.48  0.48  0.00 0.59  0.00
Crit Volume:               0     0                0                   890
Crit Moves:             ****                   ****                  ****
********************************************************************************
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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Home Depot-Sam's Club Entrance & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.050
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:  Home Depot-Sam's Club Entrance          Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  0  0  1    0  0  1! 0  0    0  0  1! 0  0    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     334    0   101     2    0     8     3  693   309    78 1041     2
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  358    0   108     2    0     9     3  743   331    84 1116     2
Added Vol:      0    0     0     0    0     0     0   56     0     0   68     0
Const Shift:    0    0     0    -2    0    -9    -3    3     0     0    2    -2
Initial Fut:  358    0   108     0    0     0     0  802   331    84 1186     0
User Adj:    1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   358    0   108     0    0     0     0  802   331    84 1186     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  358    0   108     0    0     0     0  802   331    84 1186     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  358    0   108     0    0     0     0  802   331    84 1186     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.00  1.00  1.00 0.00  0.00  0.01 0.70  0.29  1.00 0.99  0.01
Final Sat.:  1500    0  1500  1500    0     0     0 1061   438  1500 1500     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.00  0.07  0.00 0.00  0.00  0.76 0.76  0.76  0.06 0.79  0.79
Crit Volume:  358                 0           1133          84
Crit Moves:  ****              ****             ****        ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Home Depot-Sam's Driveway & Foothill Boulevard
********************************************************************************
Average Delay (sec/veh):      2.9       Worst Case Level Of Service: D[ 32.4]
********************************************************************************
Street Name:    Home Depot-Sam's Driveway             Foothill Boulevard
Approach:      North Bound      South Bound        East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        1  0  0  0  1    0  0  0  0  0    0  0  0  1  0    1  0  1  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      55    0   112     0    0     0     0  715    69   119 1093     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   59    0   120     0    0     0     0  766    74   128 1172     0
Added Vol:      0    0     0     0    0     0     0   56     0     0   68     0
Const Shift:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   59    0   120     0    0     0     0  822    74   128 1240     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    59    0   120     0    0     0     0  822    74   128 1240     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   59    0   120     0    0     0     0  822    74   128 1240     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2354 xxxx   859  xxxx xxxx xxxxx  xxxx xxxx xxxxx   896 xxxx xxxxx
Potent Cap.:   40 xxxx   359  xxxx xxxx xxxxx  xxxx xxxx xxxxx   766 xxxx xxxxx
Move Cap.:     35 xxxx   359  xxxx xxxx xxxxx  xxxx xxxx xxxxx   766 xxxx xxxxx
Total Cap:    124  112 xxxxx    54   98 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.47 xxxx  0.33  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.17 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.1 xxxx   1.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx
Control Del: 57.7 xxxx  20.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.6 xxxx xxxxx
LOS by Move:    F    *     C     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      32.4           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         D                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Arroyo Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         1.214
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:          Arroyo Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  1  0  0  1    1  0  1  0  1    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     203   55    61   157  119   243   104  657   128    46  824   164
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  218   59    65   168  128   260   111  704   137    49  883   176
Added Vol:      0   24     0    27   32    48    36   20     0     0   20    20
Const Shift:    0    0     0     0    0     0     2    0    90    74    0     0
Initial Fut:  218   83    65   195  160   308   149  724   227   123  903   196
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   218   83    65   195  160   308   149  724   227   123  903   196
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  218   83    65   195  160   308   149  724   227   123  903   196
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  218   83    65   195  160   308   149  724   227   123  903   196
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.59 0.23  0.18  0.55 0.45  1.00  1.00 1.00  1.00  1.00 0.82  0.18
Final Sat.:   892  340   268   826  674  1500  1500 1500  1500  1500 1233   267
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24 0.24  0.24  0.24 0.24  0.21  0.10 0.48  0.15  0.08 0.73  0.73
Crit Volume:  218                  355         149                  1099
Crit Moves:  ****                 ****        ****                  ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Vaughn Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.738
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        55                Level Of Service:                  C
********************************************************************************
Street Name:          Vaughn Street                   Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      72    0    42    15    2     6     2  803    84    52  966     6
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   77    0    45    16    2     6     2  861    90    56 1036     6
Added Vol:      0    0     0     0    0     0     0   46     0     0   40     0
Const Shift:  -77    0   -45   -16   -2    18    -2   84   -90   -56    0     0
Initial Fut:    0    0     0     0    0    24     0  991     0     0 1076     6
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
PHF Volume:     0    0     0     0    0    24     0  991     0     0 1076     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0    24     0  991     0     0 1076     6
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00
FinalVolume:    0    0     0     0    0    24     0  991     0     0 1076     6
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.88 0.00  0.12  0.00 0.01  0.99  0.01 0.99  0.01  0.00 0.99  0.01
Final Sat.:  1327    0   173     5    9  1486     0 1500     0     0 1491     9
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.02 0.02  0.02  0.66 0.66  0.66  0.00 0.72  0.72
Crit Volume:    0                          25     0                          1082
Crit Moves:  ****                        ****  ****                          ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #7 Paxton Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):          1.203
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  F
********************************************************************************
Street Name:          Paxton Street                     Foothill Boulevard
Approach:      North Bound       South Bound       East Bound        West Bound
Movement:     L - T - R        L - T - R        L - T - R        L - T - R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  1  1  0    1  0  2  0  1    1  0  1  0  1    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     221  271   210   189  198   173   167  525   188   117  639   361
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:  237  291   225   203  212   185   179  563   202   125  685   387
Added Vol:      7    0     0    23    0    12    16   15     6     0   16    15
Constr Shif:   65    0     0     0    0     0     0    0    71    62    0     0
Initial Fut:  309  291   225   226  212   197   195  578   279   187  701   402
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   309  291   225   226  212   197   195  578   279   187  701   402
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  309  291   225   226  212   197   195  578   279   187  701   402
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  309  291   225   226  212   197   195  578   279   187  701   402
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.13  0.87  1.00 2.00  1.00  1.00 1.00  1.00  1.00 0.64  0.36
Final Sat.:  1500 1690  1310  1500 3000  1500  1500 1500  1500  1500  953   547
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21 0.17  0.17  0.15 0.07  0.13  0.13 0.39  0.19  0.12 0.74  0.74
Crit Volume:  309                       197   195                          1103
Crit Moves:  ****                      ****  ****                          ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #8 Filmore Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.793
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        70                Level Of Service:                  C
********************************************************************************
Street Name:          Filmore Street                  Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted         Permitted         Permitted         Permitted
Rights:          Include           Include           Include           Include
Min. Green:    0     0     0     0     0     0     0     0     0     0     0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61     0    69     5     1     5     4   817    66    48  1069     0
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   65     0    74     5     1     5     4   876    71    51  1146     0
Added Vol:      0     0     0     0     0     0     0    39     0     0    31     0
Const Shift:  -65     0   -74    -5    -1     6    -4     4   -71   -51     0     0
Initial Fut:    0     0     0     0     0    11     0   919     0     0  1177     0
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Volume:     0     0     0     0     0    11     0   919     0     0  1177     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0     0     0     0     0    11     0   919     0     0  1177     0
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00
FinalVolume:    0     0     0     0     0    11     0   919     0     0  1177     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.00  0.00  0.03 0.01  0.96  0.01 0.99  0.00  0.01 0.99  0.00
Final Sat.:  1500     0     0    46     9  1445     0 1500     0     1 1499     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.01 0.01  0.01  0.61 0.61  0.00  0.78 0.78  0.00
Crit Volume:    0                      12           0                 1177
Crit Moves:  ****                    ****        ****                 ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                  LADWP Foothill Trunk Line Unit 3 Project
                       Future With Project Conditions
                                PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
          Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #9 Van Nuys Boulevard & Foothill Boulevard
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap.(X):        0.881
Loss Time (sec):      0              Average Delay (sec/veh):     xxxxxx
Optimal Cycle:      180              Level Of Service:                 D
********************************************************************************
Street Name:        Van Nuys Boulevard               Foothill Boulevard
Approach:     North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Y+R:         4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0
Lanes:       1  0  2  0  1   1  0  2  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     272  147   183   46  119   101  163  511   239  125  698    71
Growth Adj:  1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07 1.07 1.07  1.07
Initial Bse:  292  158   196   49  128   108  175  548   256  134  748    76
Added Vol:      7    7     0    0    5     4    6   27     6    0   20     0
Const Shift:    0    0    74    0    0     0    4    0     0   51    0     0
Initial Fut:  299  165   270   49  133   112  185  575   262  185  768    76
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   299  165   270   49  133   112  185  575   262  185  768    76
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  299  165   270   49  133   112  185  575   262  185  768    76
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  299  165   270   49  133   112  185  575   262  185  768    76
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1425 1425  1425 1425 1425  1425 1425 1425  1425 1425 1425  1425
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 2.00  1.00 1.00 2.00  1.00 1.00 1.00  1.00 1.00 0.91  0.09
Final Sat.:  1425 2850  1425 1425 2850  1425 1425 1425  1425 1425 1297   128
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21 0.06  0.19 0.03 0.05  0.08 0.13 0.40  0.18 0.13 0.59  0.59
Crit Volume:  299                          112       575                 844
Crit Moves:  ****                         ****                          ****
********************************************************************************
```

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--------------------------------------------------------------------------------
                   LADWP Foothill Trunk Line Unit 3 Project
                        Future With Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           Circular 212 Planning Method (Future Volume Alternative)
********************************************************************************
Intersection #10 Terrra Bella Street & Foothill Boulevard
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):        0.929
Loss Time (sec):       0                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       180                Level Of Service:                  E
********************************************************************************
Street Name:       Terrra Bella Street                Foothill Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L - T - R        L - T - R        L - T - R        L - T - R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  1  0  1  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36   61    33   102   54   148   182  420    65    60  718   198
Growth Adj:  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07  1.07 1.07  1.07
Initial Bse:   39   65    35   109   58   159   195  450    70    64  770   212
Added Vol:      0    2     0     0    1     0     0   27     0     0   20     0
PasserByVol:  -39  -67   106  -109  -59   168  -195  195     0   -64   64     0
Initial Fut:    0    0   141     0    0   327     0  672    70     0  854   212
User Adj:    0.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0   141     0    0   327     0  672    70     0  854   212
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0   141     0    0   327     0  672    70     0  854   212
PCE Adj:     0.00 1.00  1.00  1.00 0.00  1.00  4.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     0.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0   141     0    0   327     0  672    70     0  854   212
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1500 1500  1500  1500 1500  1500  1500 1500  1500  1500 1500  1500
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.01  0.99  0.01 0.00  0.99  0.01 1.81  0.18  0.01 0.80  0.19
Final Sat.:     0    4  1496     2    0  1498     0 2718   282     0 1201   299
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.09  0.09  0.22 0.00  0.22  0.25 0.25  0.25  0.71 0.71  0.71
Crit Volume:    0                             327     0                 1066
Crit Moves:  ****                            ****  ****                 ****
********************************************************************************
```